ATTACHMENT 3

UHS Heat Load Calculation

LSCS Design Analysis L-002453, Revision 4

October 2, 2013

(Non-Proprietary)

92 pages follow

Ref. GEH letter 7491-318563-HAO-1 R2, "Requested Documents with Revised Marking of GEH Proprietary Information", dated December 4, 2014

ATTACHMENT 1
Design Analysis Cover Sheet
Page 1 of 1

Design Analysis		**Last Page No.** [6] Attachment F, Page F2	
Analysis No.: [1]	L-002453	**Revision:** [2] 4 Major ☒	Minor ☐
Title: [3]	UHS Heat Load		
EC/ECR No.: [4]	389270	**Revision:** [5] 0	
Station(s): [7]	LaSalle County Station	**Component(s):** [14]	
Unit No.: [8]	00	N/A	
Discipline: [9]	MEDC		
Descrip. Code/Keyword: [10]	M10		
Safety/QA Class: [11]	Safety-Related		
System Code: [12]	ZZ		
Structure: [13]	ZZ		

CONTROLLED DOCUMENT REFERENCES [15]

Document No.:	From/To	Document No.:	From/To
NSA-01-404	From	BSA-L-97-02	From
SEAG#12-000098	From	L-003352	From
L-003696	From	SEAG#13-000074	From
EC 392196	From	L-002489	From
L-002457	From/To		

Is this Design Analysis Safeguards Information? [18] **Yes** ☐ **No** ☒ If yes, see SY-AA-101-106

Does this Design Analysis contain Unverified Assumptions? [17] **Yes** ☐ **No** ☒ If yes, ATI/AR#:

This Design Analysis SUPERCEDES: [16] **N/A** **in its entirety.**

Description of Revision (list changed pages when all pages of original analysis were not changed): [19]
Revision 4 adds Attachments D and E which establish the current design basis by calculating the time dependent heat rejection rate to the UHS considering a realistic operating scenario that maximizes the heat load (i.e., 2 x RHR heat exchangers in service) and includes the fuel pool decay heat load.
Pages revised: 1, 1a, 1b, 1c, 2, 3, 7, 28. Pages added: D1 – D48, E1 – E8, F1 – F2
Main Body (31 pages) + Attachment A (18 pages) + Attachment B (19 pages) + Attachment C (8 pages) + Attachment D (48 pages) + Attachment E (8 pages) + Attachment F (2 pages) = 134 pages

Preparer: [20]	Paul J. Szymiczek (S&L)	Paul J. Szymiczek	10/1/2013
	Print Name	Sign Name	Date
Method of Review: [21]	**Detailed Review** ☒	**Alternate Calculations (attached)** ☐	**Testing** ☐
Reviewer: [22]	Daniel W. Nevill (S&L)	Daniel W. Nevill	10/1/2013
	Print Name	Sign Name	Date
Review Notes: [23]	Independent review ☒	Peer review ☐	
(For External Analyses Only) **External Approver:** [24]	Pawel Kut (S&L)	Pawel Kut	10-01-2013
	Print Name	Sign Name	Date
Exelon Reviewer: [25]	Sean Tanton	Sean Tanton	10/2/13
	Print Name	Sign Name	Date
Independent 3rd Party Review Reqd? [26]	**Yes** ☐	**No** ☒	
Exelon Approver: [27]	DAN SCHMIT	DJSchmit	10/2/13
	Print Name	Sign Name	Date

ATTACHMENT 2
Owner's Acceptance Review Checklist for External Design Analyses
Page 1a

Design Analysis No.: L-002453 **Rev:** 4

No	Question	Instructions and Guidance	Yes / No / N/A
1	Do assumptions have sufficient documented rationale?	All Assumptions should be stated in clear terms with enough justification to confirm that the assumption is conservative. For example, 1) the exact value of a particular parameter may not be known or that parameter may be known to vary over the range of conditions covered by the Calculation. It is appropriate to represent or bound the parameter with an assumed value. 2) The predicted performance of a specific piece of equipment in lieu of actual test data. It is appropriate to use the documented opinion/position of a recognized expert on that equipment to represent predicted equipment performance. Consideration should also be given as to any qualification testing that may be needed to validate the Assumptions. Ask yourself, would you provide more justification if you were performing this analysis? **If** yes, the rationale is likely incomplete.	☒ ☐ ☐
2	Are assumptions compatible with the way the plant is operated and with the licensing basis?	Ensure the documentation for source and rationale for the assumption supports the way the plant is currently or will be operated post change and they are not in conflict with any design parameters. If the Analysis purpose is to establish a new licensing basis, this question can be answered yes, if the assumption supports that new basis.	☒ ☐ ☐
3	Do all unverified assumptions have a tracking and closure mechanism in place?	**If** there are unverified assumptions without a tracking mechanism indicated, **then** create the tracking item either through an ATI or a work order attached to the implementing WO. Due dates for these actions need to support verification prior to the analysis becoming operational or the resultant plant change being op authorized.	☐ ☐ ☒ No unverified assumptions.
4	Do the design inputs have sufficient rationale?	The origin of the input, or the source should be identified and be readily retrievable within Exelon's documentation system. If not, then the source should be attached to the analysis. Ask yourself, would you provide more justification if you were performing this analysis? **If** yes, the rationale is likely incomplete.	☒ ☐ ☐
5	Are design inputs correct and reasonable with critical parameters identified, if appropriate?	The expectation is that an Exelon Engineer should be able to clearly understand which input parameters are critical to the outcome of the analysis. That is, what is the impact of a change in the parameter to the results of the analysis? If the impact is large, then that parameter is critical.	☒ ☐ ☐
6	Are design inputs compatible with the way the plant is operated and with the licensing basis?	Ensure the documentation for source and rationale for the inputs supports the way the plant is currently or will be operated post change and they are not in conflict with any design parameters.	☒ ☐ ☐

ATTACHMENT 2
Owner's Acceptance Review Checklist for External Design Analyses
Page 1b

Design Analysis No.: L-002453 **Rev:** 4

No	Question	Instructions and Guidance	Yes / No / N/A
7	Are Engineering Judgments clearly documented and justified?	See Section 2.13 in CC-AA-309 for the attributes that are sufficient to justify Engineering Judgment. Ask yourself, would you provide more justification if you were performing this analysis? **If** yes, the rationale is likely incomplete.	☐ ☐ ☒ No engineering judgements identified.
8	Are Engineering Judgments compatible with the way the plant is operated and with the licensing basis?	Ensure the justification for the engineering judgment supports the way the plant is currently or will be operated post change and is not in conflict with any design parameters. **If** the Analysis purpose is to establish a new licensing basis, **then** this question can be answered yes, if the judgment supports that new basis.	☐ ☐ ☒ No engineering judgements identified.
9	Do the results and conclusions satisfy the purpose and objective of the Design Analysis?	Why was the analysis being performed? Does the stated purpose match the expectation from Exelon on the proposed application of the results? **If** yes, **then** the analysis meets the needs of the contract.	☒ ☐ ☐
10	Are the results and conclusions compatible with the way the plant is operated and with the licensing basis?	Make sure that the results support the UFSAR defined system design and operating conditions, or they support a proposed change to those conditions. If the analysis supports a change, are all of the other changing documents included on the cover sheet as impacted documents?	☒ ☐ ☐
11	Have any limitations on the use of the results been identified and transmitted to the appropriate organizations?	Does the analysis support a temporary condition or procedure change? Make sure that any other documents needing to be updated are included and clearly delineated in the design analysis. Make sure that the cover sheet includes the other documents where the results of this analysis provide the input.	☒ ☐ ☐
12	Have margin impacts been identified and documented appropriately for any negative impacts (Reference ER-AA-2007)?	Make sure that the impacts to margin are clearly shown within the body of the analysis. If the analysis results in reduced margins ensure that this has been appropriately dispositioned in the EC being used to issue the analysis.	☒ ☐ ☐
13	Does the Design Analysis include the applicable design basis documentation?	Are there sufficient documents included to support the sources of input, and other reference material that is not readily retrievable in Exelon controlled Documents?	☒ ☐ ☐
14	Have all affected design analyses been documented on the Affected Documents List (ADL) for the associated Configuration Change?	Determine if sufficient searches have been performed to identify any related analyses that need to be revised along with the base analysis. It may be necessary to perform some basic searches to validate this.	☒ ☐ ☐
15	Do the sources of inputs **and** analysis methodology used meet committed technical and regulatory requirements?	Compare any referenced codes and standards to the current design basis and ensure that any differences are reconciled. If the input sources **or** analysis methodology are based on an out-of-date methodology or code, additional reconciliation may be required if the site has since committed to a more recent code	☒ ☐ ☐

ATTACHMENT 2
Owner's Acceptance Review Checklist for External Design Analyses
Page 1c

Design Analysis No.: L-002453 **Rev:** 4

No	Question	Instructions and Guidance	Yes / No / N/A
16	Have vendor supporting technical documents and references (including GE DRFs) been reviewed when necessary?	Based on the risk assessment performed during the pre-job brief for the analysis (per HU-AA-1212), ensure that sufficient reviews of any supporting documents not provided with the final analysis are performed.	☐ ☐ ☒ None used.
17	Do operational limits support assumptions and inputs?	Ensure the Tech Specs, Operating Procedures, etc. contain operational limits that support the analysis assumptions and inputs.	☒ ☐ ☐

Create an SFMS entry as required by CC-AA-4008. SFMS Number: 41711

CALCULATION TABLE OF CONTENTS

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1.0 PURPOSE/OBJECTIVE

Revision 4 – Attachments D and E are added to establish the current design basis by calculating a profile of the heat rejection rate to the UHS as a function of time considering a realistic operating scenario that would maximize the heat load to the UHS. Revision 3 of this calculation included consideration for both CLTP and EPU power levels. Since the previous revision, plans for EPU have been canceled and the current design basis for CLTP is documented in Attachments D and E. These attachments consider operation of two RHR heat exchangers and include consideration for the spent fuel pool cooling load.

This calculation determines the heat load to the Ultimate Heat Sink (UHS) for current and power uprate conditions. The current analytical power level corresponds to reactor core power of 3559 MW_t and power uprate at 120% corresponds to an analytical value for reactor core power of 4067 MW_t (both values include calorimetric uncertainty). The power uprate is 120% of the original licensed core power. The UHS is defined as the area of the lake (Core Standby Cooling System (CSCS) pond) that remains intact after the postulated event of a dike rupture. The UHS serves both units.

This is a safety related calculation.

This is a thermal hydraulic calculation (M10).

The structure, system, or components addressed in this calculation is the Ultimate Heat Sink (ZZ).

2.0 METHODOLOGY AND ACCEPTANCE CRITERIA

2.1 Methodology

The heat load to the UHS is determined for Current Licensed Thermal Power (CLTP) and Extended Power Uprate (EPU) conditions. The UHS is defined as the area of the lake (CSCS pond) that remains intact after the postulated event of a dike rupture. The basis for this calculation is one unit experiences a Loss of Coolant Accident (LOCA) while the second unit is in normal shutdown from the analytical power limit.

In order to calculate the total heat load to the UHS, the individual heat loads are tabulated. The individual heat loads from each unit include the decay heat, the sensible heat, pump motors, diesel generator coolers and cubicle coolers.

The decay heat is ultimately dissipated to the UHS via the Residual Heat Removal (RHR) heat exchangers. The sensible heat is also dissipated to the UHS via the RHR heat exchangers. The sensible heat includes energy from the reactor pressure vessel, reactor internals and the primary system piping. The energy from the primary system steam and liquid is also included in the sensible heat total.

The heat load from the pump motors conservatively includes all of the CSCS pump motors. In addition, the Emergency Core Cooling Systems (ECCS) and RHR pump motor heat loads are included in the heat load total since the heat is added to the suppression pool and ultimately will be added to the UHS via the RHR heat exchanger.

The design heat transfer rate of the cooler is used to account for the heat removed by the CSCS coolers. These coolers include the diesel generator coolers and the cubicle area coolers. The cubicle area coolers remove heat generated in the ECCS pump corner rooms. This heat load includes equipment, piping, hangers and valves, and lighting. The heat released into the room air from the pump motor is actually accounted for twice. The pump motor heat load conservatively assumes that the entire heat load is added to the fluid. A small percentage of this heat load is actually lost into the air as heat. This heat load is a very small portion of the total heat load.

No fuel pool heat load is considered (See Assumption 3.2). Instead, the fuel pool emergency makeup pumps are modeled as providing required makeup flow to the fuel pools. Therefore, the CSCS Fuel Pool Emergency Make-up Pumps are in operation.

2.2 Computer Programs and Software

Microsoft Excel Version 5.0c Program number 03.1.138-5.0 is used in the Revision 1 preparation of this calculation on PC #5121, which is attached to S&L file server SNL1. Revision 2 used Microsoft Excel 97 Program number 03.2.081-1.0 on PC #6664, which is also attached to S&L file server SNL1. The validation is implicit in the detailed review of the calculation and requires no additional documentation.

Revision 3 is done using Microsoft Excel® 2003 [Ref. 5.23], which is commercially available. The validation of Excel is implicit in the detailed review of all spreadsheets used in this analysis. All computer runs were performed using PC No. ZD6661 under the Windows XP operating system.

2.3 Acceptance Criteria

There are no specific acceptance criteria for this calculation. The results of this calculation are used as input for the UHS temperature calculation.

3.0 ASSUMPTIONS

3.1 Dike Rupture - After the postulated event of a dike rupture the initial water level is assumed to be at 690'-0" which is the design water level of the CSCS pond [Ref. 5.20]. Per the operating procedures [Ref. 5.19] the circulating water pumps and the non-safety Service Water pumps are isolated when the lake level drops to elevation 690'-0".

3.2 Fuel Pool Heat Rejection - The fuel pool cooling system is normally cooled by the non-safety Service Water System. The RHR heat exchanger and pump are used as a complete backup for the fuel pool cooling system. However, it is improbable that the required operation actions (RHR alignment) could be performed in the post-LOCA reactor building environment. It is also improbable that the RHR would be realigned from Reactor Pressure Vessel (RPV) makeup to fuel pool cooling following a Design Basis Accident-LOCA [Ref. 5.3]. Therefore, no fuel pool heat load is considered.

3.3 Fuel Pool Makeup - The fuel pool emergency makeup pumps are conservatively assumed to be in operation in order to provide makeup flow to the fuel pools [Ref. 5.3].

3.4 Pump Motor Heat - It is conservatively assumed that all energy generated by the operating pump motors is added to the UHS.

3.5 Seal Cooler Heat - The RHR pump seal coolers and the Low Pressure Core Spray (LPCS) pump motor cooler heat loads are not included in the total CSCS cooler heat load since the heat removed by these coolers is covered in the pump motor heat loads.

3.6 Pump Heat - The motor nameplate rating is conservatively assigned as the pump heat. Actual developed shaft horsepower is expected to be less than this rating.

4.0 DESIGN INPUT

4.1 Decay Heat - The decay heat ratio for GE9 through GE14 fuel at Stretch Power Uprate (SPU) (see Table 7.1) is used to determine the decay heat and is provided in GE Letter NSA-01-404 [Ref. 5.1]. In NEDC-33647P [Ref. 5.24], the design basis core decay heat is determined to not be affected by the introduction of the GNF2 fuel.

The decay heat ratio for EPU (see Table 7.2) is used to determine the decay heat and is provided in SEAG #12-000098 [Ref. 5.3]. SEAG #12-000098 gives several cautions in using the decay heat values. Specifically, Caution 2 (LOCA void feedback) is considered to be negligible and not included. The heat released from Metal-Water reactions referenced in Caution 4 is considered to be negligible compared to the decay heat [Ref. 5.18, Table 6.2-6] and not included.

4.2 Core Thermal Power - The rated thermal power under SPU conditions is 3489 MW_t. This is 105% of 3323 MW_t, the original licensed core power [Ref. 5.2]. An additional 2% is added for calorimetric uncertainty for a thermal power of 3558.78 MW_t (referred to as 3559 MW_t throughout the remainder of this calculation). This analytical power level is unchanged by the Measurement Uncertainty Recapture Power Uprate (MUR PU), considered here as CLTP.

The rated thermal power under EPU conditions is 3988 MW_t. This is 120% of 3323 MW_t, the original licensed core power [Ref. 5.2]. An additional 2% is added for calorimetric uncertainty for a thermal power of 4067.76 MW_t (referred to as 4067 MW_t for the remainder of this calculation).

4.3 Unit Conversions - Unit conversions of 3.412 (Btu/hr)/W and 42.43 (Btu/min)/hp are found in Cameron Hydraulic Data [Ref. 5.4].

4.4 Pump Horsepower - The following list contains the horsepower ratings and references for each pump:

Pump	Equipment #	Motor Rating (hp)	Reference
RHR Service Water Pumps	1/2E12-C300A	200	5.11a,e
	1/2E12-C300B	200	5.11b,f
	1/2E12-C300C	200	5.11c,g
	1/2E12-C300D	200	5.11d,h
Diesel Generator (DG) Cooling Water Pumps	0DG01P	125	5.12
	1/2DG01P	75	5.15

Pump	Equipment #	Motor Rating (hp)	Reference
High Pressure Core Spray (HPCS) DG Cooling Water Pumps	1/2E22-C002	100	5.13
Fuel Pool Emergency Make-up Pumps	1/2FC03PA	75	5.14
	1/2FC03PB	75	5.14
HPCS Pumps	1/2E22-C001	3050	5.22
LPCS Pumps	1/2E21-C001	1517	5.22
RHR Pumps	1/2E12-C002A	800	5.16
	1/2E12-C002B	800	5.16
	1/2E12-C002C	800	5.16

4.5 Area Cooler Heat Load - The following list contains the design heat transfer rate and reference for each cooler:

	Equipment #	Heat Transfer Rate (Btu/hr)	Reference
HPCS DG Cooler	1/2E22-S001	8.5005E+06	5.5
DG Cooler 0A	0DG01A	8.6000E+06*	5.17, 5.18
DG Cooler 1A	1/2DG01A	8.6000E+06*	5.17, 5.18
NW Cubicle Area Cooler	1/2VY01A	7.5000E+05	5.7
SW Cubicle Area Cooler	1/2VY02A	7.5000E+05	5.8
SE Cubicle Area Cooler	1/2VY03A	1.1080E+06	5.9
NE Cubicle Area Cooler	1/2VY04A	1.1940E+06	5.10

* See Calculations section

4.6 Sensible Heat - Data for the sensible heat from the reactor pressure vessel, reactor internals, primary system piping, fuel, and energy from the primary system is contained GE-LPUP-204 [Ref. 5.21] and is tabulated in Table 7.5. SEAG#12-000098 [Ref. 5.3] confirms that the sensible heat provided in Table 7.5 is acceptable for EPU.

4.7 EPU Core Thermal Power - The rated core thermal power for EPU is increased by an additional 2% to account for measurement uncertainty [Ref. 5.6].

5.0 REFERENCES

5.1 GE Letter NSA-01-404, Rev. 1, dated 9/4/01, "Decay Heat Table for LaSalle County Station Power Uprate (Including Contributions from Additional Actinides and Activation Products and a Custom G-Factor)". (See Attachment A)

5.2 GE Letter GE-LPUP-024, dated 2/18/99, "LaSalle 1 and 2 Heat Balances at 105% Uprated Power". (See Attachment A)

5.3 SEAG#12-000098, "DIR for LAS-EPU-U1/2-DIR-T0608-1," 04/18/12. (See Attachment B)

5.4 Cameron Hydraulic Data, Ingersoll-Dresser Pumps, 19th Edition, 2002.

5.5 O & M Mfg. Co. Heat Exchanger Specification Sheet, Reference No. F-64546-50583, Rev. B, dated 9/26/74.

5.6 10CFR50, Appendix K, Part I.A, "Sources of Heat During the LOCA", 4/12/2012.

5.7 Vendor Drawing, Carrier BBC-100-9, Revision 4 and BBC-100-11, Revision 4. *

5.8 Vendor Drawing, Carrier BBC-100-10, Revision 2 and BBC-100-12, Revision 2. *

5.9 Vendor Drawing, Carrier BBC-100-13, Revision 2 and BBC-100-14, Revision 2. *

5.10 Vendor Drawing, Carrier BBC-100-15, Revision 3 and BBC-100-16, Revision 3. *

5.11 Motor Test Reports:

a) LaSalle Drawing # 1XF-330659-A1, approved 2-17-76 *
b) LaSalle Drawing # 1XF-330659-A2, approved 2-18-76 *
c) LaSalle Drawing # 1XF-330659-A3, approved 2-20-76 *
d) LaSalle Drawing # 1XF-330659-A4, approved 4-1-76 *
e) LaSalle Drawing # 1XF-330659-A5, approved 3-16-76 *
f) LaSalle Drawing # 1XF-330659-A6, approved 2-20-76 *
g) LaSalle Drawing # 1XF-330659-A7, approved 2-25-76 *
h) LaSalle Drawing # 1XF-330659-A8, approved 3-15-76 *

5.12 Motor Data, LaSalle Drawing # 2XF-330659, dated 6-17-74. *

5.13 VPF 3275-005, Pump Outline, Rev. 8.

5.14 Motor Data, LaSalle Drawing # 3YF-275644, dated 6-17-74. *

5.15 Motor Performance Curves:

a) LaSalle Drawing #SK-59501-1, test date 9-2-75. *

b) LaSalle Drawing #SK-59501-2, test date 9-12-75. *

5.16 a) LaSalle Drawing 1E-1-4000M, Rev F. *

b) LaSalle Drawing 1E-2-4000M, Rev F. *

5.17 S&L Specification J-2544, Amd. 2, 1/27/78.

5.18 LaSalle County Station UFSAR, Table 6.2-6 and Section 9.5.5, Revision 19.

5.19 LaSalle County Station Unit 1, 2 and Common, Operating Abnormal Procedure, "Lake Dike Damage/Failure", LOA-DIKE-001, Revision 8, 9/28/2007.

5.20 LaSalle Drawing S-30, Revision W, 5/18/98. *

5.21 GE Letter, GE-LPUP-204, dated 6/22/99, "Response to Request for Sensible Energy Data". (See Attachment A)

5.22 L-003352, "Evaluation for GE Safety Communication SC06-01 Containment System Response GEH 000 0-0069-6598-R0," Rev. 0.

5.23 Microsoft® Office Excel 2003 (11.8120.8122) SP2, Copyright 1985-2003 Microsoft Corporation.

5.24 NEDC-33647P, "GNF2 Fuel Design Cycle-Independent Analyses for Exelon LaSalle County Station Units 1 and 2," Rev. 0.

* Checked in Passport on 5/15/2012

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6.0 CALCULATIONS

6.1 Decay Heat

The decay heat load is the product of the decay heat fraction and the rated thermal power. Note that the analytical power level for MUR PU remains the same as the SPU power level of 3559 MW_t (See Design Input 4.2).

[[

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Tables 7.1 and 7.2 contain the calculated decay heat load for CLTP and EPU, respectively.

6.2 Pump Motor Heat Load

The heat load from the pump motor is calculated by conservatively assuming that all of the energy generated by the pump motors is added to the fluid. The motor rating in hp is converted to Btu/hr to determine the heat load. A sample calculation for the RHR Service Water pumps is determined below. The remaining motor heat loads are contained in Table 7.3.

Motor Heat Load = 200 hp * 42.43 (Btu/min)/hp * 60 min/hr = 5.09×10^5 Btu/hr

6.3 Diesel Generator Coolers

The design heat load from the DG Coolers, 0/1/2DG01A, is calculated from the energy absorbed by the cooling water and determined to be 2284 kW [Ref. 5.17]. In addition, the DG coolers are sized based on operation of 110% of the rated cooling load [Ref. 5.18, Section 9.5.5].

Energy Absorbed = 2284 kW * 3412 (Btu/hr)/kW = 7.8×10^6 Btu/hr

Design Heat Removal Rate = 7.8×10^6 Btu/hr * 1.10 = 8.6×10^6 Btu/hr

7.0 SUMMARY AND CONCLUSIONS

The UHS is defined as the area of the lake (CSCS pond) that remains intact after the postulated event of a dike rupture. Tables 7.1 and 7.2 calculate the decay heat curve that is generated from the decay fraction and the analytical thermal power for CLTP (3559 MW_t) and EPU (4067 MW_t), respectively. The pump heat loads and the heat loads from the CSCS coolers in Btu/hr are tabulated in Tables 7.3 and 7.4, respectively. Table 7.5 contains the sensible heat. A summary of the generated heat loads in Btu/hr is contained in Table 7.6 for CLTP and Table 7.7 for EPU.

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Table 7.1 - CLTP Decay Heat Load (3559 MW_t)[1]

Time (seconds)	hours	days	Decay Fraction[2]	+2% Uncertainty	Rated Power (W_t)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
0.00E+00	0.00E+00		[[				1.2143E+10
1.00E-01	2.78E-05						1.2049E+10
1.50E-01	4.17E-05						1.1688E+10
2.00E-01	5.56E-05						1.1329E+10
4.00E-01	1.11E-04						9.0741E+09
6.00E-01	1.67E-04						7.1763E+09
8.00E-01	2.22E-04						5.9984E+09
1.00E+00	2.78E-04						4.1175E+09
1.50E+00	4.17E-04						2.9956E+09
2.00E+00	5.56E-04						1.8821E+09
4.00E+00	1.11E-03						8.9758E+08
6.00E+00	1.67E-03						7.4167E+08
8.00E+00	2.22E-03						6.9018E+08
1.00E+01	2.78E-03						6.3979E+08
1.50E+01	4.17E-03						5.9280E+08
2.00E+01	5.56E-03						5.5625E+08
4.00E+01	1.11E-02						4.8801E+08
6.00E+01	1.67E-02						4.5158E+08
8.00E+01	2.22E-02						4.2487E+08
1.00E+02	2.78E-02						4.0714E+08
1.50E+02	4.17E-02						3.7703E+08
2.00E+02	5.56E-02						3.5699E+08
4.00E+02	1.11E-01						3.1364E+08
6.00E+02	1.67E-01						2.8899E+08
8.00E+02	2.22E-01						2.7090E+08
1.00E+03	2.78E-01						2.5657E+08
1.50E+03	4.17E-01						2.3010E+08
2.00E+03	5.56E-01						2.1128E+08
4.00E+03	1.11E+00						1.7000E+08
6.00E+03	1.67E+00						1.5045E+08
8.00E+03	2.22E+00						1.3867E+08
1.00E+04	2.78E+00						1.3065E+08
1.50E+04	4.17E+00						1.1772E+08
2.00E+04	5.56E+00						1.0961E+08
4.00E+04	1.11E+01					]]	9.2502E+07

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Time (seconds)	hours	days	Decay Fraction[2]	+2% Uncertainty	Rated Power (W_t)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
6.00E+04	1.67E+01		[[				8.3225E+07
8.00E+04	2.22E+01						7.6947E+07
8.64E+04	2.40E+01	1 day					7.5332E+07
1.00E+05	2.78E+01						7.2333E+07
1.50E+05	4.17E+01						6.4076E+07
1.73E+05	4.81E+01	2 days					6.1296E+07
2.00E+05	5.56E+01						5.8479E+07
2.59E+05	7.19E+01	3 days					5.3585E+07
3.46E+05	9.61E+01	4 days					4.8291E+07
4.00E+05	1.11E+02						4.5680E+07
4.32E+05	1.20E+02	5 days					4.4345E+07
6.00E+05	1.67E+02						3.8880E+07
8.00E+05	2.22E+02						3.4485E+07
8.64E+05	2.40E+02	10 days					3.3392E+07
1.00E+06	2.78E+02						3.1425E+07
1.50E+06	4.17E+02						2.6556E+07
1.73E+06	4.81E+02	20 days					2.5050E+07
2.00E+06	5.56E+02						2.3544E+07
2.59E+06	7.19E+02	30 days					2.1055E+07
3.46E+06	9.61E+02	40 days					1.8457E+07
4.00E+06	1.11E+03						1.7230E+07
4.32E+06	1.20E+03	50 days					1.6623E+07
6.00E+06	1.67E+03						1.4207E+07
8.00E+06	2.22E+03						1.2276E+07
1.00E+07	2.78E+03						1.0848E+07
1.50E+07	4.17E+03						8.3941E+06
2.00E+07	5.56E+03						6.8375E+06
4.00E+07	1.11E+04						3.9791E+06
6.00E+07	1.67E+04						2.7649E+06
8.00E+07	2.22E+04						2.0557E+06
1.00E+08	2.78E+04						1.6150E+06
1.50E+08	4.17E+04						1.0677E+06
2.00E+08	5.56E+04					]]	8.4451E+05

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Time (seconds)	hours	days	Decay Fraction[2]	+2% Uncertainty	Rated Power (W_t)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
4.00E+08	1.11E+05		[[				5.8600E+05
6.00E+08	1.67E+05						4.9627E+05
8.00E+08	2.22E+05						4.3495E+05
1.00E+09	2.78E+05					]]	3.8650E+05

1) This evaluation is valid for SPU and MUR PU power levels.
2) Ref. 5.1

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Table 7.2 - EPU Decay Heat Load (4067 MW_t)

Time (seconds)	hours	days	Decay Fraction[1]	+2% Uncertainty	Rated Power (W_t)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
0.00E+00	0.00E+00		[[				1.3879E+10
1.00E-01	2.78E-05						1.3774E+10
1.50E-01	4.17E-05						1.3362E+10
2.00E-01	5.56E-05						1.2951E+10
4.00E-01	1.11E-04						1.0373E+10
6.00E-01	1.67E-04						8.2054E+09
8.00E-01	2.22E-04						6.8591E+09
1.00E+00	2.78E-04						4.7092E+09
1.50E+00	4.17E-04						3.4268E+09
2.00E+00	5.56E-04						2.1554E+09
4.00E+00	1.11E-03						1.0298E+09
6.00E+00	1.67E-03						8.5177E+08
8.00E+00	2.22E-03						7.9292E+08
1.00E+01	2.78E-03						7.3532E+08
1.50E+01	4.17E-03						6.8147E+08
2.00E+01	5.56E-03						6.3969E+08
4.00E+01	1.11E-02						5.6169E+08
6.00E+01	1.67E-02						5.2005E+08
8.00E+01	2.22E-02						4.8938E+08
1.00E+02	2.78E-02						4.6939E+08
1.50E+02	4.17E-02						4.3511E+08
2.00E+02	5.56E-02						4.1249E+08
3.00E+02	8.33E-02						3.8279E+08
4.00E+02	1.11E-01						3.6294E+08
6.00E+02	1.67E-01						3.3463E+08
8.00E+02	2.22E-01						3.1409E+08
1.00E+03	2.78E-01						2.9757E+08
1.50E+03	4.17E-01						2.6731E+08
1.80E+03	5.00E-01						2.5343E+08
2.00E+03	5.56E-01						2.4552E+08
3.00E+03	8.33E-01						2.1679E+08
4.00E+03	1.11E+00						1.9847E+08
4.80E+03	1.33E+00						1.8779E+08
6.00E+03	1.67E+00						1.7613E+08
8.00E+03	2.22E+00					]]	1.6280E+08

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Time (seconds)	hours	days	Decay Fraction[1]	+2% Uncertainty	Rated Power (W_t)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
1.00E+04	2.78E+00		[[				1.5364E+08
1.50E+04	4.17E+00						1.3907E+08
2.00E+04	5.56E+00						1.2976E+08
3.00E+04	8.33E+00						1.1781E+08
4.00E+04	1.11E+01						1.1002E+08
6.00E+04	1.67E+01						9.9417E+07
8.00E+04	2.22E+01						9.2102E+07
8.64E+04	2.40E+01	1 day					9.0201E+07
1.00E+05	2.78E+01						8.6662E+07
1.50E+05	4.17E+01						7.6905E+07
1.73E+05	4.80E+01	2 days					7.3546E+07
1.80E+05	5.00E+01						7.2630E+07
2.00E+05	5.56E+01						7.0187E+07
2.59E+05	7.20E+01	3 days					6.4344E+07
3.46E+05	9.60E+01	4 days					5.7946E+07
3.60E+05	1.00E+02						5.7085E+07
4.00E+05	1.11E+02						5.4809E+07
4.32E+05	1.20E+02	5 days					5.3227E+07
6.00E+05	1.67E+02						4.6676E+07
8.00E+05	2.22E+02						4.1471E+07
8.64E+05	2.40E+02	10 days					4.0208E+07
1.00E+06	2.78E+02						3.7890E+07
1.50E+06	4.17E+02						3.2144E+07
1.73E+06	4.80E+02	20 days					3.0340E+07
2.00E+06	5.56E+02						2.8577E+07
2.59E+06	7.20E+02	30 days					2.5621E+07
3.46E+06	9.60E+02	40 days					2.2512E+07
4.00E+06	1.11E+03						2.1069E+07
4.32E+06	1.20E+03	50 days					2.0347E+07
6.00E+06	1.67E+03						1.7502E+07
8.00E+06	2.22E+03						1.5253E+07
1.00E+07	2.78E+03						1.3625E+07
1.50E+07	4.17E+03						1.0840E+07
2.00E+07	5.56E+03						9.0590E+06
4.00E+07	1.11E+04						5.7085E+06
6.00E+07	1.67E+04					]]	4.1374E+06

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Time (seconds)	hours	days	Decay Fraction[1]	+2% Uncertainty	Rated Power (W_t)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
8.00E+07	2.22E+04		[[				3.1603E+06
1.00E+08	2.78E+04						2.5191E+06
1.50E+08	4.17E+04						1.6738E+06
2.00E+08	5.56E+04						1.3094E+06
4.00E+08	1.11E+05						8.8563E+05
6.00E+08	1.67E+05						7.4392E+05
8.00E+08	2.22E+05						6.4788E+05
1.00E+09	2.78E+05					]]	5.7057E+05

1) Ref. 5.3

Table 7.3 - Pump Heat Load

Pump	Equipment #	Motor Rating (hp)[1]	Conversion ((Btu/min)/hp)	Motor Heat Load per Pump (Btu/hr)	Total Heat Load (Both Units) (Btu/hr)
RHR Service Water Pumps	1/2E12-C300A	200	42.43	5.09E+05	1.02E+06
	1/2E12-C300B	200	42.43	5.09E+05	1.02E+06
	1/2E12-C300C	200	42.43	5.09E+05	1.02E+06
	1/2E12-C300D	200	42.43	5.09E+05	1.02E+06
DG Cooling Water Pumps	0DG01P	125	42.43	3.18E+05	3.18E+05
	1/2DG01P	75	42.43	1.91E+05	3.82E+05
HPCS DG Cooling Water Pumps	1/2E22-C002	100	42.43	2.55E+05	5.09E+05
Fuel Pool Emergency Make-up Pumps	1/2FC03PA	75	42.43	1.91E+05	3.82E+05
	1/2FC03PB	75	42.43	1.91E+05	3.82E+05
HPCS Pumps	1/2E22-C001	3050	42.43	7.76E+06	1.55E+07
LPCS Pumps	1/2E21-C001	1517	42.43	3.86E+06	7.72E+06
RHR Pumps	1/2E12-C002A	800	42.43	2.04E+06	4.07E+06
	1/2E12-C002B	800	42.43	2.04E+06	4.07E+06
	1/2E12-C002C	800	42.43	2.04E+06	4.07E+06
				TOTAL	4.15E+07

1) See Design Input 4.4

Table 7.4 - Heat Load from CSCS Coolers

CSCS System Equipment #	CSCS Cooler	Heat Removal Rate per Cooler (Btu/hr)[1]	Total Heat Load (Both Units) (Btu/hr)
1/2E12-C002A	RHR Pump Seal Cooler 1A	included	
1/2E12-C002B	RHR Pump Seal Cooler 1B	in pump	
1/2E21-C001	LPCS Pump Motor Cooler	motor load	
1/2E22-S001	HPCS DG Cooler	8.5005E+06	1.7001E+07
0DG01A	DG Cooler 0A	8.6000E+06	8.6000E+06
1/2DG01A	DG Cooler 1A	8.6000E+06	1.7200E+07
1/2VY01A	NW Cubicle Area Cooler	7.5000E+05	1.5000E+06
1/2VY02A	SW Cubicle Area Cooler	7.5000E+05	1.5000E+06
1/2VY03A	SE Cubicle Area Cooler	1.1080E+06	2.2160E+06
1/2VY04A	NE Cubicle Area Cooler	1.1940E+06	2.3880E+06
		TOTAL	5.0405E+07

1) See Design Input 4.5

Table 7.5 - Sensible Heat Load

	Heat Load per Unit[1] (Btu)	Heat Load both Units (Btu)
Reactor Vessel	1.060E+08	2.12E+08
Reactor Internals	5.850E+07	1.17E+08
Primary System Piping	2.780E+07	5.56E+07
Fuel	2.770E+07	5.54E+07
Primary System		
-Steam Energy	2.900E+07	5.80E+07
-Liquid Energy	3.330E+08	6.66E+08
	Total	1.16E+09
	+ margin	6.00E+07
	Final Sensible Heat	1.22E+09

1) Ref. 5.2

Table 7.6 - CLTP Heat Load Summary[1] (3559 MW_t)[2]

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
0	2.78E-11	1.2143E+10	1.2143E+10	4.15E+07	5.04E+07	0.00E+00	2.44E+10	-0-
1.00E-01	2.78E-05	1.2049E+10	1.2049E+10	4.15E+07	5.04E+07	0.00E+00	2.42E+10	6.75E+05
1.50E-01	4.17E-05	1.1688E+10	1.1688E+10	4.15E+07	5.04E+07	0.00E+00	2.35E+10	1.01E+06
2.00E-01	5.56E-05	1.1329E+10	1.1329E+10	4.15E+07	5.04E+07	0.00E+00	2.27E+10	1.33E+06
4.00E-01	1.11E-04	9.0741E+09	9.0741E+09	4.15E+07	5.04E+07	0.00E+00	1.82E+10	2.47E+06
6.00E-01	1.67E-04	7.1763E+09	7.1763E+09	4.15E+07	5.04E+07	0.00E+00	1.44E+10	3.37E+06
8.00E-01	2.22E-04	5.9984E+09	5.9984E+09	4.15E+07	5.04E+07	0.00E+00	1.21E+10	4.11E+06
1.00E+00	2.78E-04	4.1175E+09	4.1175E+09	4.15E+07	5.04E+07	0.00E+00	8.33E+09	4.68E+06
1.50E+00	4.17E-04	2.9956E+09	2.9956E+09	4.15E+07	5.04E+07	0.00E+00	6.08E+09	5.68E+06
2.00E+00	5.56E-04	1.8821E+09	1.8821E+09	4.15E+07	5.04E+07	0.00E+00	3.86E+09	6.37E+06
4.00E+00	1.11E-03	8.9758E+08	8.9758E+08	4.15E+07	5.04E+07	0.00E+00	1.89E+09	7.96E+06
6.00E+00	1.67E-03	7.4167E+08	7.4167E+08	4.15E+07	5.04E+07	0.00E+00	1.58E+09	8.93E+06
8.00E+00	2.22E-03	6.9018E+08	6.9018E+08	4.15E+07	5.04E+07	0.00E+00	1.47E+09	9.77E+06
1.00E+01	2.78E-03	6.3979E+08	6.3979E+08	4.15E+07	5.04E+07	0.00E+00	1.37E+09	1.06E+07
1.50E+01	4.17E-03	5.9280E+08	5.9280E+08	4.15E+07	5.04E+07	0.00E+00	1.28E+09	1.24E+07
2.00E+01	5.56E-03	5.5625E+08	5.5625E+08	4.15E+07	5.04E+07	0.00E+00	1.20E+09	1.41E+07
4.00E+01	1.11E-02	4.8801E+08	4.8801E+08	4.15E+07	5.04E+07	0.00E+00	1.07E+09	2.04E+07
6.00E+01	1.67E-02	4.5158E+08	4.5158E+08	4.15E+07	5.04E+07	0.00E+00	9.95E+08	2.62E+07
8.00E+01	2.22E-02	4.2487E+08	4.2487E+08	4.15E+07	5.04E+07	0.00E+00	9.42E+08	3.15E+07
1.00E+02	2.78E-02	4.0714E+08	4.0714E+08	4.15E+07	5.04E+07	0.00E+00	9.06E+08	3.67E+07
1.50E+02	4.17E-02	3.7703E+08	3.7703E+08	4.15E+07	5.04E+07	0.00E+00	8.46E+08	4.88E+07
2.00E+02	5.56E-02	3.5699E+08	3.5699E+08	4.15E+07	5.04E+07	0.00E+00	8.06E+08	6.03E+07
4.00E+02	1.11E-01	3.1364E+08	3.1364E+08	4.15E+07	5.04E+07	0.00E+00	7.19E+08	1.03E+08
6.00E+02	1.67E-01	2.8899E+08	2.8899E+08	4.15E+07	5.04E+07	0.00E+00	6.70E+08	1.41E+08
8.00E+02	2.22E-01	2.7090E+08	2.7090E+08	4.15E+07	5.04E+07	0.00E+00	6.34E+08	1.77E+08
1.00E+03	2.78E-01	2.5657E+08	2.5657E+08	4.15E+07	5.04E+07	0.00E+00	6.05E+08	2.12E+08
1.50E+03	4.17E-01	2.3010E+08	2.3010E+08	4.15E+07	5.04E+07	0.00E+00	5.52E+08	2.92E+08
2.00E+03	5.56E-01	2.1128E+08	2.1128E+08	4.15E+07	5.04E+07	0.00E+00	5.14E+08	3.66E+08
4.00E+03	1.11E+00	1.7000E+08	1.7000E+08	4.15E+07	5.04E+07	0.00E+00	4.32E+08	6.29E+08
6.00E+03	1.67E+00	1.5045E+08	1.5045E+08	4.15E+07	5.04E+07	0.00E+00	3.93E+08	8.58E+08
8.00E+03	2.22E+00	1.3867E+08	1.3867E+08	4.15E+07	5.04E+07	0.00E+00	3.69E+08	1.07E+09
1.00E+04	2.78E+00	1.3065E+08	1.3065E+08	4.15E+07	5.04E+07	0.00E+00	3.53E+08	1.27E+09
1.50E+04	4.17E+00	1.1772E+08	1.1772E+08	4.15E+07	5.04E+07	0.00E+00	3.27E+08	1.74E+09

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
2.00E+04	5.56E+00	1.0961E+08	1.0961E+08	4.15E+07	5.04E+07	0.00E+00	3.11E+08	2.19E+09
4.00E+04	1.11E+01	9.2502E+07	9.2502E+07	4.15E+07	5.04E+07	0.00E+00	2.77E+08	3.82E+09
6.00E+04	1.67E+01	8.3225E+07	8.3225E+07	4.15E+07	5.04E+07	0.00E+00	2.58E+08	5.31E+09
8.00E+04	2.22E+01	7.6947E+07	7.6947E+07	4.15E+07	5.04E+07	0.00E+00	2.46E+08	6.71E+09
8.64E+04	2.40E+01	7.5332E+07	7.5332E+07	4.15E+07	5.04E+07	0.00E+00	2.43E+08	7.14E+09
1.00E+05	2.78E+01	7.2333E+07	7.2333E+07	4.15E+07	5.04E+07	0.00E+00	2.37E+08	8.05E+09
1.50E+05	4.17E+01	6.4076E+07	6.4076E+07	4.15E+07	5.04E+07	0.00E+00	2.20E+08	1.12E+10
1.73E+05	4.81E+01	6.1296E+07	6.1296E+07	4.15E+07	5.04E+07	0.00E+00	2.15E+08	1.26E+10
2.00E+05	5.56E+01	5.8479E+07	5.8479E+07	4.15E+07	5.04E+07	0.00E+00	2.09E+08	1.42E+10
2.59E+05	7.19E+01	5.3585E+07	5.3585E+07	4.15E+07	5.04E+07	0.00E+00	1.99E+08	1.75E+10
3.46E+05	9.61E+01	4.8291E+07	4.8291E+07	4.15E+07	5.04E+07	0.00E+00	1.89E+08	2.22E+10
4.00E+05	1.11E+02	4.5680E+07	4.5680E+07	4.15E+07	5.04E+07	0.00E+00	1.83E+08	2.50E+10
4.32E+05	1.20E+02	4.4345E+07	4.4345E+07	4.15E+07	5.04E+07	0.00E+00	1.81E+08	2.66E+10
6.00E+05	1.67E+02	3.8880E+07	3.8880E+07	4.15E+07	5.04E+07	0.00E+00	1.70E+08	3.48E+10
8.00E+05	2.22E+02	3.4485E+07	3.4485E+07	4.15E+07	5.04E+07	0.00E+00	1.61E+08	4.40E+10
8.64E+05	2.40E+02	3.3392E+07	3.3392E+07	4.15E+07	5.04E+07	0.00E+00	1.59E+08	4.68E+10
1.00E+06	2.78E+02	3.1425E+07	3.1425E+07	4.15E+07	5.04E+07	0.00E+00	1.55E+08	5.27E+10
1.50E+06	4.17E+02	2.6556E+07	2.6556E+07	4.15E+07	5.04E+07	0.00E+00	1.45E+08	7.36E+10
1.73E+06	4.81E+02	2.5050E+07	2.5050E+07	4.15E+07	5.04E+07	0.00E+00	1.42E+08	8.27E+10
2.00E+06	5.56E+02	2.3544E+07	2.3544E+07	4.15E+07	5.04E+07	0.00E+00	1.39E+08	9.33E+10
2.59E+06	7.19E+02	2.1055E+07	2.1055E+07	4.15E+07	5.04E+07	0.00E+00	1.34E+08	1.16E+11
3.46E+06	9.61E+02	1.8457E+07	1.8457E+07	4.15E+07	5.04E+07	0.00E+00	1.29E+08	1.47E+11
4.00E+06	1.11E+03	1.7230E+07	1.7230E+07	4.15E+07	5.04E+07	0.00E+00	1.26E+08	1.67E+11
4.32E+06	1.20E+03	1.6623E+07	1.6623E+07	4.15E+07	5.04E+07	0.00E+00	1.25E+08	1.78E+11
6.00E+06	1.67E+03	1.4207E+07	1.4207E+07	4.15E+07	5.04E+07	0.00E+00	1.20E+08	2.35E+11
8.00E+06	2.22E+03	1.2276E+07	1.2276E+07	4.15E+07	5.04E+07	0.00E+00	1.16E+08	3.01E+11
1.00E+07	2.78E+03	1.0848E+07	1.0848E+07	4.15E+07	5.04E+07	0.00E+00	1.14E+08	3.65E+11
1.50E+07	4.17E+03	8.3941E+06	8.3941E+06	4.15E+07	5.04E+07	0.00E+00	1.09E+08	5.19E+11
2.00E+07	5.56E+03	6.8375E+06	6.8375E+06	4.15E+07	5.04E+07	0.00E+00	1.06E+08	6.68E+11
4.00E+07	1.11E+04	3.9791E+06	3.9791E+06	4.15E+07	5.04E+07	0.00E+00	9.99E+07	1.24E+12
6.00E+07	1.67E+04	2.7649E+06	2.7649E+06	4.15E+07	5.04E+07	0.00E+00	9.75E+07	1.79E+12
8.00E+07	2.22E+04	2.0557E+06	2.0557E+06	4.15E+07	5.04E+07	0.00E+00	9.60E+07	2.32E+12
1.00E+08	2.78E+04	1.6150E+06	1.6150E+06	4.15E+07	5.04E+07	0.00E+00	9.52E+07	2.86E+12
1.50E+08	4.17E+04	1.0677E+06	1.0677E+06	4.15E+07	5.04E+07	0.00E+00	9.41E+07	4.17E+12

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
2.00E+08	5.56E+04	8.4451E+05	8.4451E+05	4.15E+07	5.04E+07	0.00E+00	9.36E+07	5.47E+12
4.00E+08	1.11E+05	5.8600E+05	5.8600E+05	4.15E+07	5.04E+07	0.00E+00	9.31E+07	1.07E+13
6.00E+08	1.67E+05	4.9627E+05	4.9627E+05	4.15E+07	5.04E+07	0.00E+00	9.29E+07	1.58E+13
8.00E+08	2.22E+05	4.3495E+05	4.3495E+05	4.15E+07	5.04E+07	0.00E+00	9.28E+07	2.10E+13
1.00E+09	2.78E+05	3.8650E+05	3.8650E+05	4.15E+07	5.04E+07	0.00E+00	9.27E+07	2.61E+13

1) This summary does not include the sensible heat load.
2) This summary is valid for SPU and MUR PU power levels.

Table 7.7 - EPU Heat Load Summary[1] (4067 MW_t)

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
0	2.78E-11	1.3879E+10	1.3879E+10	4.15E+07	5.04E+07	0.00E+00	2.79E+10	-0-
1.00E-01	2.78E-05	1.3774E+10	1.3774E+10	4.15E+07	5.04E+07	0.00E+00	2.76E+10	7.71E+05
1.50E-01	4.17E-05	1.3362E+10	1.3362E+10	4.15E+07	5.04E+07	0.00E+00	2.68E+10	1.15E+06
2.00E-01	5.56E-05	1.2951E+10	1.2951E+10	4.15E+07	5.04E+07	0.00E+00	2.60E+10	1.52E+06
4.00E-01	1.11E-04	1.0373E+10	1.0373E+10	4.15E+07	5.04E+07	0.00E+00	2.08E+10	2.82E+06
6.00E-01	1.67E-04	8.2054E+09	8.2054E+09	4.15E+07	5.04E+07	0.00E+00	1.65E+10	3.85E+06
8.00E-01	2.22E-04	6.8591E+09	6.8591E+09	4.15E+07	5.04E+07	0.00E+00	1.38E+10	4.70E+06
1.00E+00	2.78E-04	4.7092E+09	4.7092E+09	4.15E+07	5.04E+07	0.00E+00	9.51E+09	5.34E+06
1.50E+00	4.17E-04	3.4268E+09	3.4268E+09	4.15E+07	5.04E+07	0.00E+00	6.95E+09	6.49E+06
2.00E+00	5.56E-04	2.1554E+09	2.1554E+09	4.15E+07	5.04E+07	0.00E+00	4.40E+09	7.27E+06
4.00E+00	1.11E-03	1.0298E+09	1.0298E+09	4.15E+07	5.04E+07	0.00E+00	2.15E+09	9.10E+06
6.00E+00	1.67E-03	8.5177E+08	8.5177E+08	4.15E+07	5.04E+07	0.00E+00	1.80E+09	1.02E+07
8.00E+00	2.22E-03	7.9292E+08	7.9292E+08	4.15E+07	5.04E+07	0.00E+00	1.68E+09	1.12E+07
1.00E+01	2.78E-03	7.3532E+08	7.3532E+08	4.15E+07	5.04E+07	0.00E+00	1.56E+09	1.21E+07
1.50E+01	4.17E-03	6.8147E+08	6.8147E+08	4.15E+07	5.04E+07	0.00E+00	1.45E+09	1.42E+07
2.00E+01	5.56E-03	6.3969E+08	6.3969E+08	4.15E+07	5.04E+07	0.00E+00	1.37E+09	1.61E+07
4.00E+01	1.11E-02	5.6169E+08	5.6169E+08	4.15E+07	5.04E+07	0.00E+00	1.22E+09	2.33E+07
6.00E+01	1.67E-02	5.2005E+08	5.2005E+08	4.15E+07	5.04E+07	0.00E+00	1.13E+09	2.98E+07
8.00E+01	2.22E-02	4.8938E+08	4.8938E+08	4.15E+07	5.04E+07	0.00E+00	1.07E+09	3.59E+07
1.00E+02	2.78E-02	4.6939E+08	4.6939E+08	4.15E+07	5.04E+07	0.00E+00	1.03E+09	4.18E+07
1.50E+02	4.17E-02	4.3511E+08	4.3511E+08	4.15E+07	5.04E+07	0.00E+00	9.62E+08	5.56E+07
2.00E+02	5.56E-02	4.1249E+08	4.1249E+08	4.15E+07	5.04E+07	0.00E+00	9.17E+08	6.87E+07
3.00E+02	8.33E-02	3.8279E+08	3.8279E+08	4.15E+07	5.04E+07	0.00E+00	8.58E+08	9.33E+07
4.00E+02	1.11E-01	3.6294E+08	3.6294E+08	4.15E+07	5.04E+07	0.00E+00	8.18E+08	1.17E+08
6.00E+02	1.67E-01	3.3463E+08	3.3463E+08	4.15E+07	5.04E+07	0.00E+00	7.61E+08	1.60E+08
8.00E+02	2.22E-01	3.1409E+08	3.1409E+08	4.15E+07	5.04E+07	0.00E+00	7.20E+08	2.02E+08
1.00E+03	2.78E-01	2.9757E+08	2.9757E+08	4.15E+07	5.04E+07	0.00E+00	6.87E+08	2.41E+08
1.50E+03	4.17E-01	2.6731E+08	2.6731E+08	4.15E+07	5.04E+07	0.00E+00	6.27E+08	3.32E+08
1.80E+03	5.00E-01	2.5343E+08	2.5343E+08	4.15E+07	5.04E+07	0.00E+00	5.99E+08	3.83E+08
2.00E+03	5.56E-01	2.4552E+08	2.4552E+08	4.15E+07	5.04E+07	0.00E+00	5.83E+08	4.16E+08
3.00E+03	8.33E-01	2.1679E+08	2.1679E+08	4.15E+07	5.04E+07	0.00E+00	5.26E+08	5.70E+08
4.00E+03	1.11E+00	1.9847E+08	1.9847E+08	4.15E+07	5.04E+07	0.00E+00	4.89E+08	7.11E+08
4.80E+03	1.33E+00	1.8779E+08	1.8779E+08	4.15E+07	5.04E+07	0.00E+00	4.67E+08	8.17E+08

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
6.00E+03	1.67E+00	1.7613E+08	1.7613E+08	4.15E+07	5.04E+07	0.00E+00	4.44E+08	9.69E+08
8.00E+03	2.22E+00	1.6280E+08	1.6280E+08	4.15E+07	5.04E+07	0.00E+00	4.18E+08	1.21E+09
1.00E+04	2.78E+00	1.5364E+08	1.5364E+08	4.15E+07	5.04E+07	0.00E+00	3.99E+08	1.44E+09
1.50E+04	4.17E+00	1.3907E+08	1.3907E+08	4.15E+07	5.04E+07	0.00E+00	3.70E+08	1.97E+09
2.00E+04	5.56E+00	1.2976E+08	1.2976E+08	4.15E+07	5.04E+07	0.00E+00	3.51E+08	2.47E+09
3.00E+04	8.33E+00	1.1781E+08	1.1781E+08	4.15E+07	5.04E+07	0.00E+00	3.28E+08	3.41E+09
4.00E+04	1.11E+01	1.1002E+08	1.1002E+08	4.15E+07	5.04E+07	0.00E+00	3.12E+08	4.30E+09
6.00E+04	1.67E+01	9.9417E+07	9.9417E+07	4.15E+07	5.04E+07	0.00E+00	2.91E+08	5.98E+09
8.00E+04	2.22E+01	9.2102E+07	9.2102E+07	4.15E+07	5.04E+07	0.00E+00	2.76E+08	7.55E+09
8.64E+04	2.40E+01	9.0201E+07	9.0201E+07	4.15E+07	5.04E+07	0.00E+00	2.72E+08	8.04E+09
1.00E+05	2.78E+01	8.6662E+07	8.6662E+07	4.15E+07	5.04E+07	0.00E+00	2.65E+08	9.05E+09
1.50E+05	4.17E+01	7.6905E+07	7.6905E+07	4.15E+07	5.04E+07	0.00E+00	2.46E+08	1.26E+10
1.73E+05	4.80E+01	7.3546E+07	7.3546E+07	4.15E+07	5.04E+07	0.00E+00	2.39E+08	1.41E+10
1.80E+05	5.00E+01	7.2630E+07	7.2630E+07	4.15E+07	5.04E+07	0.00E+00	2.37E+08	1.46E+10
2.00E+05	5.56E+01	7.0187E+07	7.0187E+07	4.15E+07	5.04E+07	0.00E+00	2.32E+08	1.59E+10
2.59E+05	7.20E+01	6.4344E+07	6.4344E+07	4.15E+07	5.04E+07	0.00E+00	2.21E+08	1.96E+10
3.46E+05	9.60E+01	5.7946E+07	5.7946E+07	4.15E+07	5.04E+07	0.00E+00	2.08E+08	2.48E+10
3.60E+05	1.00E+02	5.7085E+07	5.7085E+07	4.15E+07	5.04E+07	0.00E+00	2.06E+08	2.56E+10
4.00E+05	1.11E+02	5.4809E+07	5.4809E+07	4.15E+07	5.04E+07	0.00E+00	2.02E+08	2.79E+10
4.32E+05	1.20E+02	5.3227E+07	5.3227E+07	4.15E+07	5.04E+07	0.00E+00	1.98E+08	2.97E+10
6.00E+05	1.67E+02	4.6676E+07	4.6676E+07	4.15E+07	5.04E+07	0.00E+00	1.85E+08	3.86E+10
8.00E+05	2.22E+02	4.1471E+07	4.1471E+07	4.15E+07	5.04E+07	0.00E+00	1.75E+08	4.86E+10
8.64E+05	2.40E+02	4.0208E+07	4.0208E+07	4.15E+07	5.04E+07	0.00E+00	1.72E+08	5.17E+10
1.00E+06	2.78E+02	3.7890E+07	3.7890E+07	4.15E+07	5.04E+07	0.00E+00	1.68E+08	5.81E+10
1.50E+06	4.17E+02	3.2144E+07	3.2144E+07	4.15E+07	5.04E+07	0.00E+00	1.56E+08	8.06E+10
1.73E+06	4.80E+02	3.0340E+07	3.0340E+07	4.15E+07	5.04E+07	0.00E+00	1.53E+08	9.04E+10
2.00E+06	5.56E+02	2.8577E+07	2.8577E+07	4.15E+07	5.04E+07	0.00E+00	1.49E+08	1.02E+11
2.59E+06	7.20E+02	2.5621E+07	2.5621E+07	4.15E+07	5.04E+07	0.00E+00	1.43E+08	1.26E+11
3.46E+06	9.60E+02	2.2512E+07	2.2512E+07	4.15E+07	5.04E+07	0.00E+00	1.37E+08	1.59E+11
4.00E+06	1.11E+03	2.1069E+07	2.1069E+07	4.15E+07	5.04E+07	0.00E+00	1.34E+08	1.80E+11
4.32E+06	1.20E+03	2.0347E+07	2.0347E+07	4.15E+07	5.04E+07	0.00E+00	1.33E+08	1.92E+11
6.00E+06	1.67E+03	1.7502E+07	1.7502E+07	4.15E+07	5.04E+07	0.00E+00	1.27E+08	2.52E+11
8.00E+06	2.22E+03	1.5253E+07	1.5253E+07	4.15E+07	5.04E+07	0.00E+00	1.22E+08	3.22E+11
1.00E+07	2.78E+03	1.3625E+07	1.3625E+07	4.15E+07	5.04E+07	0.00E+00	1.19E+08	3.89E+11

Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (Btu/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
1.50E+07	4.17E+03	1.0840E+07	1.0840E+07	4.15E+07	5.04E+07	0.00E+00	1.14E+08	5.50E+11
2.00E+07	5.56E+03	9.0590E+06	9.0590E+06	4.15E+07	5.04E+07	0.00E+00	1.10E+08	7.06E+11
4.00E+07	1.11E+04	5.7085E+06	5.7085E+06	4.15E+07	5.04E+07	0.00E+00	1.03E+08	1.30E+12
6.00E+07	1.67E+04	4.1374E+06	4.1374E+06	4.15E+07	5.04E+07	0.00E+00	1.00E+08	1.86E+12
8.00E+07	2.22E+04	3.1603E+06	3.1603E+06	4.15E+07	5.04E+07	0.00E+00	9.82E+07	2.42E+12
1.00E+08	2.78E+04	2.5191E+06	2.5191E+06	4.15E+07	5.04E+07	0.00E+00	9.70E+07	2.96E+12
1.50E+08	4.17E+04	1.6738E+06	1.6738E+06	4.15E+07	5.04E+07	0.00E+00	9.53E+07	4.29E+12
2.00E+08	5.56E+04	1.3094E+06	1.3094E+06	4.15E+07	5.04E+07	0.00E+00	9.45E+07	5.61E+12
4.00E+08	1.11E+05	8.8563E+05	8.8563E+05	4.15E+07	5.04E+07	0.00E+00	9.37E+07	1.08E+13
6.00E+08	1.67E+05	7.4392E+05	7.4392E+05	4.15E+07	5.04E+07	0.00E+00	9.34E+07	1.60E+13
8.00E+08	2.22E+05	6.4788E+05	6.4788E+05	4.15E+07	5.04E+07	0.00E+00	9.32E+07	2.12E+13
1.00E+09	2.78E+05	5.7057E+05	5.7057E+05	4.15E+07	5.04E+07	0.00E+00	9.31E+07	2.64E+13

1) This summary does not include the sensible heat load

Summary

Tables 7.6 and 7.7 give the total generated heat load as a time dependent function. When determining the total heat load to the UHS, the sensible heat load given in Table 7.5 should be added to the total generated heat load over an appropriate time interval.

8.0 ATTACHMENTS

Attachment A – GE Letter NSA-01-404, GE-LPUP-024, and GE-LPUP-204 (Removed)
Attachment B – SEAG #12-000098 (Removed)
Attachment C – Excel Spreadsheet Formulas
Attachment D – Calculation of Heat Rejection to UHS with 2 x RHR Heat Exchangers and Including Spent Fuel Pool Cooling Load
Attachment E – MATHCAD Printout (Removed)
Attachment F – Excel Formulas

Attachment A removed due to proprietary content

Attachment B removed due to proprietary content

Attachment C

Excel Spreadsheet Formulas

Ref. GEH letter 7491-318563-HAO-1 R2, "Requested Documents with Revised Marking of GEH Proprietary Information", dated December 4, 2014

Table 7.1 Equations

	A	B	C	D	E	F	G	H
1	Time (seconds)	hours	days	Decay Fraction	+2% Uncertainty	Rated Power (W th)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
2	0	=A2/3600	[[					
3	0.1	=A3/3600						
4	0.15	=A4/3600						
5	0.2	=A5/3600						
6	0.4	=A6/3600						
7	0.6	=A7/3600						
8	0.8	=A8/3600						
9	1	=A9/3600						
10	1.5	=A10/3600						
11	2	=A11/3600						
12	4	=A12/3600						
13	6	=A13/3600						
14	8	=A14/3600						
15	10	=A15/3600						
16	15	=A16/3600						
17	20	=A17/3600						
18	40	=A18/3600						
19	60	=A19/3600						
20	80	=A20/3600						
21	100	=A21/3600						
22	150	=A22/3600						
23	200	=A23/3600						
24	400	=A24/3600						
25	600	=A25/3600						
26	800	=A26/3600						
27	1000	=A27/3600						
28	1500	=A28/3600						
29	2000	=A29/3600						
30	4000	=A30/3600						
31	6000	=A31/3600						
32	8000	=A32/3600						
33	10000	=A33/3600						
34	15000	=A34/3600						
35	20000	=A35/3600						
36	40000	=A36/3600						
37	60000	=A37/3600						
38	80000	=A38/3600						
39	86400	=A39/3600	1 day					
40	100000	=A40/3600						
41	150000	=A41/3600						
42	173000	=A42/3600	2 days					
43	200000	=A43/3600						
44	259000	=A44/3600	3 days					
45	346000	=A45/3600	4 days					
46	400000	=A46/3600						
47	432000	=A47/3600	5 days					
48	600000	=A48/3600						
49	800000	=A49/3600						
50	864000	=A50/3600	10 days					
51	1000000	=A51/3600						
52	1500000	=A52/3600						
53	1730000	=A53/3600	20 days					
54	2000000	=A54/3600						
55	2590000	=A55/3600	30 days					
56	3460000	=A56/3600	40 days					]]

Table 7.1 Equations (cont.)

	A	B	C	D	E	F	G	H
57	**Time (seconds)**	**hours**	**days**	**Decay Fraction**	**+2% Uncertainty**	**Rated Power (W th)**	**Conversion ((Btu/hr)/W)**	**Decay Heat (Btu/hr)**
58	4000000	=A58/3600	[[					
59	4320000	=A59/3600	50 days					
60	6000000	=A60/3600						
61	8000000	=A61/3600						
62	10000000	=A62/3600						
63	15000000	=A63/3600						
64	20000000	=A64/3600						
65	40000000	=A65/3600						
66	60000000	=A66/3600						
67	80000000	=A67/3600						
68	100000000	=A68/3600						
69	150000000	=A69/3600						
70	200000000	=A70/3600						
71	400000000	=A71/3600						
72	600000000	=A72/3600						
73	800000000	=A73/3600						
74	1000000000	=A74/3600						]]

Ref. GEH letter 7491-318563-HAO-1 R2, "Requested Documents with Revised Marking of GEH Proprietary Information", dated December 4, 2014

Table 7.2 Equations

[[

	A	B	C	D	E	F	G	H
1	Time (seconds)	hours	days	Decay Fraction	+2% Uncertainty	Rated Power (W th)	Conversion ((Btu/hr)/W)	Decay Heat (Btu/hr)
2	0	=A2/3600						
3	0.1	=A3/3600						
4	0.15	=A4/3600						
5	0.2	=A5/3600						
6	0.4	=A6/3600						
7	0.6	=A7/3600						
8	0.8	=A8/3600						
9	1	=A9/3600						
10	1.5	=A10/3600						
11	2	=A11/3600						
12	4	=A12/3600						
13	6	=A13/3600						
14	8	=A14/3600						
15	10	=A15/3600						
16	15	=A16/3600						
17	20	=A17/3600						
18	40	=A18/3600						
19	60	=A19/3600						
20	80	=A20/3600						
21	100	=A21/3600						
22	150	=A22/3600						
23	200	=A23/3600						
24	300	=A24/3600						
25	400	=A25/3600						
26	600	=A26/3600						
27	800	=A27/3600						
28	1000	=A28/3600						
29	1500	=A29/3600						
30	1800	=A30/3600						
31	2000	=A31/3600						
32	3000	=A32/3600						
33	4000	=A33/3600						
34	4800	=A34/3600						
35	6000	=A35/3600						
36	8000	=A36/3600						
37	10000	=A37/3600						
38	15000	=A38/3600						
39	20000	=A39/3600						
40	30000	=A40/3600						
41	40000	=A41/3600						
42	60000	=A42/3600						
43	80000	=A43/3600						
44	=24*60*60	=A44/3600	1 day					
45	100000	=A45/3600						
46	150000	=A46/3600						
47	=24*60*60*2	=A47/3600	2 days					
48	180000	=A48/3600						
49	200000	=A49/3600						
50	=24*3600*3	=A50/3600	3 days					
51	=24*3600*4	=A51/3600	4 days					
52	360000	=A52/3600						
53	400000	=A53/3600						
54	=24*3600*5	=A54/3600	5 days					
55	600000	=A55/3600						
56	800000	=A56/3600						

]]

Table 7.2 Equations (Cont.)

	A	B	C	D	E	F	G	H
58	=24*3600*10	=A58/3600	10 days	[[				
59	1000000	=A59/3600						
60	1500000	=A60/3600						
61	=24*3600*20	=A61/3600	20 days					
62	2000000	=A62/3600						
63	=24*3600*30	=A63/3600	30 days					
64	=24*3600*40	=A64/3600	40 days					
65	4000000	=A65/3600						
66	=24*3600*50	=A66/3600	50 days					
67	6000000	=A67/3600						
68	8000000	=A68/3600						
69	10000000	=A69/3600						
70	15000000	=A70/3600						
71	20000000	=A71/3600						
72	40000000	=A72/3600						
73	60000000	=A73/3600						
74	80000000	=A74/3600						
75	100000000	=A75/3600						
76	150000000	=A76/3600						
77	200000000	=A77/3600						
78	400000000	=A78/3600						
79	600000000	=A79/3600						
80	800000000	=A80/3600						
81	1000000000	=A81/3600						]]

Table 7.3 Equations

	A	B	C	D	E	F
1	Pump	Equipment #	Motor Rating (hp)	Conversion ((Btu/min)/hp)	Motor Heat Load per Pump (Btu/hr)	Total Heat Load (Both Units) (Btu/hr)
2	RHR Service Water Pumps	1/2E12-C300A	200	42.43	=C2*D2*60	=E2*2
3		1/2E12-C300B	200	42.43	=C3*D3*60	=E3*2
4		1/2E12-C300C	200	42.43	=C4*D4*60	=E4*2
5		1/2E12-C300D	200	42.43	=C5*D5*60	=E5*2
6	DG Cooling Water Pumps	0DG01P	125	42.43	=C6*D6*60	=E6*1
7		1/2DG01P	75	42.43	=C7*D7*60	=E7*2
8	HPCS DG Cooling Water Pumps	1/2E22-C002	100	42.43	=C8*D8*60	=E8*2
9	Fuel Pool Emrgcy Make-up Pumps	1/2FC03PA	75	42.43	=C9*D9*60	=E9*2
10		1/2FC03PB	75	42.43	=C10*D10*60	=E10*2
11	HPCS Pumps	1/2E22-C001	3050	42.43	=C11*D11*60	=E11*2
12	LPCS Pumps	1/2E21-C001	1517	42.43	=C12*D12*60	=E12*2
13	RHR Pumps	1/2E12-C002A	800	42.43	=C13*D13*60	=E13*2
14		1/2E12-C002B	800	42.43	=C14*D14*60	=E14*2
15		1/2E12-C002C	800	42.43	=C15*D15*60	=E15*2
16					TOTAL	=SUM(F2:F15)

Table 7.6 and 7.7 Equations

	A	B	D	E	F	G	H	I	J
1	Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (BTU/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
2	0.0000001	=A2/3600	='decay heat'!H2	='decay heat'!H2	='motor loads'!F$17	=coolers!D$14	0	=SUM(D2:H2)	
3	0.1	=A3/3600	='decay heat'!H3	='decay heat'!H3	='motor loads'!F$17	=coolers!D$14	0	=SUM(D3:H3)	=(I2+I3)/2*(B3-B2)+J2
4	='decay heat'!A4	=A4/3600	='decay heat'!H4	='decay heat'!H4	='motor loads'!F$17	=coolers!D$14	0	=SUM(D4:H4)	=(I3+I4)/2*(B4-B3)+J3
5	='decay heat'!A5	=A5/3600	='decay heat'!H5	='decay heat'!H5	='motor loads'!F$17	=coolers!D$14	0	=SUM(D5:H5)	=(I4+I5)/2*(B5-B4)+J4
6	='decay heat'!A6	=A6/3600	='decay heat'!H6	='decay heat'!H6	='motor loads'!F$17	=coolers!D$14	0	=SUM(D6:H6)	=(I5+I6)/2*(B6-B5)+J5
7	='decay heat'!A7	=A7/3600	='decay heat'!H7	='decay heat'!H7	='motor loads'!F$17	=coolers!D$14	0	=SUM(D7:H7)	=(I6+I7)/2*(B7-B6)+J6
8	='decay heat'!A8	=A8/3600	='decay heat'!H8	='decay heat'!H8	='motor loads'!F$17	=coolers!D$14	0	=SUM(D8:H8)	=(I7+I8)/2*(B8-B7)+J7
9	='decay heat'!A9	=A9/3600	='decay heat'!H9	='decay heat'!H9	='motor loads'!F$17	=coolers!D$14	0	=SUM(D9:H9)	=(I8+I9)/2*(B9-B8)+J8
10	='decay heat'!A10	=A10/3600	='decay heat'!H10	='decay heat'!H10	='motor loads'!F$17	=coolers!D$14	0	=SUM(D10:H10)	=(I9+I10)/2*(B10-B9)+J9
11	='decay heat'!A11	=A11/3600	='decay heat'!H11	='decay heat'!H11	='motor loads'!F$17	=coolers!D$14	0	=SUM(D11:H11)	=(I10+I11)/2*(B11-B10)+J10
12	='decay heat'!A12	=A12/3600	='decay heat'!H12	='decay heat'!H12	='motor loads'!F$17	=coolers!D$14	0	=SUM(D12:H12)	=(I11+I12)/2*(B12-B11)+J11
13	='decay heat'!A13	=A13/3600	='decay heat'!H13	='decay heat'!H13	='motor loads'!F$17	=coolers!D$14	0	=SUM(D13:H13)	=(I12+I13)/2*(B13-B12)+J12
14	='decay heat'!A14	=A14/3600	='decay heat'!H14	='decay heat'!H14	='motor loads'!F$17	=coolers!D$14	0	=SUM(D14:H14)	=(I13+I14)/2*(B14-B13)+J13
15	='decay heat'!A15	=A15/3600	='decay heat'!H15	='decay heat'!H15	='motor loads'!F$17	=coolers!D$14	0	=SUM(D15:H15)	=(I14+I15)/2*(B15-B14)+J14
16	='decay heat'!A16	=A16/3600	='decay heat'!H16	='decay heat'!H16	='motor loads'!F$17	=coolers!D$14	0	=SUM(D16:H16)	=(I15+I16)/2*(B16-B15)+J15
17	='decay heat'!A17	=A17/3600	='decay heat'!H17	='decay heat'!H17	='motor loads'!F$17	=coolers!D$14	0	=SUM(D17:H17)	=(I16+I17)/2*(B17-B16)+J16
18	='decay heat'!A18	=A18/3600	='decay heat'!H18	='decay heat'!H18	='motor loads'!F$17	=coolers!D$14	0	=SUM(D18:H18)	=(I17+I18)/2*(B18-B17)+J17
19	='decay heat'!A19	=A19/3600	='decay heat'!H19	='decay heat'!H19	='motor loads'!F$17	=coolers!D$14	0	=SUM(D19:H19)	=(I18+I19)/2*(B19-B18)+J18
20	='decay heat'!A20	=A20/3600	='decay heat'!H20	='decay heat'!H20	='motor loads'!F$17	=coolers!D$14	0	=SUM(D20:H20)	=(I19+I20)/2*(B20-B19)+J19
21	='decay heat'!A21	=A21/3600	='decay heat'!H21	='decay heat'!H21	='motor loads'!F$17	=coolers!D$14	0	=SUM(D21:H21)	=(I20+I21)/2*(B21-B20)+J20
22	='decay heat'!A22	=A22/3600	='decay heat'!H22	='decay heat'!H22	='motor loads'!F$17	=coolers!D$14	0	=SUM(D22:H22)	=(I21+I22)/2*(B22-B21)+J21
23	='decay heat'!A23	=A23/3600	='decay heat'!H23	='decay heat'!H23	='motor loads'!F$17	=coolers!D$14	0	=SUM(D23:H23)	=(I22+I23)/2*(B23-B22)+J22
24	='decay heat'!A24	=A24/3600	='decay heat'!H24	='decay heat'!H24	='motor loads'!F$17	=coolers!D$14	0	=SUM(D24:H24)	=(I23+I24)/2*(B24-B23)+J23
25	='decay heat'!A25	=A25/3600	='decay heat'!H25	='decay heat'!H25	='motor loads'!F$17	=coolers!D$14	0	=SUM(D25:H25)	=(I24+I25)/2*(B25-B24)+J24
26	='decay heat'!A26	=A26/3600	='decay heat'!H26	='decay heat'!H26	='motor loads'!F$17	=coolers!D$14	0	=SUM(D26:H26)	=(I25+I26)/2*(B26-B25)+J25
27	='decay heat'!A27	=A27/3600	='decay heat'!H27	='decay heat'!H27	='motor loads'!F$17	=coolers!D$14	0	=SUM(D27:H27)	=(I26+I27)/2*(B27-B26)+J26
28	='decay heat'!A28	=A28/3600	='decay heat'!H28	='decay heat'!H28	='motor loads'!F$17	=coolers!D$14	0	=SUM(D28:H28)	=(I27+I28)/2*(B28-B27)+J27
29	='decay heat'!A29	=A29/3600	='decay heat'!H29	='decay heat'!H29	='motor loads'!F$17	=coolers!D$14	0	=SUM(D29:H29)	=(I28+I29)/2*(B29-B28)+J28
30	='decay heat'!A30	=A30/3600	='decay heat'!H30	='decay heat'!H30	='motor loads'!F$17	=coolers!D$14	0	=SUM(D30:H30)	=(I29+I30)/2*(B30-B29)+J29
31	='decay heat'!A31	=A31/3600	='decay heat'!H31	='decay heat'!H31	='motor loads'!F$17	=coolers!D$14	0	=SUM(D31:H31)	=(I30+I31)/2*(B31-B30)+J30
32	='decay heat'!A32	=A32/3600	='decay heat'!H32	='decay heat'!H32	='motor loads'!F$17	=coolers!D$14	0	=SUM(D32:H32)	=(I31+I32)/2*(B32-B31)+J31
33	='decay heat'!A33	=A33/3600	='decay heat'!H33	='decay heat'!H33	='motor loads'!F$17	=coolers!D$14	0	=SUM(D33:H33)	=(I32+I33)/2*(B33-B32)+J32
34	='decay heat'!A34	=A34/3600	='decay heat'!H34	='decay heat'!H34	='motor loads'!F$17	=coolers!D$14	0	=SUM(D34:H34)	=(I33+I34)/2*(B34-B33)+J33
35	='decay heat'!A35	=A35/3600	='decay heat'!H35	='decay heat'!H35	='motor loads'!F$17	=coolers!D$14	0	=SUM(D35:H35)	=(I34+I35)/2*(B35-B34)+J34
36	='decay heat'!A36	=A36/3600	='decay heat'!H36	='decay heat'!H36	='motor loads'!F$17	=coolers!D$14	0	=SUM(D36:H36)	=(I35+I36)/2*(B36-B35)+J35
37	='decay heat'!A37	=A37/3600	='decay heat'!H37	='decay heat'!H37	='motor loads'!F$17	=coolers!D$14	0	=SUM(D37:H37)	=(I36+I37)/2*(B37-B36)+J36
38	='decay heat'!A38	=A38/3600	='decay heat'!H38	='decay heat'!H38	='motor loads'!F$17	=coolers!D$14	0	=SUM(D38:H38)	=(I37+I38)/2*(B38-B37)+J37
39	='decay heat'!A39	=A39/3600	='decay heat'!H39	='decay heat'!H39	='motor loads'!F$17	=coolers!D$14	0	=SUM(D39:H39)	=(I38+I39)/2*(B39-B38)+J38
40	='decay heat'!A40	=A40/3600	='decay heat'!H40	='decay heat'!H40	='motor loads'!F$17	=coolers!D$14	0	=SUM(D40:H40)	=(I39+I40)/2*(B40-B39)+J39

Table 7.6 and 7.7 Equations (Cont.)

	A	B	D	E	F	G	H	I	J
41	Time (seconds)	Time (hours)	Unit 1 Decay Heat Load (Btu/hr)	Unit 2 Decay Heat Load (Btu/hr)	Pump Heat Load (BTU/hr)	Cooler Heat Load (Btu/hr)	Fuel Pool Heat Load (Btu/hr)	Total Generated Heat Load (Btu/hr)	Integrated Generated Heat Load (Btu)
42	='decay heat'!A41	=A42/3600	='decay heat'!H41	='decay heat'!H41	='motor loads'!F$17	=coolers!D$14	0	=SUM(D42:H42)	=(I40+I42)/2*(B42-B40)+J40
43	='decay heat'!A42	=A43/3600	='decay heat'!H42	='decay heat'!H42	='motor loads'!F$17	=coolers!D$14	0	=SUM(D43:H43)	=(I42+I43)/2*(B43-B42)+J42
44	='decay heat'!A43	=A44/3600	='decay heat'!H43	='decay heat'!H43	='motor loads'!F$17	=coolers!D$14	0	=SUM(D44:H44)	=(I43+I44)/2*(B44-B43)+J43
45	='decay heat'!A44	=A45/3600	='decay heat'!H44	='decay heat'!H44	='motor loads'!F$17	=coolers!D$14	0	=SUM(D45:H45)	=(I44+I45)/2*(B45-B44)+J44
46	='decay heat'!A45	=A46/3600	='decay heat'!H45	='decay heat'!H45	='motor loads'!F$17	=coolers!D$14	0	=SUM(D46:H46)	=(I45+I46)/2*(B46-B45)+J45
47	='decay heat'!A46	=A47/3600	='decay heat'!H46	='decay heat'!H46	='motor loads'!F$17	=coolers!D$14	0	=SUM(D47:H47)	=(I46+I47)/2*(B47-B46)+J46
48	='decay heat'!A47	=A48/3600	='decay heat'!H47	='decay heat'!H47	='motor loads'!F$17	=coolers!D$14	0	=SUM(D48:H48)	=(I47+I48)/2*(B48-B47)+J47
49	='decay heat'!A48	=A49/3600	='decay heat'!H48	='decay heat'!H48	='motor loads'!F$17	=coolers!D$14	0	=SUM(D49:H49)	=(I48+I49)/2*(B49-B48)+J48
50	='decay heat'!A49	=A50/3600	='decay heat'!H49	='decay heat'!H49	='motor loads'!F$17	=coolers!D$14	0	=SUM(D50:H50)	=(I49+I50)/2*(B50-B49)+J49
51	='decay heat'!A50	=A51/3600	='decay heat'!H50	='decay heat'!H50	='motor loads'!F$17	=coolers!D$14	0	=SUM(D51:H51)	=(I50+I51)/2*(B51-B50)+J50
52	='decay heat'!A51	=A52/3600	='decay heat'!H51	='decay heat'!H51	='motor loads'!F$17	=coolers!D$14	0	=SUM(D52:H52)	=(I51+I52)/2*(B52-B51)+J51
53	='decay heat'!A52	=A53/3600	='decay heat'!H52	='decay heat'!H52	='motor loads'!F$17	=coolers!D$14	0	=SUM(D53:H53)	=(I52+I53)/2*(B53-B52)+J52
54	='decay heat'!A53	=A54/3600	='decay heat'!H53	='decay heat'!H53	='motor loads'!F$17	=coolers!D$14	0	=SUM(D54:H54)	=(I53+I54)/2*(B54-B53)+J53
55	='decay heat'!A54	=A55/3600	='decay heat'!H54	='decay heat'!H54	='motor loads'!F$17	=coolers!D$14	0	=SUM(D55:H55)	=(I54+I55)/2*(B55-B54)+J54
56	='decay heat'!A55	=A56/3600	='decay heat'!H55	='decay heat'!H55	='motor loads'!F$17	=coolers!D$14	0	=SUM(D56:H56)	=(I55+I56)/2*(B56-B55)+J55
57	='decay heat'!A56	=A57/3600	='decay heat'!H56	='decay heat'!H56	='motor loads'!F$17	=coolers!D$14	0	=SUM(D57:H57)	=(I56+I57)/2*(B57-B56)+J56
58	='decay heat'!A57	=A58/3600	='decay heat'!H57	='decay heat'!H57	='motor loads'!F$17	=coolers!D$14	0	=SUM(D58:H58)	=(I57+I58)/2*(B58-B57)+J57
59	='decay heat'!A58	=A59/3600	='decay heat'!H58	='decay heat'!H58	='motor loads'!F$17	=coolers!D$14	0	=SUM(D59:H59)	=(I58+I59)/2*(B59-B58)+J58
60	='decay heat'!A59	=A60/3600	='decay heat'!H59	='decay heat'!H59	='motor loads'!F$17	=coolers!D$14	0	=SUM(D60:H60)	=(I59+I60)/2*(B60-B59)+J59
61	='decay heat'!A60	=A61/3600	='decay heat'!H60	='decay heat'!H60	='motor loads'!F$17	=coolers!D$14	0	=SUM(D61:H61)	=(I60+I61)/2*(B61-B60)+J60
62	='decay heat'!A61	=A62/3600	='decay heat'!H61	='decay heat'!H61	='motor loads'!F$17	=coolers!D$14	0	=SUM(D62:H62)	=(I61+I62)/2*(B62-B61)+J61
63	='decay heat'!A62	=A63/3600	='decay heat'!H62	='decay heat'!H62	='motor loads'!F$17	=coolers!D$14	0	=SUM(D63:H63)	=(I62+I63)/2*(B63-B62)+J62
64	='decay heat'!A63	=A64/3600	='decay heat'!H63	='decay heat'!H63	='motor loads'!F$17	=coolers!D$14	0	=SUM(D64:H64)	=(I63+I64)/2*(B64-B63)+J63
65	='decay heat'!A64	=A65/3600	='decay heat'!H64	='decay heat'!H64	='motor loads'!F$17	=coolers!D$14	0	=SUM(D65:H65)	=(I64+I65)/2*(B65-B64)+J64
66	='decay heat'!A65	=A66/3600	='decay heat'!H65	='decay heat'!H65	='motor loads'!F$17	=coolers!D$14	0	=SUM(D66:H66)	=(I65+I66)/2*(B66-B65)+J65
67	='decay heat'!A66	=A67/3600	='decay heat'!H66	='decay heat'!H66	='motor loads'!F$17	=coolers!D$14	0	=SUM(D67:H67)	=(I66+I67)/2*(B67-B66)+J66
68	='decay heat'!A67	=A68/3600	='decay heat'!H67	='decay heat'!H67	='motor loads'!F$17	=coolers!D$14	0	=SUM(D68:H68)	=(I67+I68)/2*(B68-B67)+J67
69	='decay heat'!A68	=A69/3600	='decay heat'!H68	='decay heat'!H68	='motor loads'!F$17	=coolers!D$14	0	=SUM(D69:H69)	=(I68+I69)/2*(B69-B68)+J68
70	='decay heat'!A69	=A70/3600	='decay heat'!H69	='decay heat'!H69	='motor loads'!F$17	=coolers!D$14	0	=SUM(D70:H70)	=(I69+I70)/2*(B70-B69)+J69
71	='decay heat'!A70	=A71/3600	='decay heat'!H70	='decay heat'!H70	='motor loads'!F$17	=coolers!D$14	0	=SUM(D71:H71)	=(I70+I71)/2*(B71-B70)+J70
72	='decay heat'!A71	=A72/3600	='decay heat'!H71	='decay heat'!H71	='motor loads'!F$17	=coolers!D$14	0	=SUM(D72:H72)	=(I71+I72)/2*(B72-B71)+J71
73	='decay heat'!A72	=A73/3600	='decay heat'!H72	='decay heat'!H72	='motor loads'!F$17	=coolers!D$14	0	=SUM(D73:H73)	=(I72+I73)/2*(B73-B72)+J72
74	='decay heat'!A73	=A74/3600	='decay heat'!H73	='decay heat'!H73	='motor loads'!F$17	=coolers!D$14	0	=SUM(D74:H74)	=(I73+I74)/2*(B74-B73)+J73
75	='decay heat'!A74	=A75/3600	='decay heat'!H74	='decay heat'!H74	='motor loads'!F$17	=coolers!D$14	0	=SUM(D75:H75)	=(I74+I75)/2*(B75-B74)+J74
76	='decay heat'!A75	=A76/3600	='decay heat'!H75	='decay heat'!H75	='motor loads'!F$17	=coolers!D$14	0	=SUM(D76:H76)	=(I75+I76)/2*(B76-B75)+J75
77	='decay heat'!A76	=A77/3600	='decay heat'!H76	='decay heat'!H76	='motor loads'!F$17	=coolers!D$14	0	=SUM(D77:H77)	=(I76+I77)/2*(B77-B76)+J76
78	='decay heat'!A77	=A78/3600	='decay heat'!H77	='decay heat'!H77	='motor loads'!F$17	=coolers!D$14	0	=SUM(D78:H78)	=(I77+I78)/2*(B78-B77)+J77
79	='decay heat'!A78	=A79/3600	='decay heat'!H78	='decay heat'!H78	='motor loads'!F$17	=coolers!D$14	0	=SUM(D79:H79)	=(I78+I79)/2*(B79-B78)+J78
80	='decay heat'!A79	=A80/3600	='decay heat'!H79	='decay heat'!H79	='motor loads'!F$17	=coolers!D$14	0	=SUM(D80:H80)	=(I79+I80)/2*(B80-B79)+J79
81	='decay heat'!A80	=A81/3600	='decay heat'!H80	='decay heat'!H80	='motor loads'!F$17	=coolers!D$14	0	=SUM(D81:H81)	=(I80+I81)/2*(B81-B80)+J80

Attachment D

Calculation of Heat Rejection to UHS with 2 x RHR Heat Exchangers and Including Spent Fuel Pool Cooling Load

CALCULATION TABLE OF CONTENTS

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D1.0 PURPOSE/OBJECTIVE

The purpose of this attachment is to calculate a profile of the heat rejection rate to the UHS as a function of time considering an operating scenario that would maximize the heat load to the UHS. The analysis is based on the current licensed thermal power (CLTP) level of 3559 MWt, which includes calorimetric uncertainty.

The NRC suggests that the calculation of the heat load rejected to the UHS should consider all operating alignments allowed by the procedures which would maximize the heat input to the UHS and consider the heat load from the spent fuel pool on the basis of the maximum number of spent elements that can be stored on-site at any one time, with appropriate consideration of plant configuration and allowances for post-shutdown time for all fuel [Ref. D5.11].

The scenario evaluated in this attachment considers a DBA LOCA on one unit and a reactor SCRAM on the non-LOCA unit coincident with a UHS design event (loss of the cooling lake) occurring 100 days after refueling of the non-LOCA unit. Loss of off-site power (LOOP) is assumed for the LOCA unit, which requires all diesel generator divisions to provide power to the ECCS for that unit. The non-LOCA unit maintains off-site power such that the two RHR trains feeding the RHR heat exchangers remain fully powered.

Both RHR heat exchangers are in service to remove reactor heat on the LOCA unit. At the non-LOCA unit, one RHR heat exchanger is placed into suppression pool cooling mode (and later shutdown cooling mode), while the other RHR heat exchanger is placed into fuel pool cooling assist mode 16 hours after the initiation of the event. Unit 1 and 2 fuel pools are connected, so the RHR heat exchanger in fuel pool cooling assist mode cools the fuel pools for both units. In order to maximize the calculated heat rejected to the UHS, the RHR heat exchangers are taken to be operating at maximum performance.

D2.0 METHODOLOGY AND ACCEPTANCE CRITERIA

D2.1 Methodology

D2.1.1 Heat Load Calculation for LOCA Unit

The heat load rejected to the UHS via both RHR heat exchangers is calculated utilizing the MATHCAD calculation from Calculation BSA-L-97-02 [Ref. D5.3], which was used to calculate a profile for the suppression pool temperature as a function of time. Inputs to the MATHCAD calculation are:

- Decay heat fractions as a function of time (Design Input D4.1)
- Core thermal power (Design Input D4.2)
- UHS water temperature (Assumption D3.5)
- RHR system pump heat input (Design Input D4.3)
- Initial suppression pool temperature when RHR system turns on (Design Input D4.11)
- Maximum RHR heat exchanger heat removal rate (Design Input D4.6)
- Suppression pool volume (Design Input D4.7)

The MATHCAD file from Calculation BSA-L-97-02 [Ref. D5.3] is benchmarked to the suppression pool temperature profile in Calculation L-003352 [Ref. D5.4] by evaluating a scenario with the inputs taken from Calculation L-003352 and adjusting the initially released sensible heat so that the temperature profile matches Figure 3 in Calculation L-003352 [Ref. D5.4]. The calculation is then run with the inputs appropriate for this analysis to determine the suppression pool temperature profile for operation with two RHR heat exchangers.

The suppression pool temperature is calculated at each time step by conducting an energy balance based on the heat into the suppression pool and the heat rejected by the RHR heat exchangers. The heat rejected by the RHR heat exchangers is the heat load into the UHS and is calculated based on the heat removal rate (k), the UHS water temperature, and the suppression pool temperature.

$$Q = k \cdot (T_{SP} - T_{UHS}) \qquad \text{Eqn. D2-1}$$

where,

Q = Heat rejected by RHR heat exchanger
k = heat removal rate (Btu/sec-°F) (Design Input D4.6)
T_{SP} = Suppression pool temperature (°F)
T_{UHS} = UHS temperature (°F)

In order to conservatively maximize the calculated heat load rejected to the UHS, a minimum UHS temperature is assumed based on Calculation L-002457 [Ref. D5.6] and Assumption D3.5. Furthermore, the suppression pool analysis in Calculation L-003352 [Ref. D5.4] assumes a 10

minute delay in placing the RHR heat exchangers into service. However, for the purposes of this analysis, it is more conservative to assume they are in service immediately. Thus, for the first 10 minutes the heat load to the UHS is calculated using Eqn. D2-1 and the suppression pool temperature from Figure 3 in Calculation L-003352 [Ref. D5.4]. This is conservative as the calculated temperature in the first 10 minutes in Figure 3 of Calculation L-003352 does not account for any heat rejection during this time, resulting in a bounding high value for the suppression pool temperature. After the initial 10 minutes, the MATHCAD file described above is used to calculate the heat rejected to the UHS.

The calculation of the service water system heat load (from pumps and CSCS coolers) to the UHS is the same as in Section 7.0 of the main body of this calculation. Table D2-1 documents the contributing pump and cooler heat loads for the LOCA unit.

Table D2-1: Pump and Cooler Contributing Heat Loads – LOCA Unit

Description	Time Turned On	Where Tabulated (in Table D6-6)
RHR Pump (x3)	0 hr	RHR HxR
HPCS Pumps	0 hr	RHR HxR
LPCS Pump	0 hr	RHR HxR
RHR SW Pumps (x4)	0 hr	Pump Heat Load
DG CW Pump (Single Unit)	0 hr	Pump Heat Load
DG CW Pump (Common Unit)[1]	0 hr	Pump Heat Load
HPCS DG CW Pump	0 hr	Pump Heat Load
HPCS DG Cooler	0 hr	Cooler Heat Load
DG Cooler 0A[1]	0 hr	Cooler Heat Load
DG Cooler 1A	0 hr	Cooler Heat Load
NW Cubicle Area Cooler	0 hr	Cooler Heat Load
SW Cubicle Area Cooler	0 hr	Cooler Heat Load
SE Cubicle Area Cooler	0 hr	Cooler Heat Load
NE Cubicle Area Cooler	0 hr	Cooler Heat Load

1) Common unit heat load is split between both units.

D2.1.2 Heat Load Calculation for non-LOCA Unit

The non-LOCA unit is shut down normally following a reactor SCRAM coincident with the LOCA and loss of cooling lake. The suppression pool temperature profile for this scenario is taken from Figure 6 of L-002489 [Ref. D5.7] (results from Design Basis Case 3 – MSIV Closure Coincident with Reactor SCRAM).

Off-site power is maintained so that both RHR trains for heat removal remain fully powered and in operation for the event. The non-LOCA unit operates with one RHR heat exchanger in suppression pool cooling mode for the first 2 hours after the reactor SCRAM, and then in shut

down cooling mode while maintaining the technical specification RPV cool down rate of 100°F/hr [Ref. D5.8]. The other RHR heat exchanger is in fuel pool cooling assist mode.

The heat rejected to the UHS via the RHR heat exchanger in suppression pool cooling mode is calculated using Eqn. D2-1 and the suppression pool temperature profile from Figure 6 of L-002489 [Ref. D5.7]. The temperature curve from Figure 6 of L-002489 [Ref. D5.7] is curve fitted in Microsoft Excel [Ref. D5.9] and the resulting formula is used along with Eqn. D2-1 to generate an equation which calculates the heat rejected to the UHS for each time step for the first two hours. As described in Assumption D3.4, the heat rejection to the UHS for the first 10 minutes is conservatively calculated using the suppression pool temperature from Figure 6 of L-002489, which does not account for any heat rejection during that time, resulting in a bounding high value for the suppression pool temperature.

After 2 hours, the RHR system is in shutdown cooling mode and, per Figure 6 of L-002489 [Ref. D5.7], the suppression pool temperature remains constant. During this time, the heat rejected to the UHS is equal to the heat input to the suppression pool. The contributing factors to the heat load during this time are: 1) decay heat 2) ECCS pumps, and 3) sensible heat. The calculation of these values is documented in Section D6.2.1.

The heat rejected by the RHR heat exchanger in fuel pool cooling assist mode is calculated per the methodology in Section D2.1.3.

The heat loads from the service water system are based on the pump heat loads in Table 7.3 in the main body of this calculation and the CSCS cooler heat loads in Table 7.4 in the main body of this calculation. Table D2-2 documents the contributing pump and cooler heat loads for the non-LOCA unit.

Table D2-2: Pump and Cooler Contributing Heat Loads – Non-LOCA Unit

Description	Time Turned On	Where Tabulated (in Table D6-6)
RHR Pump 1A	0 hr	RHR HxR
RHR Pump 1B	16 hr	Fuel Pool Cooling
HPCS Pumps	0 hr	RHR HxR
LPCS Pump	0 hr	RHR HxR
RHR SW Pumps (x2)	0 hr	Pump Heat Load
RHR SW Pumps (x2)	16 hr	Pump Heat Load
DG CW Pump (Single Unit)	16 hr	Pump Heat Load
DG CW Pump (Common Unit)[1]	0 hr	Pump Heat Load
HPCS DG CW Pump	0 hr	Pump Heat Load
DG Cooler 0A[1]	0 hr	Cooler Heat Load
NW Cubicle Area Cooler	0 hr	Cooler Heat Load
SW Cubicle Area Cooler	0 hr	Cooler Heat Load

Description	Time Turned On	Where Tabulated (in Table D6-6)
SE Cubicle Area Cooler	16 hr	Cooler Heat Load
NE Cubicle Area Cooler	0 hr	Cooler Heat Load
RHR Pump 1C	Not in Operation	-
DG Cooler 1A	Not in Operation	-
HPCS DG Cooler	Not in Operation	-

1) Common unit heat load is split between both units.

D2.1.3 Heat Load Calculation for Spent Fuel Pools

The MATHCAD calculation file from BSA-L-97-02 [Ref. D5.3] is also used to calculate the fuel pool temperature as a function of time. Inputs to the fuel pool MATHCAD calculation are:

- Decay heat into fuel pool water (Design Input D4.8)
- UHS water temperature (Assumption D3.5)
- Initial fuel pool temperature when RHR fuel pool cooling assist mode is placed into service (16 hours after event initiation) (Design Input 4.8)
- Maximum RHR heat exchanger heat removal rate (Design Input D4.6)
- Fuel pool volume (Design Input D4.7)

The heat load rejected by the RHR heat exchanger to the UHS is then determined using Eqn. D2-1. It takes 16 hours to place the "B" train of the RHR system into fuel pool cooling assist mode [Ref. D5.5c]. Thus, this heat load from the fuel pools is added to the UHS at 16 hours after the event initiation.

D2.2 Computer Programs and Software

MathCAD [Ref. D5.10] is a Microsoft Windows based, general purpose calculation package that uses standard mathematical notations with built-in mathematical functions, operators, units, and constants that can be used to perform calculations. MathCAD was run using S&L PC No. ZL7922 under the Windows XP operating system. The short form audit trail for MathCAD is given below.

Controlled File Summary - MATHCAD (S&L Program No. 03.7.548-1435)
Type: 2 Status: O Effective Date: 05-11-2010
Executed 05-10-2013 13:37
Controlled File Path: C:\program files\Mathcad\Mathcad 14\

Calculations are also conducted using Microsoft Excel® 2003 [Ref. D5.9], which is commercially available. The validation of Excel is implicit in the detailed review of all spreadsheets used in this analysis. All computer runs were performed using PC No. ZL7922 under the Windows XP operating system.

D2.3 Acceptance Criteria

There are no specific acceptance criteria for this calculation.

D3.0 ASSUMPTIONS

D3.1 Fuel Pool Cooling Load – The fuel pool cooling load taken from EC 394792 [Ref. D5.5b] decays with time. However, for the purpose of this analysis, the heat load 16 hours after the accident is conservatively held constant for the remainder of accident scenario in order to maximize the calculation of heat rejected to the UHS.

D3.2 Pump Motor Heat – It is conservatively assumed that the appropriate ECCS, CSCS, and ESW pumps are running throughout the event and that all the energy generated by the pump motors is added to the UHS. The motor nameplate rating is conservatively assigned as the pump heat. Actual developed shaft horsepower is expected to be less than this rating.

D3.3 Seal Cooler Heat – The RHR pump seal coolers and the LPCS pump motor cooler heat loads are not included in the total CSCS cooler heat load since the heat removed by these coolers is covered in the pump motor heat loads.

D3.4 RHR Heat Exchanger Operation and Performance – In order to maximize the heat rejected to the UHS via the RHR system from the LOCA unit, it is assumed that both the "A" and "B" trains of the RHR system are operating in parallel and that both RHR heat exchangers are utilized when rejecting heat to the UHS after a LOCA. It is assumed that the RHR heat exchangers are operating at maximum performance for both the suppression pool cooling and fuel pool cooling assist modes. Maximum performance is defined as operation with the maximum heat removal rate from Design Input D4.6.

The suppression pool analyses in Calculations L-003352 [Ref. D5.4] and L-002489 [Ref. D5.7] assume the RHR heat exchangers are placed into service 10 minutes after the accident or SCRAM. The suppression pool temperature profiles from these calculations are used in this analysis (see Section D2.1.1 and D2.1.2). However, in order to maximize heat rejection to the UHS, it is assumed that the RHR heat exchangers are rejecting heat immediately after the UHS design event initiation. Thus, the heat rejected in the first 10 minutes is calculated using Eqn. D2-1 and the suppression pool temperature from Calculations L-003352 [Ref. D5.4] and L-002489 [Ref. D5.7]. This is conservative as the referenced calculations do not account for any heat rejection during this time, resulting in a bounding high value for the suppression pool temperature, which maximizes the calculated heat load in Eqn. D2-1.

D3.5 UHS Temperature – The heat rejected to the UHS is calculated by Eqn. D2-1, which simplifies the heat exchanger performance by relating the heat rejected to the difference between the suppression pool temperature and the UHS temperature. In order to maximize the calculated heat rejection to the UHS, it is conservative to use a minimum UHS temperature. Although higher UHS temperatures result in a slightly higher peak suppression pool temperature in the MATHCAD calculations, a lower UHS temperature results in a higher heat rejection rate and is conservative for the purposes of this calculation.

The minimum UHS temperatures assumed are tabulated below. These minimum UHS temperatures are confirmed in Calculation L-002457 Rev. 8 [Ref. D5.6].

Table D3-1 presents the data points entered into the MATHCAD calculations for the minimum UHS temperature as a function of time. Intermediate values used in MATHCAD are linearly interpolated (see calculation files in Attachment E).

Table D3-1: Minimum UHS Temperature

Time (s)	Time (hr)	UHS Temperature (°F)
0	0	100
14364	4	100
14400	4	99
18000	5	98
21600	6	97
25200	7	96
28800	8	95
79200	22	95
82800	23	94
86400	24	93
90000	25	92
262764	73	92
262800	73	90
435564	121	90
435600	121	85
521964	145	85
522000	145	75
1817964	505	75
1818000	505	70
2851200	792	70

D4.0 DESIGN INPUT

D4.1 Reactor Core Decay Heat – The reactor core decay heat values used for the LOCA unit are taken from Section 3.0 of Calculation L-003696 [Ref. D5.1] and are based on the decay heat parameters from the GNF2 full-core equilibrium cycle, which is representative of long term operation with GNF2 fuel. The decay heat fractions conservatively include + 2σ uncertainty.

The GE14 fuel design decay heat fractions are also taken from Section 3.0 of Calculation L-003696 [Ref. D5.1] and are used to benchmark the MATHCAD calculation to the original suppression pool temperature response in Calculation L-003352 [Ref. D5.4].

The reactor core decay heat values for the non LOCA unit (which are based on 100 days of operation after re-fueling) are taken from EC 394792 (transmitted in Attachment B of SEAG 13-000074 [Ref. D5.5]). The analysis in EC 394792 considers several operating scenarios and finds that the combined heat load from both the reactor core and the fuel pool is maximized in the scenario evaluated 100 days after re-fueling.

D4.2 Core Thermal Power – The rated thermal power (including 0.3% calorimetric uncertainty) is 3559 MW_t and is the power level used for both units when calculating decay heat.

D4.3 Pump Horsepower – The values for pump horsepower are taken from Design Input 4.4 of the main body of this calculation.

D4.4 Area Cooler Heat Load – The values for cooler heat loads are taken from Design Input 4.5 of the main body of this calculation.

D4.5 MATHCAD Calculation File – Calculation BSA-L-97-02 [Ref. D5.3] determined the suppression pool temperature using a MATHCAD calculation file. That methodology and calculation file is used in this attachment to determine the temperature profile of the suppression pool and the fuel pool in order to ultimately calculate the resulting heat rejected by the RHR heat exchangers.

D4.6 RHR Heat Exchanger Heat Removal Rate – The heat exchanger heat removal rate (k) is used in the MATHCAD calculation to model the heat removal as a function of the suppression pool temperature and the UHS (service water) temperature. Per EC 394581 (transmitted in Attachment A of SEAG 13-000074 [Ref. D5.5]), the maximum heat removal rate for suppression pool cooling mode is 605 Btu/s-°F. The maximum heat removal rate for fuel pool cooling assist mode is 622 Btu/s-°F.

D4.7 Minimum Suppression Pool and Fuel Pool Volume – The initial suppression pool volume used in this analysis is 128,800 ft^3, which is consistent with the analysis Calculation L-003352 [Ref. D5.4]. This volume corresponds to the low water level in the suppression pool, which maximizes the suppression pool temperature response [Ref. D5.4].

The water volume in the spent fuel pools (accounting for displacement by the assemblies) is 92,071.54 ft^3 for both units per Section 6.3 of EC 392196 [Ref. D5.2].

D4.8 Fuel Pool Decay Heat Load – The fuel pool decay heat load is taken from EC 394792 (transmitted in Attachment B of SEAG 13-000074 [Ref. D5.5b]). The analysis in EC 394792 considers several operating scenarios and finds that the combined heat load from both the reactor core and the fuel pool is maximized in the scenario evaluated 100 days after re-fueling. Thus, the fuel pool decay heat load used in this calculation is based on 100 days after re-fueling. This gives a conservative heat load when combined with the reactor core decay heat for the non-LOCA unit [Ref. D5.5b].

It takes approximately 16 hours after the UHS event to align the "B" train of the RHR system at the non-LOCA unit to fuel pool cooling assist mode [Ref. D5.5c]. Thus, the fuel pool heat load is added to the UHS heat load 16 hours after time zero.

D4.9 Non-LOCA Unit Suppression Pool Temperature Profile – The suppression pool temperature profile for the non-LOCA unit is taken from Figure 6 of L-002489 [Ref. D5.7] (results from Design Basis Case 3 – MSIV Closure Coincident with Reactor SCRAM). The results of Case 3 are applicable to this analysis as they represent a reactor SCRAM, a 600 second delay before initiation of the RHR cooling, and one RHR division cooling the suppression pool based on a cooldown rate of 100°F/hr [Ref. D5.7].

When the RPV pressure reaches 150 psia (~2 hours after reactor SCRAM) the RHR system is placed into shutdown cooling mode and, per Figure 6 of L-002489 [Ref. D5.7], the suppression pool temperature remains constant.

D4.10 Technical Specification Limit on Normal Cool Down Rate – The T/S limit on the normal cool down rate is 100°F/hr in the RPV [Ref. D5.8]. This value is applied to the cool down of the non-LOCA unit.

D4.11 Initial Suppression Pool and Fuel Pool Temperatures – The LOCA unit suppression pool temperature and the fuel pool temperature are calculated using the MATHCAD file from Calculation BSA-L-97-02 [Ref. D5.3] (per Design Input D4.5). An input to the calculation is the temperature at the time the RHR heat exchangers are placed into service (600 seconds into the event in the original suppression pool response calculations).

The LOCA unit suppression pool temperature at 600 seconds is taken as 160°F based on Figure 3 of Calculation L-003352 [Ref. D5.4]. Per EC 392196 [Ref. D5.2], the fuel pool temperature is allowed to naturally heat up to 200°F prior to any heat removal via the RHR system.

D5.0 REFERENCES

D5.1 L-003696 Rev. 1, "NEDC-33647P GNF2 Fuel Design Cycle-Independent Analyses for Exelon LaSalle County Station Units 1 and 2," 2/15/2012.

D5.2 EC 392196 Rev. 0, "Spent Fuel Pool Uncovery Time for Outage and Online Scenarios."

D5.3 BSA-L-97-02, Rev. 3, "LaSalle Suppression Pool and Drywell Response Sensitivity to Delayed Suppression Pool Cooling," 6/6/2012.

D5.4 L-003352, Rev. 0A, "Evaluation for GE Safety Communication SC06-01 Containment System Response GEH 0000-0069-6598-R0," 6/18/2012.

D5.5 TODI SEAG 13-000074, "LaSalle County Station Transmittal of Design Information for UHS Analyses," 8/20/2013.

a) Attachment A: EC 394581 Rev. 0, "RHR Heat Exchanger K Factor for Heat Rejection to the UHS."
b) Attachment B: EC 394792 Rev. 0, "Decay Heat Scenarios for UHS LAR."
c) Attachment C: CSCS Flow Rates

D5.6 L-002457, Rev. 8, "LaSalle County Station Ultimate Heat Sink Analysis"

D5.7 L-002489, Rev. 3C, "Suppression Pool Temperature Transient Analysis," 6/15/2012.

D5.8 Technical Specifications for LaSalle County Station Units 1 and 2, through Amendments 206/193

D5.9 Microsoft® Excel 2003, S&L Program No. 03.2.286-1.0.

D5.10 MathCAD v14.35, S&L Program No. 03.7.548-1435.

D5.11 NRC Request for Additional Information, Docket Nos. 50-373 and 50-374, "LaSalle County Station, Units 1 and 2 - Request for Additional Information Related to License Amendment Request to Technical Specification 3.7.3 Ultimate Heat Sink (TAC Nos. ME9076 and ME 9077)," ADAMS Accession No. M13099A206, 6/27/2013.

D6.0 CALCULATIONS

D6.1 LOCA Unit Heat Rejection to UHS

This unit experiences a LOCA and LOOP coincident with a UHS design basis event. All diesel generator divisions provide power to the ECCS, which is assumed to be operating immediately upon accident initiation. The core decay heat is based on 100% heat load and the GE14 fuel. Both RHR heat exchangers are in service and operating at maximum performance in order to maximize the calculated heat load to the UHS.

The suppression pool temperature profile is calculated using the MATHCAD file from Calculation BSA-L-97-02 [Ref. D5.3]. Prior to calculating the suppression pool temperature while operating with two RHR heat exchangers, the MATHCAD calculation is benchmarked to match the expected temperature profile (from Calculation L-003352 [Ref. D5.4]) based on operation with one RHR heat exchanger.

D6.1.1 MATHCAD Calculation Benchmark

In order to ensure that the MATHCAD calculation agrees with the previous suppression pool response calculated in Calculation L-003352, Rev. 0 [Ref. D5.4], the inputs from L-003352 are used to run a case in which the sensible heat rejected to the suppression pool at the start of the event is adjusted so that the calculated temperature profile matches Figure 3 in Calculation L-003352 [Ref. D5.4]. The inputs to the MATHCAD calculation that result in the appropriate benchmark are documented below:

Table D6-1: Benchmark Case MATHCAD Inputs

Parameter	Value	Reference
Decay Heat Fractions	Based on GE14 fuel	D5.1
ECCS Pump Heat	4.925×10^3 Btu/s	(Table 7.3 of main body)
RHR Heat Exchanger K-value	417 Btu/s-°F	D5.4
Initial Sensible Heat Load	$(1.245 \times 10^8) / 7200$ Btu	-
UHS Temperature	104°F	D5.4
Reactor Core Power	3559 MWt	D5.4
Suppression Pool Temp at 600s	160°F	D5.4
Suppression Pool Volume	128,800 ft^3	D5.4

Results for this benchmark case are documented in Attachment E as 'Temp1' in the Suppression Pool Analysis MATHCAD file. The temperature plot and the calculated peak suppression pool temperature of 197.0°F match Figure 3 in Calculation L-003352 [Ref. D5.4]. Thus, the initial

sensible heat load determined in this benchmark is applied to the case with two RHR heat exchangers in service.

D6.1.2 Heat Load from Suppression Pool

As discussed in Section D2.1.1, the benchmarked MATHCAD file is used to calculate the suppression pool temperature profile 10 minutes after the event initiation. During the first 10 minutes, the heat load to the UHS is calculated based on the suppression pool temperature taken from Figure 3 in Calculation L-003352 [Ref. D5.4] (see Assumption D3.4) and the UHS temperature from per Assumption D3.5). The calculation of the heat load during the first 10 minutes is documented in Table D6-2.

Table D6-2: Calculation of Heat Load from Suppression Pool at LOCA Unit (Time < 600s)

Time	Suppression Pool Temp [Ref. D5.4]	UHS Temp (Assumption D3.5)	Heat Load[1] (Eqn. D2-1)
(s)	°F	°F	BTU/S
0	105	100	6.05E+03
60	140	100	4.84E+04
120	150	100	6.05E+04
180	150	100	6.05E+04
240	150	100	6.05E+04
300	150	100	6.05E+04
360	150	100	6.05E+04
420	150	100	6.05E+04
480	150	100	6.05E+04
540	160	100	7.26E+04
600	160	100	7.26E+04

1) Heat load is calculated based on operation of two RHR Heat Exchangers (K = 2 x 605 Btu/s-°F)

The heat load from the suppression pool for the remainder of the accident scenario is calculated in MATHCAD and reported via the 'Heat2' variable (see attached MATHCAD calculations in Attachment E). The inputs to the calculation are documented below in Table D6-3.

Table D6-3: 2x RHR Heat Exchangers (LOCA Unit) MATHCAD Inputs

Parameter	Value	Reference
Decay Heat Fractions	Based on GNF2 fuel	D5.1
ECCS Pump Heat	4.925×10^3 Btu/s	(Table 7.3 of main body)
RHR Heat Exchanger K-value	2 Hxrs x 605 Btu/s-°F	D5.5a
Initial Sensible Heat Load	$(1.245 \times 10^8) / 7200$ Btu	-
UHS Temperature	Varies (see Assumption D3.5)	D5.6
Reactor Core Power	3559 MWt	D5.8
Suppression Pool Temp at 600s	160°F	D5.4
Suppression Pool Volume	128,800 ft^3	D5.4

The results of this calculation are exported to Microsoft Excel [Ref. D5.9] and tabulated in Table D6-6.

D6.1.3 Heat Load from Pumps and Coolers

The contributing heat loads for the ECCS and service water pumps are taken from Table 7.3 in the main body of this calculation. The CSCS cooler heat loads included in this calculation are taken from Table 7.4 of the main body of this calculation. The pump heat from the ECCS pumps is included in the MATHCAD calculations documented above. All the service water pumps and coolers listed in Tables 7.3 and 7.4 are considered to be in operation on the LOCA unit and thus, the contributing heat loads (which are held constant for the entire duration of the accident) are added to the tabulated total in Table D6-6.

Table D2-1 documents each contributing source of heat and the time at which it is included.

D6.2 Non-LOCA Unit Heat Rejection to UHS

The non-LOCA unit experiences normal shutdown upon loss of the cooling lake. Off-site power is maintained so that the two RHR trains feeding the RHR heat exchangers remain fully powered. One RHR heat exchanger is placed into suppression pool cooling mode and when the RPV pressure reaches ~150 psia, switches to shutdown cooling mode [Ref. D5.7]. The cool down rate is taken to be 100°F/hr (see Design Input D4.10). The other RHR heat exchanger is aligned for operation in fuel pool cooling assist mode which provides fuel pool cooling to both units. The heat load from fuel pool cooling is calculated in Section D6.3.

D6.2.1 Heat Load from Suppression Pool

Suppression Pool Cooling Mode

As described in Section D2.1.2, the heat load rejected by the RHR train in suppression pool cooling mode is calculated utilizing Eqn. D2-1 and the suppression pool temperature profile from Figure 6 of L-002489 [Ref. D5.7] (results from Design Basis Case 3 – MSIV Closure Coincident with Reactor SCRAM), which is presented below in Figure D6-1. Suppression pool cooling mode lasts ~2 hours, during which the UHS temperature is taken to be 100°F (see Assumption D3.5).

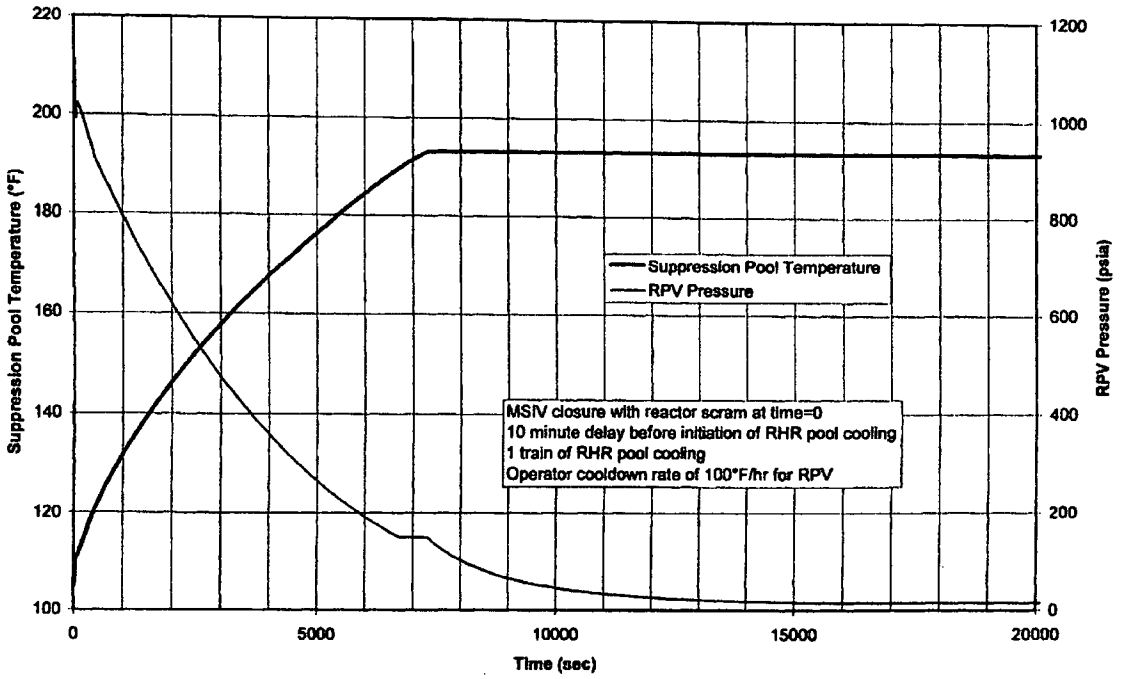

Fig. D6-1: Suppression Pool Temp. Profile for Non-LOCA Unit [Ref. D5.7]

The suppression pool temperature for the first 2 hours (7200 seconds) is characterized by the following curve fit equation (generated in Microsoft Excel [Ref. D5.9]).

$$y = -4.70681E\text{-}14x^4 + 9.49019E\text{-}10x^3 - 7.07826E\text{-}06x^2 + 3.15846E\text{-}02x + 1.05000E+02$$

for $0 \leq x \leq 7200$

where,

y = suppression pool temperature (°F)

x = time (seconds)

The heat rejected by the RHR heat exchanger is then calculated per the following equation for each time step in the first 2 hours. The results are included in the tabulated totals documented in Table D6-6.

$$Q_{rej} = (y - 100.0°F) \cdot 605 \frac{Btu}{°F - s}$$

where,

Q_{rej} = heat rejected via the RHR heat exchanger at time x ($0 \le x \le 7200$) (Btu/s)

Shutdown Cooling Mode

After 2 hours, the RPV pressure reaches ~150 psia and the RHR system operates in shutdown cooling mode at the cool down rate of 100°F/hr [Ref. D5.8]. Thus, after 2 hours and until the remainder of the event, the heat rejected via the RHR heat exchanger in shutdown cooling mode on the non-LOCA unit is calculated as the sum of core decay heat, ECCS pump heat, and sensible heat.

Q_{rej} = (Core Decay Heat) + (ECCS Pump Heat) + (Sensible Heat)

$$Q_{rej} = H_{Decay} + \left(800hp \cdot \frac{2545 \frac{Btu/hr}{hp}}{3600 \frac{s}{hr}} + 3050hp \cdot \frac{2545 \frac{Btu/hr}{hp}}{3600 \frac{s}{hr}} + 1517hp \cdot \frac{2545 \frac{Btu/hr}{hp}}{3600 \frac{s}{hr}} \right) + H_{sensible}$$

where,

Q_{rej} = heat rejected via the RHR heat exchanger at time x ($x > 7200$) (Btu/s)
H_{Decay} = core decay heat at time x [Ref. D5.5b]
$H_{sensible}$ = sensible heat load (Btu/s)

The sensible heat load at the applicable RPV temperature is determined based on interpolation of the sensible heat loads documented in Table 7.5 of the main body of this calculation (taken from Reference 5.2 of the main body and included in Attachment A). The reported sensible heat loads are calculated based on a 32°F datum (except for the fuel sensible energy, which is based on a 285°F datum). The RPV temperature is calculated as the saturation temperature at the RPV pressure (determined from Figure D6-1). The following table summarizes the data points used to calculate the sensible heat rejected during the shutdown cooling phase from an RPV temperature of 358°F (saturation temperature at 150 psia) to 194°F (the suppression pool temperature per Figure D6-1).

Table D6-4: Sensible Heat at Various RPV Temperatures

RPV Pressure	RPV Temperature	Sensible Heat	Fuel Sensible Heat	Total Sensible Heat
(psia)	(°F)	(Btu)	(Btu)	(Btu)
1040.0	549.4	5.54E+08	2.77E+07	5.82E+08
150.0	358.4	3.50E+08	7.69E+06	3.57E+08
53.2	285.0	2.71E+08	0.00E+00	2.71E+08
34.2	258.4	2.43E+08	0.00E+00	2.43E+08
10.2	194.0	1.74E+08	0.00E+00	1.74E+08
-	32.0	0.00E+00	0.00E+00	0.00E+00

At a cool down rate of 100°F/hr (starting at a temperature of 358.4°F) it takes ~1.5 hrs to cool from 358.4°F to 194°F. Thus, the rate at which the sensible heat is rejected to the suppression pool is calculated to be:

$$H_{sensible} = \frac{(3.57\times10^{8} - 2.43\times10^{8})Btu}{1hr} = \frac{1.14\times10^{8}\,Btu}{1hr\cdot\frac{3600s}{1hr}} = 3.17\times10^{4}\,\frac{Btu}{s} \quad \text{for } 7200 \le x \le 10800$$

$$H_{sensible} = \frac{(2.43\times10^{8} - 1.74\times10^{8})Btu}{0.5hr} = \frac{0.69\times10^{8}\,Btu}{0.5hr\cdot\frac{3600s}{1hr}} = 3.83\times10^{4}\,\frac{Btu}{s} \quad \text{for } 10800 < x \le 12600$$

These values are included in the equation for Q_{rej} listed above and contained in the tabulated results in Table D6-6.

D6.2.2 Heat Load from Pumps and Coolers

The heat loads for the ECCS and service water pumps are taken from Table 7.3 in the main body of this calculation. Table D2-2 documents each contributing source of heat and the time at which it is included.

D6.3 Fuel Pool Cooling Load to UHS

The "B" train of the RHR system at the non-LOCA unit is placed into fuel pool cooling assist mode, which takes 16 hours after event initiation to align [Ref. D5.5c]. The Unit 1 and 2 fuel pools are typically cross-tied during normal operation and one RHR heat exchanger can cool both pools.

The heat rejected to the UHS by the fuel pools (via the RHR heat exchanger) is calculated using the MATHCAD calculation file from BSA-L-97-02 [Ref. D5.3] based on the methodology

documented in Section D2.1.3. The inputs to the MATHCAD calculation for the fuel pool cooling load are documented below in Table D6-5.

Table D6-5: Fuel Pool Cooling Load Calculation Inputs

Parameter	Value	Reference
Decay Heat	Unit 1 and 2 Fuel Pool Heat Load (100 days after refueling of one unit) Tabulated in EC 394792	D5.5b
RHR Pump Heat	565.568 Btu/s	(Table 7.3 of main body)
RHR Heat Exchanger K-value	622 Btu/s-°F	D5.5a
UHS Temperature	Varies (see Assumption D3.5)	D5.6
Initial Fuel Pool Temperature	200°F	D5.2
Fuel Pool Volume (both units)	92,071.54 ft^3	D5.2

The heat load rejected by the heat exchanger is calculated in MATHCAD and reported via the 'Heat' variable (see attached MATHCAD calculations in Attachment E). The results of this calculation are exported to Microsoft Excel [Ref. D5.9] and tabulated in Table D6-6. Note that the fuel pool cooling loads are added to the total heat load 16 hours after the event initiation.

D6.4 Results

Table D6-6 documents each source of heat to the UHS for both the LOCA and non-LOCA units and provides a value for the total heat rejected to the UHS as a function of time.

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
0.000E+00	6.05E+03	7.33E+02	7.00E+03	3.59E+03	0.00E+00	3.98E+02	1.94E+03	**1.97E+04**
6.000E+01	4.84E+04	7.33E+02	7.00E+03	4.72E+03	0.00E+00	3.98E+02	1.94E+03	**6.32E+04**
1.200E+02	6.05E+04	7.33E+02	7.00E+03	5.82E+03	0.00E+00	3.98E+02	1.94E+03	**7.64E+04**
1.800E+02	6.05E+04	7.33E+02	7.00E+03	6.89E+03	0.00E+00	3.98E+02	1.94E+03	**7.75E+04**
2.400E+02	6.05E+04	7.33E+02	7.00E+03	7.94E+03	0.00E+00	3.98E+02	1.94E+03	**7.85E+04**
3.000E+02	6.05E+04	7.33E+02	7.00E+03	8.95E+03	0.00E+00	3.98E+02	1.94E+03	**7.95E+04**
3.600E+02	6.05E+04	7.33E+02	7.00E+03	9.94E+03	0.00E+00	3.98E+02	1.94E+03	**8.05E+04**
4.200E+02	6.05E+04	7.33E+02	7.00E+03	1.09E+04	0.00E+00	3.98E+02	1.94E+03	**8.16E+04**
4.800E+02	6.05E+04	7.33E+02	7.00E+03	1.18E+04	0.00E+00	3.98E+02	1.94E+03	**8.24E+04**
5.400E+02	7.26E+04	7.33E+02	7.00E+03	1.27E+04	0.00E+00	3.98E+02	1.94E+03	**9.54E+04**
6.000E+02	7.26E+04	7.33E+02	7.00E+03	1.36E+04	0.00E+00	3.98E+02	1.94E+03	**9.63E+04**
3.451E+03	7.46E+04	7.33E+02	7.00E+03	3.81E+04	0.00E+00	3.98E+02	1.94E+03	**1.23E+05**
6.301E+03	6.86E+04	7.33E+02	7.00E+03	5.27E+04	0.00E+00	3.98E+02	1.94E+03	**1.31E+05**
9.152E+03	6.17E+04	7.33E+02	7.00E+03	7.51E+04	0.00E+00	3.98E+02	1.94E+03	**1.47E+05**
1.200E+04	5.55E+04	7.33E+02	7.00E+03	7.87E+04	0.00E+00	3.98E+02	1.94E+03	**1.44E+05**
1.485E+04	5.15E+04	7.33E+02	7.00E+03	3.82E+04	0.00E+00	3.98E+02	1.94E+03	**9.98E+04**
1.770E+04	4.76E+04	7.33E+02	7.00E+03	3.65E+04	0.00E+00	3.98E+02	1.94E+03	**9.42E+04**
2.055E+04	4.44E+04	7.33E+02	7.00E+03	3.50E+04	0.00E+00	3.98E+02	1.94E+03	**8.96E+04**
2.340E+04	4.19E+04	7.33E+02	7.00E+03	3.37E+04	0.00E+00	3.98E+02	1.94E+03	**8.67E+04**
2.626E+04	4.00E+04	7.33E+02	7.00E+03	3.25E+04	0.00E+00	3.98E+02	1.94E+03	**8.26E+04**
2.911E+04	3.83E+04	7.33E+02	7.00E+03	3.15E+04	0.00E+00	3.98E+02	1.94E+03	**7.99E+04**
3.196E+04	3.63E+04	7.33E+02	7.00E+03	3.06E+04	0.00E+00	3.98E+02	1.94E+03	**7.69E+04**
3.481E+04	3.47E+04	7.33E+02	7.00E+03	2.98E+04	0.00E+00	3.98E+02	1.94E+03	**7.46E+04**
3.766E+04	3.35E+04	7.33E+02	7.00E+03	2.90E+04	0.00E+00	3.98E+02	1.94E+03	**7.26E+04**
4.051E+04	3.24E+04	7.33E+02	7.00E+03	2.84E+04	0.00E+00	3.98E+02	1.94E+03	**7.08E+04**
4.336E+04	3.15E+04	7.33E+02	7.00E+03	2.78E+04	0.00E+00	3.98E+02	1.94E+03	**6.94E+04**
4.621E+04	3.08E+04	7.33E+02	7.00E+03	2.72E+04	0.00E+00	3.98E+02	1.94E+03	**6.81E+04**
4.906E+04	3.03E+04	7.33E+02	7.00E+03	2.67E+04	0.00E+00	3.98E+02	1.94E+03	**6.71E+04**
5.191E+04	2.98E+04	7.33E+02	7.00E+03	2.63E+04	0.00E+00	3.98E+02	1.94E+03	**6.61E+04**
5.476E+04	2.93E+04	7.33E+02	7.00E+03	2.59E+04	0.00E+00	3.98E+02	1.94E+03	**6.53E+04**
5.761E+04	2.89E+04	7.33E+02	7.00E+03	2.55E+04	6.53E+04	7.33E+02	2.25E+03	**1.30E+05**
6.046E+04	2.85E+04	7.33E+02	7.00E+03	2.52E+04	4.89E+04	7.33E+02	2.25E+03	**1.13E+05**
6.331E+04	2.81E+04	7.33E+02	7.00E+03	2.49E+04	3.71E+04	7.33E+02	2.25E+03	**1.01E+05**
6.616E+04	2.78E+04	7.33E+02	7.00E+03	2.46E+04	2.85E+04	7.33E+02	2.25E+03	**9.16E+04**
6.901E+04	2.75E+04	7.33E+02	7.00E+03	2.43E+04	2.22E+04	7.33E+02	2.25E+03	**8.47E+04**
7.186E+04	2.72E+04	7.33E+02	7.00E+03	2.41E+04	1.77E+04	7.33E+02	2.25E+03	**7.97E+04**
7.472E+04	2.70E+04	7.33E+02	7.00E+03	2.38E+04	1.44E+04	7.33E+02	2.25E+03	**7.59E+04**
7.757E+04	2.67E+04	7.33E+02	7.00E+03	2.36E+04	1.20E+04	7.33E+02	2.25E+03	**7.30E+04**
8.042E+04	2.68E+04	7.33E+02	7.00E+03	2.34E+04	1.04E+04	7.33E+02	2.25E+03	**7.13E+04**
8.327E+04	2.72E+04	7.33E+02	7.00E+03	2.32E+04	9.51E+03	7.33E+02	2.25E+03	**7.06E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
8.612E+04	2.74E+04	7.33E+02	7.00E+03	2.30E+04	8.86E+03	7.33E+02	2.25E+03	**7.00E+04**
8.897E+04	2.75E+04	7.33E+02	7.00E+03	2.29E+04	8.34E+03	7.33E+02	2.25E+03	**6.94E+04**
9.182E+04	2.69E+04	7.33E+02	7.00E+03	2.28E+04	7.77E+03	7.33E+02	2.25E+03	**6.81E+04**
9.467E+04	2.62E+04	7.33E+02	7.00E+03	2.26E+04	7.17E+03	7.33E+02	2.25E+03	**6.68E+04**
9.752E+04	2.57E+04	7.33E+02	7.00E+03	2.25E+04	6.74E+03	7.33E+02	2.25E+03	**6.57E+04**
1.004E+05	2.54E+04	7.33E+02	7.00E+03	2.24E+04	6.42E+03	7.33E+02	2.25E+03	**6.49E+04**
1.032E+05	2.51E+04	7.33E+02	7.00E+03	2.23E+04	6.20E+03	7.33E+02	2.25E+03	**6.43E+04**
1.061E+05	2.48E+04	7.33E+02	7.00E+03	2.22E+04	6.03E+03	7.33E+02	2.25E+03	**6.37E+04**
1.089E+05	2.46E+04	7.33E+02	7.00E+03	2.20E+04	5.91E+03	7.33E+02	2.25E+03	**6.33E+04**
1.118E+05	2.45E+04	7.33E+02	7.00E+03	2.19E+04	5.82E+03	7.33E+02	2.25E+03	**6.29E+04**
1.146E+05	2.43E+04	7.33E+02	7.00E+03	2.18E+04	5.76E+03	7.33E+02	2.25E+03	**6.26E+04**
1.175E+05	2.42E+04	7.33E+02	7.00E+03	2.17E+04	5.72E+03	7.33E+02	2.25E+03	**6.23E+04**
1.203E+05	2.40E+04	7.33E+02	7.00E+03	2.16E+04	5.68E+03	7.33E+02	2.25E+03	**6.20E+04**
1.232E+05	2.39E+04	7.33E+02	7.00E+03	2.14E+04	5.66E+03	7.33E+02	2.25E+03	**6.17E+04**
1.260E+05	2.38E+04	7.33E+02	7.00E+03	2.13E+04	5.64E+03	7.33E+02	2.25E+03	**6.14E+04**
1.289E+05	2.36E+04	7.33E+02	7.00E+03	2.12E+04	5.63E+03	7.33E+02	2.25E+03	**6.12E+04**
1.317E+05	2.35E+04	7.33E+02	7.00E+03	2.11E+04	5.62E+03	7.33E+02	2.25E+03	**6.09E+04**
1.346E+05	2.34E+04	7.33E+02	7.00E+03	2.10E+04	5.61E+03	7.33E+02	2.25E+03	**6.07E+04**
1.374E+05	2.33E+04	7.33E+02	7.00E+03	2.08E+04	5.61E+03	7.33E+02	2.25E+03	**6.04E+04**
1.403E+05	2.31E+04	7.33E+02	7.00E+03	2.07E+04	5.60E+03	7.33E+02	2.25E+03	**6.02E+04**
1.431E+05	2.30E+04	7.33E+02	7.00E+03	2.06E+04	5.60E+03	7.33E+02	2.25E+03	**5.99E+04**
1.460E+05	2.29E+04	7.33E+02	7.00E+03	2.05E+04	5.60E+03	7.33E+02	2.25E+03	**5.97E+04**
1.488E+05	2.27E+04	7.33E+02	7.00E+03	2.04E+04	5.60E+03	7.33E+02	2.25E+03	**5.94E+04**
1.517E+05	2.26E+04	7.33E+02	7.00E+03	2.02E+04	5.60E+03	7.33E+02	2.25E+03	**5.92E+04**
1.545E+05	2.25E+04	7.33E+02	7.00E+03	2.01E+04	5.60E+03	7.33E+02	2.25E+03	**5.89E+04**
1.574E+05	2.24E+04	7.33E+02	7.00E+03	2.00E+04	5.59E+03	7.33E+02	2.25E+03	**5.87E+04**
1.602E+05	2.23E+04	7.33E+02	7.00E+03	1.99E+04	5.59E+03	7.33E+02	2.25E+03	**5.85E+04**
1.631E+05	2.22E+04	7.33E+02	7.00E+03	1.97E+04	5.59E+03	7.33E+02	2.25E+03	**5.83E+04**
1.659E+05	2.21E+04	7.33E+02	7.00E+03	1.96E+04	5.59E+03	7.33E+02	2.25E+03	**5.80E+04**
1.688E+05	2.20E+04	7.33E+02	7.00E+03	1.95E+04	5.59E+03	7.33E+02	2.25E+03	**5.78E+04**
1.716E+05	2.19E+04	7.33E+02	7.00E+03	1.94E+04	5.59E+03	7.33E+02	2.25E+03	**5.76E+04**
1.745E+05	2.18E+04	7.33E+02	7.00E+03	1.93E+04	5.59E+03	7.33E+02	2.25E+03	**5.74E+04**
1.773E+05	2.17E+04	7.33E+02	7.00E+03	1.92E+04	5.59E+03	7.33E+02	2.25E+03	**5.73E+04**
1.802E+05	2.17E+04	7.33E+02	7.00E+03	1.91E+04	5.59E+03	7.33E+02	2.25E+03	**5.71E+04**
1.830E+05	2.16E+04	7.33E+02	7.00E+03	1.91E+04	5.59E+03	7.33E+02	2.25E+03	**5.69E+04**
1.859E+05	2.15E+04	7.33E+02	7.00E+03	1.90E+04	5.59E+03	7.33E+02	2.25E+03	**5.68E+04**
1.887E+05	2.14E+04	7.33E+02	7.00E+03	1.89E+04	5.59E+03	7.33E+02	2.25E+03	**5.66E+04**
1.916E+05	2.13E+04	7.33E+02	7.00E+03	1.88E+04	5.59E+03	7.33E+02	2.25E+03	**5.65E+04**
1.944E+05	2.12E+04	7.33E+02	7.00E+03	1.88E+04	5.59E+03	7.33E+02	2.25E+03	**5.63E+04**
1.973E+05	2.12E+04	7.33E+02	7.00E+03	1.87E+04	5.59E+03	7.33E+02	2.25E+03	**5.62E+04**
2.001E+05	2.11E+04	7.33E+02	7.00E+03	1.86E+04	5.59E+03	7.33E+02	2.25E+03	**5.60E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.030E+05	2.10E+04	7.33E+02	7.00E+03	1.85E+04	5.59E+03	7.33E+02	2.25E+03	**5.58E+04**
2.058E+05	2.09E+04	7.33E+02	7.00E+03	1.85E+04	5.59E+03	7.33E+02	2.25E+03	**5.57E+04**
2.087E+05	2.09E+04	7.33E+02	7.00E+03	1.84E+04	5.59E+03	7.33E+02	2.25E+03	**5.56E+04**
2.115E+05	2.08E+04	7.33E+02	7.00E+03	1.83E+04	5.59E+03	7.33E+02	2.25E+03	**5.54E+04**
2.144E+05	2.07E+04	7.33E+02	7.00E+03	1.82E+04	5.59E+03	7.33E+02	2.25E+03	**5.53E+04**
2.172E+05	2.07E+04	7.33E+02	7.00E+03	1.82E+04	5.59E+03	7.33E+02	2.25E+03	**5.51E+04**
2.201E+05	2.06E+04	7.33E+02	7.00E+03	1.81E+04	5.59E+03	7.33E+02	2.25E+03	**5.50E+04**
2.229E+05	2.05E+04	7.33E+02	7.00E+03	1.80E+04	5.59E+03	7.33E+02	2.25E+03	**5.48E+04**
2.258E+05	2.05E+04	7.33E+02	7.00E+03	1.79E+04	5.59E+03	7.33E+02	2.25E+03	**5.47E+04**
2.286E+05	2.04E+04	7.33E+02	7.00E+03	1.79E+04	5.59E+03	7.33E+02	2.25E+03	**5.46E+04**
2.315E+05	2.03E+04	7.33E+02	7.00E+03	1.78E+04	5.59E+03	7.33E+02	2.25E+03	**5.44E+04**
2.343E+05	2.03E+04	7.33E+02	7.00E+03	1.77E+04	5.59E+03	7.33E+02	2.25E+03	**5.43E+04**
2.372E+05	2.02E+04	7.33E+02	7.00E+03	1.76E+04	5.59E+03	7.33E+02	2.25E+03	**5.41E+04**
2.401E+05	2.01E+04	7.33E+02	7.00E+03	1.76E+04	5.59E+03	7.33E+02	2.25E+03	**5.40E+04**
2.429E+05	2.01E+04	7.33E+02	7.00E+03	1.75E+04	5.59E+03	7.33E+02	2.25E+03	**5.39E+04**
2.458E+05	2.00E+04	7.33E+02	7.00E+03	1.74E+04	5.59E+03	7.33E+02	2.25E+03	**5.37E+04**
2.486E+05	1.99E+04	7.33E+02	7.00E+03	1.73E+04	5.59E+03	7.33E+02	2.25E+03	**5.36E+04**
2.515E+05	1.99E+04	7.33E+02	7.00E+03	1.73E+04	5.59E+03	7.33E+02	2.25E+03	**5.34E+04**
2.543E+05	1.98E+04	7.33E+02	7.00E+03	1.72E+04	5.59E+03	7.33E+02	2.25E+03	**5.33E+04**
2.572E+05	1.98E+04	7.33E+02	7.00E+03	1.71E+04	5.59E+03	7.33E+02	2.25E+03	**5.32E+04**
2.600E+05	1.97E+04	7.33E+02	7.00E+03	1.70E+04	5.59E+03	7.33E+02	2.25E+03	**5.30E+04**
2.629E+05	2.21E+04	7.33E+02	7.00E+03	1.70E+04	6.13E+03	7.33E+02	2.25E+03	**5.59E+04**
2.657E+05	2.11E+04	7.33E+02	7.00E+03	1.69E+04	6.51E+03	7.33E+02	2.25E+03	**5.53E+04**
2.686E+05	2.05E+04	7.33E+02	7.00E+03	1.69E+04	6.26E+03	7.33E+02	2.25E+03	**5.44E+04**
2.714E+05	2.01E+04	7.33E+02	7.00E+03	1.68E+04	6.08E+03	7.33E+02	2.25E+03	**5.37E+04**
2.743E+05	1.98E+04	7.33E+02	7.00E+03	1.68E+04	5.94E+03	7.33E+02	2.25E+03	**5.33E+04**
2.771E+05	1.97E+04	7.33E+02	7.00E+03	1.67E+04	5.85E+03	7.33E+02	2.25E+03	**5.29E+04**
2.800E+05	1.95E+04	7.33E+02	7.00E+03	1.67E+04	5.78E+03	7.33E+02	2.25E+03	**5.27E+04**
2.828E+05	1.94E+04	7.33E+02	7.00E+03	1.66E+04	5.73E+03	7.33E+02	2.25E+03	**5.25E+04**
2.857E+05	1.93E+04	7.33E+02	7.00E+03	1.66E+04	5.69E+03	7.33E+02	2.25E+03	**5.23E+04**
2.885E+05	1.92E+04	7.33E+02	7.00E+03	1.65E+04	5.66E+03	7.33E+02	2.25E+03	**5.21E+04**
2.914E+05	1.92E+04	7.33E+02	7.00E+03	1.65E+04	5.64E+03	7.33E+02	2.25E+03	**5.20E+04**
2.942E+05	1.91E+04	7.33E+02	7.00E+03	1.64E+04	5.63E+03	7.33E+02	2.25E+03	**5.19E+04**
2.971E+05	1.91E+04	7.33E+02	7.00E+03	1.63E+04	5.62E+03	7.33E+02	2.25E+03	**5.18E+04**
2.999E+05	1.90E+04	7.33E+02	7.00E+03	1.63E+04	5.61E+03	7.33E+02	2.25E+03	**5.16E+04**
3.028E+05	1.90E+04	7.33E+02	7.00E+03	1.62E+04	5.61E+03	7.33E+02	2.25E+03	**5.15E+04**
3.056E+05	1.89E+04	7.33E+02	7.00E+03	1.62E+04	5.60E+03	7.33E+02	2.25E+03	**5.14E+04**
3.085E+05	1.89E+04	7.33E+02	7.00E+03	1.61E+04	5.60E+03	7.33E+02	2.25E+03	**5.13E+04**
3.113E+05	1.88E+04	7.33E+02	7.00E+03	1.61E+04	5.60E+03	7.33E+02	2.25E+03	**5.12E+04**
3.142E+05	1.88E+04	7.33E+02	7.00E+03	1.60E+04	5.60E+03	7.33E+02	2.25E+03	**5.11E+04**
3.170E+05	1.87E+04	7.33E+02	7.00E+03	1.60E+04	5.60E+03	7.33E+02	2.25E+03	**5.10E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
3.199E+05	1.87E+04	7.33E+02	7.00E+03	1.59E+04	5.60E+03	7.33E+02	2.25E+03	**5.09E+04**
3.227E+05	1.86E+04	7.33E+02	7.00E+03	1.59E+04	5.60E+03	7.33E+02	2.25E+03	**5.08E+04**
3.256E+05	1.86E+04	7.33E+02	7.00E+03	1.58E+04	5.59E+03	7.33E+02	2.25E+03	**5.07E+04**
3.284E+05	1.85E+04	7.33E+02	7.00E+03	1.58E+04	5.59E+03	7.33E+02	2.25E+03	**5.06E+04**
3.313E+05	1.85E+04	7.33E+02	7.00E+03	1.57E+04	5.59E+03	7.33E+02	2.25E+03	**5.05E+04**
3.341E+05	1.85E+04	7.33E+02	7.00E+03	1.57E+04	5.59E+03	7.33E+02	2.25E+03	**5.04E+04**
3.370E+05	1.84E+04	7.33E+02	7.00E+03	1.56E+04	5.59E+03	7.33E+02	2.25E+03	**5.03E+04**
3.398E+05	1.84E+04	7.33E+02	7.00E+03	1.55E+04	5.59E+03	7.33E+02	2.25E+03	**5.02E+04**
3.427E+05	1.83E+04	7.33E+02	7.00E+03	1.55E+04	5.59E+03	7.33E+02	2.25E+03	**5.01E+04**
3.455E+05	1.83E+04	7.33E+02	7.00E+03	1.54E+04	5.59E+03	7.33E+02	2.25E+03	**5.00E+04**
3.484E+05	1.82E+04	7.33E+02	7.00E+03	1.54E+04	5.59E+03	7.33E+02	2.25E+03	**4.99E+04**
3.512E+05	1.82E+04	7.33E+02	7.00E+03	1.54E+04	5.59E+03	7.33E+02	2.25E+03	**4.99E+04**
3.541E+05	1.81E+04	7.33E+02	7.00E+03	1.53E+04	5.59E+03	7.33E+02	2.25E+03	**4.98E+04**
3.569E+05	1.81E+04	7.33E+02	7.00E+03	1.53E+04	5.59E+03	7.33E+02	2.25E+03	**4.97E+04**
3.598E+05	1.81E+04	7.33E+02	7.00E+03	1.52E+04	5.59E+03	7.33E+02	2.25E+03	**4.96E+04**
3.626E+05	1.80E+04	7.33E+02	7.00E+03	1.52E+04	5.59E+03	7.33E+02	2.25E+03	**4.95E+04**
3.655E+05	1.80E+04	7.33E+02	7.00E+03	1.52E+04	5.59E+03	7.33E+02	2.25E+03	**4.95E+04**
3.683E+05	1.79E+04	7.33E+02	7.00E+03	1.51E+04	5.59E+03	7.33E+02	2.25E+03	**4.94E+04**
3.712E+05	1.79E+04	7.33E+02	7.00E+03	1.51E+04	5.59E+03	7.33E+02	2.25E+03	**4.93E+04**
3.740E+05	1.79E+04	7.33E+02	7.00E+03	1.51E+04	5.59E+03	7.33E+02	2.25E+03	**4.92E+04**
3.769E+05	1.78E+04	7.33E+02	7.00E+03	1.50E+04	5.59E+03	7.33E+02	2.25E+03	**4.92E+04**
3.797E+05	1.78E+04	7.33E+02	7.00E+03	1.50E+04	5.59E+03	7.33E+02	2.25E+03	**4.91E+04**
3.826E+05	1.78E+04	7.33E+02	7.00E+03	1.49E+04	5.59E+03	7.33E+02	2.25E+03	**4.90E+04**
3.854E+05	1.77E+04	7.33E+02	7.00E+03	1.49E+04	5.59E+03	7.33E+02	2.25E+03	**4.89E+04**
3.883E+05	1.77E+04	7.33E+02	7.00E+03	1.49E+04	5.59E+03	7.33E+02	2.25E+03	**4.89E+04**
3.911E+05	1.76E+04	7.33E+02	7.00E+03	1.48E+04	5.59E+03	7.33E+02	2.25E+03	**4.88E+04**
3.940E+05	1.76E+04	7.33E+02	7.00E+03	1.48E+04	5.59E+03	7.33E+02	2.25E+03	**4.87E+04**
3.968E+05	1.76E+04	7.33E+02	7.00E+03	1.47E+04	5.59E+03	7.33E+02	2.25E+03	**4.86E+04**
3.997E+05	1.75E+04	7.33E+02	7.00E+03	1.47E+04	5.59E+03	7.33E+02	2.25E+03	**4.85E+04**
4.025E+05	1.75E+04	7.33E+02	7.00E+03	1.47E+04	5.59E+03	7.33E+02	2.25E+03	**4.85E+04**
4.054E+05	1.75E+04	7.33E+02	7.00E+03	1.46E+04	5.59E+03	7.33E+02	2.25E+03	**4.84E+04**
4.082E+05	1.74E+04	7.33E+02	7.00E+03	1.46E+04	5.59E+03	7.33E+02	2.25E+03	**4.83E+04**
4.111E+05	1.74E+04	7.33E+02	7.00E+03	1.46E+04	5.59E+03	7.33E+02	2.25E+03	**4.83E+04**
4.139E+05	1.74E+04	7.33E+02	7.00E+03	1.45E+04	5.59E+03	7.33E+02	2.25E+03	**4.82E+04**
4.168E+05	1.73E+04	7.33E+02	7.00E+03	1.45E+04	5.59E+03	7.33E+02	2.25E+03	**4.81E+04**
4.196E+05	1.73E+04	7.33E+02	7.00E+03	1.44E+04	5.59E+03	7.33E+02	2.25E+03	**4.80E+04**
4.225E+05	1.73E+04	7.33E+02	7.00E+03	1.44E+04	5.59E+03	7.33E+02	2.25E+03	**4.80E+04**
4.253E+05	1.72E+04	7.33E+02	7.00E+03	1.44E+04	5.59E+03	7.33E+02	2.25E+03	**4.79E+04**
4.282E+05	1.72E+04	7.33E+02	7.00E+03	1.43E+04	5.59E+03	7.33E+02	2.25E+03	**4.78E+04**
4.310E+05	1.72E+04	7.33E+02	7.00E+03	1.43E+04	5.59E+03	7.33E+02	2.25E+03	**4.78E+04**
4.339E+05	1.72E+04	7.33E+02	7.00E+03	1.43E+04	5.59E+03	7.33E+02	2.25E+03	**4.77E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
4.367E+05	2.21E+04	7.33E+02	7.00E+03	1.42E+04	7.39E+03	7.33E+02	2.25E+03	**5.44E+04**
4.396E+05	2.03E+04	7.33E+02	7.00E+03	1.42E+04	7.60E+03	7.33E+02	2.25E+03	**5.28E+04**
4.424E+05	1.91E+04	7.33E+02	7.00E+03	1.42E+04	7.06E+03	7.33E+02	2.25E+03	**5.11E+04**
4.453E+05	1.84E+04	7.33E+02	7.00E+03	1.41E+04	6.65E+03	7.33E+02	2.25E+03	**4.99E+04**
4.481E+05	1.79E+04	7.33E+02	7.00E+03	1.41E+04	6.37E+03	7.33E+02	2.25E+03	**4.91E+04**
4.510E+05	1.75E+04	7.33E+02	7.00E+03	1.41E+04	6.15E+03	7.33E+02	2.25E+03	**4.85E+04**
4.538E+05	1.73E+04	7.33E+02	7.00E+03	1.41E+04	6.00E+03	7.33E+02	2.25E+03	**4.81E+04**
4.567E+05	1.72E+04	7.33E+02	7.00E+03	1.40E+04	5.89E+03	7.33E+02	2.25E+03	**4.78E+04**
4.595E+05	1.71E+04	7.33E+02	7.00E+03	1.40E+04	5.81E+03	7.33E+02	2.25E+03	**4.76E+04**
4.624E+05	1.70E+04	7.33E+02	7.00E+03	1.40E+04	5.75E+03	7.33E+02	2.25E+03	**4.74E+04**
4.652E+05	1.69E+04	7.33E+02	7.00E+03	1.39E+04	5.71E+03	7.33E+02	2.25E+03	**4.73E+04**
4.681E+05	1.69E+04	7.33E+02	7.00E+03	1.39E+04	5.68E+03	7.33E+02	2.25E+03	**4.72E+04**
4.709E+05	1.68E+04	7.33E+02	7.00E+03	1.39E+04	5.65E+03	7.33E+02	2.25E+03	**4.71E+04**
4.738E+05	1.68E+04	7.33E+02	7.00E+03	1.39E+04	5.64E+03	7.33E+02	2.25E+03	**4.70E+04**
4.767E+05	1.68E+04	7.33E+02	7.00E+03	1.38E+04	5.62E+03	7.33E+02	2.25E+03	**4.69E+04**
4.795E+05	1.68E+04	7.33E+02	7.00E+03	1.38E+04	5.62E+03	7.33E+02	2.25E+03	**4.69E+04**
4.824E+05	1.67E+04	7.33E+02	7.00E+03	1.38E+04	5.61E+03	7.33E+02	2.25E+03	**4.68E+04**
4.852E+05	1.67E+04	7.33E+02	7.00E+03	1.37E+04	5.60E+03	7.33E+02	2.25E+03	**4.68E+04**
4.881E+05	1.67E+04	7.33E+02	7.00E+03	1.37E+04	5.60E+03	7.33E+02	2.25E+03	**4.67E+04**
4.909E+05	1.66E+04	7.33E+02	7.00E+03	1.37E+04	5.60E+03	7.33E+02	2.25E+03	**4.66E+04**
4.938E+05	1.66E+04	7.33E+02	7.00E+03	1.36E+04	5.60E+03	7.33E+02	2.25E+03	**4.66E+04**
4.966E+05	1.66E+04	7.33E+02	7.00E+03	1.36E+04	5.60E+03	7.33E+02	2.25E+03	**4.65E+04**
4.995E+05	1.66E+04	7.33E+02	7.00E+03	1.36E+04	5.60E+03	7.33E+02	2.25E+03	**4.65E+04**
5.023E+05	1.65E+04	7.33E+02	7.00E+03	1.36E+04	5.59E+03	7.33E+02	2.25E+03	**4.64E+04**
5.052E+05	1.65E+04	7.33E+02	7.00E+03	1.35E+04	5.59E+03	7.33E+02	2.25E+03	**4.64E+04**
5.080E+05	1.65E+04	7.33E+02	7.00E+03	1.35E+04	5.59E+03	7.33E+02	2.25E+03	**4.63E+04**
5.109E+05	1.65E+04	7.33E+02	7.00E+03	1.35E+04	5.59E+03	7.33E+02	2.25E+03	**4.63E+04**
5.137E+05	1.64E+04	7.33E+02	7.00E+03	1.34E+04	5.59E+03	7.33E+02	2.25E+03	**4.62E+04**
5.166E+05	1.64E+04	7.33E+02	7.00E+03	1.34E+04	5.59E+03	7.33E+02	2.25E+03	**4.62E+04**
5.194E+05	1.64E+04	7.33E+02	7.00E+03	1.34E+04	5.59E+03	7.33E+02	2.25E+03	**4.61E+04**
5.223E+05	2.77E+04	7.33E+02	7.00E+03	1.34E+04	7.35E+03	7.33E+02	2.25E+03	**5.91E+04**
5.251E+05	2.36E+04	7.33E+02	7.00E+03	1.33E+04	1.00E+04	7.33E+02	2.25E+03	**5.77E+04**
5.280E+05	2.10E+04	7.33E+02	7.00E+03	1.33E+04	8.80E+03	7.33E+02	2.25E+03	**5.38E+04**
5.308E+05	1.93E+04	7.33E+02	7.00E+03	1.33E+04	7.94E+03	7.33E+02	2.25E+03	**5.13E+04**
5.337E+05	1.82E+04	7.33E+02	7.00E+03	1.33E+04	7.29E+03	7.33E+02	2.25E+03	**4.95E+04**
5.365E+05	1.75E+04	7.33E+02	7.00E+03	1.33E+04	6.83E+03	7.33E+02	2.25E+03	**4.83E+04**
5.394E+05	1.70E+04	7.33E+02	7.00E+03	1.32E+04	6.49E+03	7.33E+02	2.25E+03	**4.75E+04**
5.422E+05	1.67E+04	7.33E+02	7.00E+03	1.32E+04	6.25E+03	7.33E+02	2.25E+03	**4.69E+04**
5.451E+05	1.65E+04	7.33E+02	7.00E+03	1.32E+04	6.07E+03	7.33E+02	2.25E+03	**4.65E+04**
5.479E+05	1.64E+04	7.33E+02	7.00E+03	1.32E+04	5.94E+03	7.33E+02	2.25E+03	**4.62E+04**
5.508E+05	1.63E+04	7.33E+02	7.00E+03	1.32E+04	5.84E+03	7.33E+02	2.25E+03	**4.60E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
5.536E+05	1.62E+04	7.33E+02	7.00E+03	1.31E+04	5.77E+03	7.33E+02	2.25E+03	**4.58E+04**
5.565E+05	1.61E+04	7.33E+02	7.00E+03	1.31E+04	5.72E+03	7.33E+02	2.25E+03	**4.57E+04**
5.593E+05	1.61E+04	7.33E+02	7.00E+03	1.31E+04	5.69E+03	7.33E+02	2.25E+03	**4.56E+04**
5.622E+05	1.60E+04	7.33E+02	7.00E+03	1.31E+04	5.66E+03	7.33E+02	2.25E+03	**4.55E+04**
5.650E+05	1.60E+04	7.33E+02	7.00E+03	1.30E+04	5.64E+03	7.33E+02	2.25E+03	**4.54E+04**
5.679E+05	1.60E+04	7.33E+02	7.00E+03	1.30E+04	5.63E+03	7.33E+02	2.25E+03	**4.53E+04**
5.707E+05	1.59E+04	7.33E+02	7.00E+03	1.30E+04	5.62E+03	7.33E+02	2.25E+03	**4.53E+04**
5.736E+05	1.59E+04	7.33E+02	7.00E+03	1.30E+04	5.61E+03	7.33E+02	2.25E+03	**4.52E+04**
5.764E+05	1.59E+04	7.33E+02	7.00E+03	1.30E+04	5.61E+03	7.33E+02	2.25E+03	**4.52E+04**
5.793E+05	1.59E+04	7.33E+02	7.00E+03	1.29E+04	5.60E+03	7.33E+02	2.25E+03	**4.51E+04**
5.821E+05	1.58E+04	7.33E+02	7.00E+03	1.29E+04	5.60E+03	7.33E+02	2.25E+03	**4.51E+04**
5.850E+05	1.58E+04	7.33E+02	7.00E+03	1.29E+04	5.60E+03	7.33E+02	2.25E+03	**4.50E+04**
5.878E+05	1.58E+04	7.33E+02	7.00E+03	1.29E+04	5.60E+03	7.33E+02	2.25E+03	**4.50E+04**
5.907E+05	1.58E+04	7.33E+02	7.00E+03	1.28E+04	5.60E+03	7.33E+02	2.25E+03	**4.49E+04**
5.935E+05	1.57E+04	7.33E+02	7.00E+03	1.28E+04	5.60E+03	7.33E+02	2.25E+03	**4.49E+04**
5.964E+05	1.57E+04	7.33E+02	7.00E+03	1.28E+04	5.59E+03	7.33E+02	2.25E+03	**4.48E+04**
5.992E+05	1.57E+04	7.33E+02	7.00E+03	1.28E+04	5.59E+03	7.33E+02	2.25E+03	**4.48E+04**
6.021E+05	1.57E+04	7.33E+02	7.00E+03	1.28E+04	5.59E+03	7.33E+02	2.25E+03	**4.47E+04**
6.049E+05	1.56E+04	7.33E+02	7.00E+03	1.27E+04	5.59E+03	7.33E+02	2.25E+03	**4.47E+04**
6.078E+05	1.56E+04	7.33E+02	7.00E+03	1.27E+04	5.59E+03	7.33E+02	2.25E+03	**4.46E+04**
6.106E+05	1.56E+04	7.33E+02	7.00E+03	1.27E+04	5.59E+03	7.33E+02	2.25E+03	**4.46E+04**
6.135E+05	1.56E+04	7.33E+02	7.00E+03	1.27E+04	5.59E+03	7.33E+02	2.25E+03	**4.46E+04**
6.163E+05	1.56E+04	7.33E+02	7.00E+03	1.27E+04	5.59E+03	7.33E+02	2.25E+03	**4.46E+04**
6.192E+05	1.55E+04	7.33E+02	7.00E+03	1.26E+04	5.59E+03	7.33E+02	2.25E+03	**4.45E+04**
6.220E+05	1.55E+04	7.33E+02	7.00E+03	1.26E+04	5.59E+03	7.33E+02	2.25E+03	**4.45E+04**
6.249E+05	1.55E+04	7.33E+02	7.00E+03	1.26E+04	5.59E+03	7.33E+02	2.25E+03	**4.44E+04**
6.277E+05	1.55E+04	7.33E+02	7.00E+03	1.26E+04	5.59E+03	7.33E+02	2.25E+03	**4.44E+04**
6.306E+05	1.55E+04	7.33E+02	7.00E+03	1.26E+04	5.59E+03	7.33E+02	2.25E+03	**4.44E+04**
6.334E+05	1.55E+04	7.33E+02	7.00E+03	1.26E+04	5.59E+03	7.33E+02	2.25E+03	**4.43E+04**
6.363E+05	1.54E+04	7.33E+02	7.00E+03	1.25E+04	5.59E+03	7.33E+02	2.25E+03	**4.43E+04**
6.391E+05	1.54E+04	7.33E+02	7.00E+03	1.25E+04	5.59E+03	7.33E+02	2.25E+03	**4.43E+04**
6.420E+05	1.54E+04	7.33E+02	7.00E+03	1.25E+04	5.59E+03	7.33E+02	2.25E+03	**4.42E+04**
6.448E+05	1.54E+04	7.33E+02	7.00E+03	1.25E+04	5.59E+03	7.33E+02	2.25E+03	**4.42E+04**
6.477E+05	1.54E+04	7.33E+02	7.00E+03	1.25E+04	5.59E+03	7.33E+02	2.25E+03	**4.42E+04**
6.505E+05	1.54E+04	7.33E+02	7.00E+03	1.25E+04	5.59E+03	7.33E+02	2.25E+03	**4.41E+04**
6.534E+05	1.53E+04	7.33E+02	7.00E+03	1.24E+04	5.59E+03	7.33E+02	2.25E+03	**4.41E+04**
6.562E+05	1.53E+04	7.33E+02	7.00E+03	1.24E+04	5.59E+03	7.33E+02	2.25E+03	**4.41E+04**
6.591E+05	1.53E+04	7.33E+02	7.00E+03	1.24E+04	5.59E+03	7.33E+02	2.25E+03	**4.40E+04**
6.619E+05	1.53E+04	7.33E+02	7.00E+03	1.24E+04	5.59E+03	7.33E+02	2.25E+03	**4.40E+04**
6.648E+05	1.53E+04	7.33E+02	7.00E+03	1.24E+04	5.59E+03	7.33E+02	2.25E+03	**4.40E+04**
6.676E+05	1.53E+04	7.33E+02	7.00E+03	1.24E+04	5.59E+03	7.33E+02	2.25E+03	**4.39E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
6.705E+05	1.52E+04	7.33E+02	7.00E+03	1.23E+04	5.59E+03	7.33E+02	2.25E+03	**4.39E+04**
6.733E+05	1.52E+04	7.33E+02	7.00E+03	1.23E+04	5.59E+03	7.33E+02	2.25E+03	**4.38E+04**
6.762E+05	1.52E+04	7.33E+02	7.00E+03	1.23E+04	5.59E+03	7.33E+02	2.25E+03	**4.38E+04**
6.790E+05	1.52E+04	7.33E+02	7.00E+03	1.23E+04	5.59E+03	7.33E+02	2.25E+03	**4.38E+04**
6.819E+05	1.52E+04	7.33E+02	7.00E+03	1.23E+04	5.59E+03	7.33E+02	2.25E+03	**4.37E+04**
6.847E+05	1.52E+04	7.33E+02	7.00E+03	1.23E+04	5.59E+03	7.33E+02	2.25E+03	**4.37E+04**
6.876E+05	1.51E+04	7.33E+02	7.00E+03	1.22E+04	5.59E+03	7.33E+02	2.25E+03	**4.37E+04**
6.904E+05	1.51E+04	7.33E+02	7.00E+03	1.22E+04	5.59E+03	7.33E+02	2.25E+03	**4.36E+04**
6.933E+05	1.51E+04	7.33E+02	7.00E+03	1.22E+04	5.59E+03	7.33E+02	2.25E+03	**4.36E+04**
6.961E+05	1.51E+04	7.33E+02	7.00E+03	1.22E+04	5.59E+03	7.33E+02	2.25E+03	**4.36E+04**
6.990E+05	1.51E+04	7.33E+02	7.00E+03	1.22E+04	5.59E+03	7.33E+02	2.25E+03	**4.35E+04**
7.018E+05	1.50E+04	7.33E+02	7.00E+03	1.22E+04	5.59E+03	7.33E+02	2.25E+03	**4.35E+04**
7.047E+05	1.50E+04	7.33E+02	7.00E+03	1.21E+04	5.59E+03	7.33E+02	2.25E+03	**4.35E+04**
7.075E+05	1.50E+04	7.33E+02	7.00E+03	1.21E+04	5.59E+03	7.33E+02	2.25E+03	**4.35E+04**
7.104E+05	1.50E+04	7.33E+02	7.00E+03	1.21E+04	5.59E+03	7.33E+02	2.25E+03	**4.34E+04**
7.132E+05	1.50E+04	7.33E+02	7.00E+03	1.21E+04	5.59E+03	7.33E+02	2.25E+03	**4.34E+04**
7.161E+05	1.50E+04	7.33E+02	7.00E+03	1.21E+04	5.59E+03	7.33E+02	2.25E+03	**4.34E+04**
7.190E+05	1.49E+04	7.33E+02	7.00E+03	1.21E+04	5.59E+03	7.33E+02	2.25E+03	**4.33E+04**
7.218E+05	1.49E+04	7.33E+02	7.00E+03	1.21E+04	5.59E+03	7.33E+02	2.25E+03	**4.33E+04**
7.247E+05	1.49E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.33E+04**
7.275E+05	1.49E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.32E+04**
7.304E+05	1.49E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.32E+04**
7.332E+05	1.49E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.32E+04**
7.361E+05	1.48E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.31E+04**
7.389E+05	1.48E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.31E+04**
7.418E+05	1.48E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.31E+04**
7.446E+05	1.48E+04	7.33E+02	7.00E+03	1.20E+04	5.59E+03	7.33E+02	2.25E+03	**4.30E+04**
7.475E+05	1.48E+04	7.33E+02	7.00E+03	1.19E+04	5.59E+03	7.33E+02	2.25E+03	**4.30E+04**
7.503E+05	1.48E+04	7.33E+02	7.00E+03	1.19E+04	5.59E+03	7.33E+02	2.25E+03	**4.30E+04**
7.532E+05	1.47E+04	7.33E+02	7.00E+03	1.19E+04	5.59E+03	7.33E+02	2.25E+03	**4.29E+04**
7.560E+05	1.47E+04	7.33E+02	7.00E+03	1.19E+04	5.59E+03	7.33E+02	2.25E+03	**4.29E+04**
7.589E+05	1.47E+04	7.33E+02	7.00E+03	1.19E+04	5.59E+03	7.33E+02	2.25E+03	**4.29E+04**
7.617E+05	1.47E+04	7.33E+02	7.00E+03	1.19E+04	5.59E+03	7.33E+02	2.25E+03	**4.29E+04**
7.646E+05	1.47E+04	7.33E+02	7.00E+03	1.19E+04	5.59E+03	7.33E+02	2.25E+03	**4.28E+04**
7.674E+05	1.46E+04	7.33E+02	7.00E+03	1.18E+04	5.59E+03	7.33E+02	2.25E+03	**4.28E+04**
7.703E+05	1.46E+04	7.33E+02	7.00E+03	1.18E+04	5.59E+03	7.33E+02	2.25E+03	**4.28E+04**
7.731E+05	1.46E+04	7.33E+02	7.00E+03	1.18E+04	5.59E+03	7.33E+02	2.25E+03	**4.27E+04**
7.760E+05	1.46E+04	7.33E+02	7.00E+03	1.18E+04	5.59E+03	7.33E+02	2.25E+03	**4.27E+04**
7.788E+05	1.46E+04	7.33E+02	7.00E+03	1.18E+04	5.59E+03	7.33E+02	2.25E+03	**4.27E+04**
7.817E+05	1.46E+04	7.33E+02	7.00E+03	1.18E+04	5.59E+03	7.33E+02	2.25E+03	**4.26E+04**
7.845E+05	1.45E+04	7.33E+02	7.00E+03	1.18E+04	5.59E+03	7.33E+02	2.25E+03	**4.26E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
7.874E+05	1.45E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.26E+04**
7.902E+05	1.45E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.26E+04**
7.931E+05	1.45E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.26E+04**
7.959E+05	1.45E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.25E+04**
7.988E+05	1.45E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.25E+04**
8.016E+05	1.44E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.24E+04**
8.045E+05	1.44E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.24E+04**
8.073E+05	1.44E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.24E+04**
8.102E+05	1.44E+04	7.33E+02	7.00E+03	1.17E+04	5.59E+03	7.33E+02	2.25E+03	**4.24E+04**
8.130E+05	1.44E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.23E+04**
8.159E+05	1.44E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.23E+04**
8.187E+05	1.44E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.23E+04**
8.216E+05	1.43E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.23E+04**
8.244E+05	1.43E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.22E+04**
8.273E+05	1.43E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.22E+04**
8.301E+05	1.43E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.22E+04**
8.330E+05	1.43E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.22E+04**
8.358E+05	1.43E+04	7.33E+02	7.00E+03	1.16E+04	5.59E+03	7.33E+02	2.25E+03	**4.21E+04**
8.387E+05	1.43E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.21E+04**
8.415E+05	1.43E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.21E+04**
8.444E+05	1.43E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.21E+04**
8.472E+05	1.42E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.20E+04**
8.501E+05	1.42E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.20E+04**
8.529E+05	1.42E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.20E+04**
8.558E+05	1.42E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.20E+04**
8.586E+05	1.42E+04	7.33E+02	7.00E+03	1.15E+04	5.59E+03	7.33E+02	2.25E+03	**4.20E+04**
8.615E+05	1.42E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.19E+04**
8.643E+05	1.42E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.19E+04**
8.672E+05	1.42E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.19E+04**
8.700E+05	1.41E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.19E+04**
8.729E+05	1.41E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.18E+04**
8.757E+05	1.41E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.18E+04**
8.786E+05	1.41E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.18E+04**
8.814E+05	1.41E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.18E+04**
8.843E+05	1.41E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.18E+04**
8.871E+05	1.41E+04	7.33E+02	7.00E+03	1.14E+04	5.59E+03	7.33E+02	2.25E+03	**4.17E+04**
8.900E+05	1.41E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.17E+04**
8.928E+05	1.41E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.17E+04**
8.957E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.17E+04**
8.985E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.17E+04**
9.014E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.16E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
9.042E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.16E+04**
9.071E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.16E+04**
9.099E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.16E+04**
9.128E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.15E+04**
9.156E+05	1.40E+04	7.33E+02	7.00E+03	1.13E+04	5.59E+03	7.33E+02	2.25E+03	**4.15E+04**
9.185E+05	1.40E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.15E+04**
9.213E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.15E+04**
9.242E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.15E+04**
9.270E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.14E+04**
9.299E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.14E+04**
9.327E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.14E+04**
9.356E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.14E+04**
9.384E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.14E+04**
9.413E+05	1.39E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.13E+04**
9.441E+05	1.38E+04	7.33E+02	7.00E+03	1.12E+04	5.59E+03	7.33E+02	2.25E+03	**4.13E+04**
9.470E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.13E+04**
9.498E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.13E+04**
9.527E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.12E+04**
9.556E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.12E+04**
9.584E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.12E+04**
9.613E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.12E+04**
9.641E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.12E+04**
9.670E+05	1.38E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.11E+04**
9.698E+05	1.37E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.11E+04**
9.727E+05	1.37E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.11E+04**
9.755E+05	1.37E+04	7.33E+02	7.00E+03	1.11E+04	5.59E+03	7.33E+02	2.25E+03	**4.11E+04**
9.784E+05	1.37E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.11E+04**
9.812E+05	1.37E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.10E+04**
9.841E+05	1.37E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.10E+04**
9.869E+05	1.37E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.10E+04**
9.898E+05	1.37E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.10E+04**
9.926E+05	1.37E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.10E+04**
9.955E+05	1.36E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.09E+04**
9.983E+05	1.36E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.09E+04**
1.001E+06	1.36E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.09E+04**
1.004E+06	1.36E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.09E+04**
1.007E+06	1.36E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.09E+04**
1.010E+06	1.36E+04	7.33E+02	7.00E+03	1.10E+04	5.59E+03	7.33E+02	2.25E+03	**4.09E+04**
1.013E+06	1.36E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.08E+04**
1.015E+06	1.36E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.08E+04**
1.018E+06	1.36E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.08E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.021E+06	1.36E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.08E+04**
1.024E+06	1.36E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.08E+04**
1.027E+06	1.35E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.07E+04**
1.030E+06	1.35E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.07E+04**
1.033E+06	1.35E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.07E+04**
1.035E+06	1.35E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.07E+04**
1.038E+06	1.35E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.07E+04**
1.041E+06	1.35E+04	7.33E+02	7.00E+03	1.09E+04	5.59E+03	7.33E+02	2.25E+03	**4.07E+04**
1.044E+06	1.35E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.07E+04**
1.047E+06	1.35E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.06E+04**
1.050E+06	1.35E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.06E+04**
1.052E+06	1.35E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.06E+04**
1.055E+06	1.35E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.06E+04**
1.058E+06	1.35E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.06E+04**
1.061E+06	1.35E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.06E+04**
1.064E+06	1.34E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.05E+04**
1.067E+06	1.34E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.05E+04**
1.070E+06	1.34E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.05E+04**
1.072E+06	1.34E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.05E+04**
1.075E+06	1.34E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.05E+04**
1.078E+06	1.34E+04	7.33E+02	7.00E+03	1.08E+04	5.59E+03	7.33E+02	2.25E+03	**4.05E+04**
1.081E+06	1.34E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.05E+04**
1.084E+06	1.34E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.04E+04**
1.087E+06	1.34E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.04E+04**
1.090E+06	1.34E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.04E+04**
1.092E+06	1.34E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.04E+04**
1.095E+06	1.34E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.04E+04**
1.098E+06	1.34E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.04E+04**
1.101E+06	1.33E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.03E+04**
1.104E+06	1.33E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.03E+04**
1.107E+06	1.33E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.03E+04**
1.109E+06	1.33E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.03E+04**
1.112E+06	1.33E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.03E+04**
1.115E+06	1.33E+04	7.33E+02	7.00E+03	1.07E+04	5.59E+03	7.33E+02	2.25E+03	**4.03E+04**
1.118E+06	1.33E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.03E+04**
1.121E+06	1.33E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.02E+04**
1.124E+06	1.33E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.02E+04**
1.127E+06	1.33E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.02E+04**
1.129E+06	1.33E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.02E+04**
1.132E+06	1.33E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.02E+04**
1.135E+06	1.33E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.02E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.138E+06	1.32E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.01E+04**
1.141E+06	1.32E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.01E+04**
1.144E+06	1.32E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.01E+04**
1.147E+06	1.32E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.01E+04**
1.149E+06	1.32E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.01E+04**
1.152E+06	1.32E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.01E+04**
1.155E+06	1.32E+04	7.33E+02	7.00E+03	1.06E+04	5.59E+03	7.33E+02	2.25E+03	**4.01E+04**
1.158E+06	1.32E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**4.00E+04**
1.161E+06	1.32E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**4.00E+04**
1.164E+06	1.32E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**4.00E+04**
1.166E+06	1.32E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**4.00E+04**
1.169E+06	1.32E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**4.00E+04**
1.172E+06	1.32E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**4.00E+04**
1.175E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**4.00E+04**
1.178E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**3.99E+04**
1.181E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**3.99E+04**
1.184E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**3.99E+04**
1.186E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**3.99E+04**
1.189E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**3.99E+04**
1.192E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**3.99E+04**
1.195E+06	1.31E+04	7.33E+02	7.00E+03	1.05E+04	5.59E+03	7.33E+02	2.25E+03	**3.99E+04**
1.198E+06	1.31E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.98E+04**
1.201E+06	1.31E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.98E+04**
1.204E+06	1.31E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.98E+04**
1.206E+06	1.31E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.98E+04**
1.209E+06	1.31E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.98E+04**
1.212E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.98E+04**
1.215E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.218E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.221E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.224E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.226E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.229E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.232E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.235E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.97E+04**
1.238E+06	1.30E+04	7.33E+02	7.00E+03	1.04E+04	5.59E+03	7.33E+02	2.25E+03	**3.96E+04**
1.241E+06	1.30E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.96E+04**
1.243E+06	1.30E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.96E+04**
1.246E+06	1.30E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.96E+04**
1.249E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.96E+04**
1.252E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.96E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.255E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.96E+04**
1.258E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.95E+04**
1.261E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.95E+04**
1.263E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.95E+04**
1.266E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.95E+04**
1.269E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.95E+04**
1.272E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.95E+04**
1.275E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.95E+04**
1.278E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.94E+04**
1.281E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.94E+04**
1.283E+06	1.29E+04	7.33E+02	7.00E+03	1.03E+04	5.59E+03	7.33E+02	2.25E+03	**3.94E+04**
1.286E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.94E+04**
1.289E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.94E+04**
1.292E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.94E+04**
1.295E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.94E+04**
1.298E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.93E+04**
1.300E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.93E+04**
1.303E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.93E+04**
1.306E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.93E+04**
1.309E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.93E+04**
1.312E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.93E+04**
1.315E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.93E+04**
1.318E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.92E+04**
1.320E+06	1.28E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.92E+04**
1.323E+06	1.27E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.92E+04**
1.326E+06	1.27E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.92E+04**
1.329E+06	1.27E+04	7.33E+02	7.00E+03	1.02E+04	5.59E+03	7.33E+02	2.25E+03	**3.92E+04**
1.332E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.92E+04**
1.335E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.92E+04**
1.338E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.340E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.343E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.346E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.349E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.352E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.355E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.357E+06	1.27E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.91E+04**
1.360E+06	1.26E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**
1.363E+06	1.26E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**
1.366E+06	1.26E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**
1.369E+06	1.26E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.372E+06	1.26E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**
1.375E+06	1.26E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**
1.377E+06	1.26E+04	7.33E+02	7.00E+03	1.01E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**
1.380E+06	1.26E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.90E+04**
1.383E+06	1.26E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.89E+04**
1.386E+06	1.26E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.89E+04**
1.389E+06	1.26E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.89E+04**
1.392E+06	1.26E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.89E+04**
1.395E+06	1.26E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.89E+04**
1.397E+06	1.25E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.89E+04**
1.400E+06	1.25E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.89E+04**
1.403E+06	1.25E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.88E+04**
1.406E+06	1.25E+04	7.33E+02	7.00E+03	1.00E+04	5.59E+03	7.33E+02	2.25E+03	**3.88E+04**
1.409E+06	1.25E+04	7.33E+02	7.00E+03	9.99E+03	5.59E+03	7.33E+02	2.25E+03	**3.88E+04**
1.412E+06	1.25E+04	7.33E+02	7.00E+03	9.99E+03	5.59E+03	7.33E+02	2.25E+03	**3.88E+04**
1.414E+06	1.25E+04	7.33E+02	7.00E+03	9.98E+03	5.59E+03	7.33E+02	2.25E+03	**3.88E+04**
1.417E+06	1.25E+04	7.33E+02	7.00E+03	9.98E+03	5.59E+03	7.33E+02	2.25E+03	**3.88E+04**
1.420E+06	1.25E+04	7.33E+02	7.00E+03	9.97E+03	5.59E+03	7.33E+02	2.25E+03	**3.88E+04**
1.423E+06	1.25E+04	7.33E+02	7.00E+03	9.96E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.426E+06	1.25E+04	7.33E+02	7.00E+03	9.96E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.429E+06	1.25E+04	7.33E+02	7.00E+03	9.95E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.432E+06	1.25E+04	7.33E+02	7.00E+03	9.95E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.434E+06	1.24E+04	7.33E+02	7.00E+03	9.94E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.437E+06	1.24E+04	7.33E+02	7.00E+03	9.94E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.440E+06	1.24E+04	7.33E+02	7.00E+03	9.93E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.443E+06	1.24E+04	7.33E+02	7.00E+03	9.93E+03	5.59E+03	7.33E+02	2.25E+03	**3.87E+04**
1.446E+06	1.24E+04	7.33E+02	7.00E+03	9.92E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.449E+06	1.24E+04	7.33E+02	7.00E+03	9.91E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.452E+06	1.24E+04	7.33E+02	7.00E+03	9.91E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.454E+06	1.24E+04	7.33E+02	7.00E+03	9.90E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.457E+06	1.24E+04	7.33E+02	7.00E+03	9.90E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.460E+06	1.24E+04	7.33E+02	7.00E+03	9.89E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.463E+06	1.24E+04	7.33E+02	7.00E+03	9.89E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.466E+06	1.24E+04	7.33E+02	7.00E+03	9.88E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.469E+06	1.24E+04	7.33E+02	7.00E+03	9.88E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.472E+06	1.23E+04	7.33E+02	7.00E+03	9.87E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.474E+06	1.23E+04	7.33E+02	7.00E+03	9.87E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.477E+06	1.23E+04	7.33E+02	7.00E+03	9.86E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.480E+06	1.23E+04	7.33E+02	7.00E+03	9.86E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.483E+06	1.23E+04	7.33E+02	7.00E+03	9.85E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**
1.486E+06	1.23E+04	7.33E+02	7.00E+03	9.84E+03	5.59E+03	7.33E+02	2.25E+03	**3.86E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.489E+06	1.23E+04	7.33E+02	7.00E+03	9.84E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.491E+06	1.23E+04	7.33E+02	7.00E+03	9.83E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.494E+06	1.23E+04	7.33E+02	7.00E+03	9.83E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.497E+06	1.23E+04	7.33E+02	7.00E+03	9.82E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.500E+06	1.23E+04	7.33E+02	7.00E+03	9.82E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.503E+06	1.23E+04	7.33E+02	7.00E+03	9.81E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.506E+06	1.23E+04	7.33E+02	7.00E+03	9.81E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.509E+06	1.23E+04	7.33E+02	7.00E+03	9.80E+03	5.59E+03	7.33E+02	2.25E+03	**3.84E+04**
1.511E+06	1.22E+04	7.33E+02	7.00E+03	9.80E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.514E+06	1.22E+04	7.33E+02	7.00E+03	9.79E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.517E+06	1.22E+04	7.33E+02	7.00E+03	9.79E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.520E+06	1.22E+04	7.33E+02	7.00E+03	9.78E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.523E+06	1.22E+04	7.33E+02	7.00E+03	9.78E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.526E+06	1.22E+04	7.33E+02	7.00E+03	9.77E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.529E+06	1.22E+04	7.33E+02	7.00E+03	9.77E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.531E+06	1.22E+04	7.33E+02	7.00E+03	9.76E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.534E+06	1.22E+04	7.33E+02	7.00E+03	9.76E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.537E+06	1.22E+04	7.33E+02	7.00E+03	9.75E+03	5.59E+03	7.33E+02	2.25E+03	**3.83E+04**
1.540E+06	1.22E+04	7.33E+02	7.00E+03	9.75E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.543E+06	1.22E+04	7.33E+02	7.00E+03	9.74E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.546E+06	1.22E+04	7.33E+02	7.00E+03	9.73E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.548E+06	1.22E+04	7.33E+02	7.00E+03	9.73E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.551E+06	1.22E+04	7.33E+02	7.00E+03	9.72E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.554E+06	1.22E+04	7.33E+02	7.00E+03	9.72E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.557E+06	1.22E+04	7.33E+02	7.00E+03	9.71E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.560E+06	1.22E+04	7.33E+02	7.00E+03	9.71E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.563E+06	1.22E+04	7.33E+02	7.00E+03	9.70E+03	5.59E+03	7.33E+02	2.25E+03	**3.82E+04**
1.566E+06	1.21E+04	7.33E+02	7.00E+03	9.70E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.568E+06	1.21E+04	7.33E+02	7.00E+03	9.70E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.571E+06	1.21E+04	7.33E+02	7.00E+03	9.69E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.574E+06	1.21E+04	7.33E+02	7.00E+03	9.68E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.577E+06	1.21E+04	7.33E+02	7.00E+03	9.68E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.580E+06	1.21E+04	7.33E+02	7.00E+03	9.67E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.583E+06	1.21E+04	7.33E+02	7.00E+03	9.67E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.586E+06	1.21E+04	7.33E+02	7.00E+03	9.66E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.588E+06	1.21E+04	7.33E+02	7.00E+03	9.66E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.591E+06	1.21E+04	7.33E+02	7.00E+03	9.66E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.594E+06	1.21E+04	7.33E+02	7.00E+03	9.65E+03	5.59E+03	7.33E+02	2.25E+03	**3.81E+04**
1.597E+06	1.21E+04	7.33E+02	7.00E+03	9.64E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.600E+06	1.21E+04	7.33E+02	7.00E+03	9.64E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.603E+06	1.21E+04	7.33E+02	7.00E+03	9.63E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.605E+06	1.21E+04	7.33E+02	7.00E+03	9.63E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.608E+06	1.21E+04	7.33E+02	7.00E+03	9.63E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.611E+06	1.21E+04	7.33E+02	7.00E+03	9.62E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.614E+06	1.21E+04	7.33E+02	7.00E+03	9.62E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.617E+06	1.21E+04	7.33E+02	7.00E+03	9.61E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.620E+06	1.21E+04	7.33E+02	7.00E+03	9.61E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.623E+06	1.20E+04	7.33E+02	7.00E+03	9.60E+03	5.59E+03	7.33E+02	2.25E+03	**3.80E+04**
1.625E+06	1.20E+04	7.33E+02	7.00E+03	9.60E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.628E+06	1.20E+04	7.33E+02	7.00E+03	9.59E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.631E+06	1.20E+04	7.33E+02	7.00E+03	9.59E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.634E+06	1.20E+04	7.33E+02	7.00E+03	9.58E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.637E+06	1.20E+04	7.33E+02	7.00E+03	9.58E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.640E+06	1.20E+04	7.33E+02	7.00E+03	9.57E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.643E+06	1.20E+04	7.33E+02	7.00E+03	9.57E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.645E+06	1.20E+04	7.33E+02	7.00E+03	9.56E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.648E+06	1.20E+04	7.33E+02	7.00E+03	9.56E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.651E+06	1.20E+04	7.33E+02	7.00E+03	9.55E+03	5.59E+03	7.33E+02	2.25E+03	**3.79E+04**
1.654E+06	1.20E+04	7.33E+02	7.00E+03	9.55E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.657E+06	1.20E+04	7.33E+02	7.00E+03	9.54E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.660E+06	1.20E+04	7.33E+02	7.00E+03	9.54E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.662E+06	1.20E+04	7.33E+02	7.00E+03	9.53E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.665E+06	1.20E+04	7.33E+02	7.00E+03	9.53E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.668E+06	1.20E+04	7.33E+02	7.00E+03	9.52E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.671E+06	1.20E+04	7.33E+02	7.00E+03	9.52E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.674E+06	1.20E+04	7.33E+02	7.00E+03	9.51E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.677E+06	1.20E+04	7.33E+02	7.00E+03	9.51E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.680E+06	1.19E+04	7.33E+02	7.00E+03	9.50E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.682E+06	1.19E+04	7.33E+02	7.00E+03	9.50E+03	5.59E+03	7.33E+02	2.25E+03	**3.78E+04**
1.685E+06	1.19E+04	7.33E+02	7.00E+03	9.50E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.688E+06	1.19E+04	7.33E+02	7.00E+03	9.49E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.691E+06	1.19E+04	7.33E+02	7.00E+03	9.49E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.694E+06	1.19E+04	7.33E+02	7.00E+03	9.48E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.697E+06	1.19E+04	7.33E+02	7.00E+03	9.48E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.700E+06	1.19E+04	7.33E+02	7.00E+03	9.47E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.702E+06	1.19E+04	7.33E+02	7.00E+03	9.47E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.705E+06	1.19E+04	7.33E+02	7.00E+03	9.46E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.708E+06	1.19E+04	7.33E+02	7.00E+03	9.46E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.711E+06	1.19E+04	7.33E+02	7.00E+03	9.45E+03	5.59E+03	7.33E+02	2.25E+03	**3.77E+04**
1.714E+06	1.19E+04	7.33E+02	7.00E+03	9.45E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.717E+06	1.19E+04	7.33E+02	7.00E+03	9.44E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.720E+06	1.19E+04	7.33E+02	7.00E+03	9.44E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.722E+06	1.19E+04	7.33E+02	7.00E+03	9.44E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.725E+06	1.19E+04	7.33E+02	7.00E+03	9.43E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.728E+06	1.19E+04	7.33E+02	7.00E+03	9.43E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.731E+06	1.19E+04	7.33E+02	7.00E+03	9.42E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.734E+06	1.19E+04	7.33E+02	7.00E+03	9.42E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.737E+06	1.18E+04	7.33E+02	7.00E+03	9.41E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.739E+06	1.18E+04	7.33E+02	7.00E+03	9.41E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.742E+06	1.18E+04	7.33E+02	7.00E+03	9.40E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.745E+06	1.18E+04	7.33E+02	7.00E+03	9.40E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.748E+06	1.18E+04	7.33E+02	7.00E+03	9.40E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.751E+06	1.18E+04	7.33E+02	7.00E+03	9.39E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.754E+06	1.18E+04	7.33E+02	7.00E+03	9.39E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.757E+06	1.18E+04	7.33E+02	7.00E+03	9.38E+03	5.59E+03	7.33E+02	2.25E+03	**3.76E+04**
1.759E+06	1.18E+04	7.33E+02	7.00E+03	9.38E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.762E+06	1.18E+04	7.33E+02	7.00E+03	9.37E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.765E+06	1.18E+04	7.33E+02	7.00E+03	9.37E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.768E+06	1.18E+04	7.33E+02	7.00E+03	9.36E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.771E+06	1.18E+04	7.33E+02	7.00E+03	9.36E+03	5.59E+03	7.33E+02	2.25E+03	**3.75E+04**
1.774E+06	1.18E+04	7.33E+02	7.00E+03	9.35E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.777E+06	1.18E+04	7.33E+02	7.00E+03	9.35E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.779E+06	1.18E+04	7.33E+02	7.00E+03	9.35E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.782E+06	1.18E+04	7.33E+02	7.00E+03	9.34E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.785E+06	1.18E+04	7.33E+02	7.00E+03	9.34E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.788E+06	1.18E+04	7.33E+02	7.00E+03	9.33E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.791E+06	1.18E+04	7.33E+02	7.00E+03	9.33E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.794E+06	1.18E+04	7.33E+02	7.00E+03	9.32E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.796E+06	1.17E+04	7.33E+02	7.00E+03	9.32E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.799E+06	1.17E+04	7.33E+02	7.00E+03	9.32E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.802E+06	1.17E+04	7.33E+02	7.00E+03	9.31E+03	5.59E+03	7.33E+02	2.25E+03	**3.74E+04**
1.805E+06	1.17E+04	7.33E+02	7.00E+03	9.31E+03	5.59E+03	7.33E+02	2.25E+03	**3.73E+04**
1.808E+06	1.17E+04	7.33E+02	7.00E+03	9.30E+03	5.59E+03	7.33E+02	2.25E+03	**3.73E+04**
1.811E+06	1.17E+04	7.33E+02	7.00E+03	9.30E+03	5.59E+03	7.33E+02	2.25E+03	**3.73E+04**
1.814E+06	1.17E+04	7.33E+02	7.00E+03	9.29E+03	5.59E+03	7.33E+02	2.25E+03	**3.73E+04**
1.816E+06	1.17E+04	7.33E+02	7.00E+03	9.29E+03	5.59E+03	7.33E+02	2.25E+03	**3.73E+04**
1.819E+06	1.67E+04	7.33E+02	7.00E+03	9.29E+03	6.77E+03	7.33E+02	2.25E+03	**4.34E+04**
1.822E+06	1.49E+04	7.33E+02	7.00E+03	9.28E+03	7.53E+03	7.33E+02	2.25E+03	**4.24E+04**
1.825E+06	1.37E+04	7.33E+02	7.00E+03	9.28E+03	7.01E+03	7.33E+02	2.25E+03	**4.07E+04**
1.828E+06	1.30E+04	7.33E+02	7.00E+03	9.27E+03	6.63E+03	7.33E+02	2.25E+03	**3.96E+04**
1.831E+06	1.25E+04	7.33E+02	7.00E+03	9.27E+03	6.35E+03	7.33E+02	2.25E+03	**3.89E+04**
1.834E+06	1.22E+04	7.33E+02	7.00E+03	9.26E+03	6.08E+03	7.33E+02	2.25E+03	**3.83E+04**
1.836E+06	1.20E+04	7.33E+02	7.00E+03	9.26E+03	6.00E+03	7.33E+02	2.25E+03	**3.80E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.839E+06	1.19E+04	7.33E+02	7.00E+03	9.26E+03	5.89E+03	7.33E+02	2.25E+03	**3.78E+04**
1.842E+06	1.18E+04	7.33E+02	7.00E+03	9.25E+03	5.81E+03	7.33E+02	2.25E+03	**3.76E+04**
1.845E+06	1.18E+04	7.33E+02	7.00E+03	9.25E+03	5.75E+03	7.33E+02	2.25E+03	**3.75E+04**
1.848E+06	1.17E+04	7.33E+02	7.00E+03	9.24E+03	5.70E+03	7.33E+02	2.25E+03	**3.74E+04**
1.851E+06	1.17E+04	7.33E+02	7.00E+03	9.24E+03	5.67E+03	7.33E+02	2.25E+03	**3.73E+04**
1.853E+06	1.17E+04	7.33E+02	7.00E+03	9.23E+03	5.65E+03	7.33E+02	2.25E+03	**3.73E+04**
1.856E+06	1.17E+04	7.33E+02	7.00E+03	9.23E+03	5.64E+03	7.33E+02	2.25E+03	**3.72E+04**
1.859E+06	1.17E+04	7.33E+02	7.00E+03	9.23E+03	5.62E+03	7.33E+02	2.25E+03	**3.72E+04**
1.862E+06	1.16E+04	7.33E+02	7.00E+03	9.22E+03	5.61E+03	7.33E+02	2.25E+03	**3.72E+04**
1.865E+06	1.16E+04	7.33E+02	7.00E+03	9.22E+03	5.61E+03	7.33E+02	2.25E+03	**3.72E+04**
1.868E+06	1.16E+04	7.33E+02	7.00E+03	9.21E+03	5.60E+03	7.33E+02	2.25E+03	**3.72E+04**
1.871E+06	1.16E+04	7.33E+02	7.00E+03	9.21E+03	5.60E+03	7.33E+02	2.25E+03	**3.72E+04**
1.873E+06	1.16E+04	7.33E+02	7.00E+03	9.21E+03	5.60E+03	7.33E+02	2.25E+03	**3.71E+04**
1.876E+06	1.16E+04	7.33E+02	7.00E+03	9.20E+03	5.60E+03	7.33E+02	2.25E+03	**3.71E+04**
1.879E+06	1.16E+04	7.33E+02	7.00E+03	9.20E+03	5.60E+03	7.33E+02	2.25E+03	**3.71E+04**
1.882E+06	1.16E+04	7.33E+02	7.00E+03	9.19E+03	5.60E+03	7.33E+02	2.25E+03	**3.71E+04**
1.885E+06	1.16E+04	7.33E+02	7.00E+03	9.19E+03	5.60E+03	7.33E+02	2.25E+03	**3.71E+04**
1.888E+06	1.16E+04	7.33E+02	7.00E+03	9.18E+03	5.59E+03	7.33E+02	2.25E+03	**3.71E+04**
1.891E+06	1.16E+04	7.33E+02	7.00E+03	9.18E+03	5.59E+03	7.33E+02	2.25E+03	**3.71E+04**
1.893E+06	1.16E+04	7.33E+02	7.00E+03	9.18E+03	5.59E+03	7.33E+02	2.25E+03	**3.71E+04**
1.896E+06	1.16E+04	7.33E+02	7.00E+03	9.17E+03	5.59E+03	7.33E+02	2.25E+03	**3.71E+04**
1.899E+06	1.16E+04	7.33E+02	7.00E+03	9.17E+03	5.59E+03	7.33E+02	2.25E+03	**3.71E+04**
1.902E+06	1.16E+04	7.33E+02	7.00E+03	9.16E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.905E+06	1.16E+04	7.33E+02	7.00E+03	9.16E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.908E+06	1.16E+04	7.33E+02	7.00E+03	9.15E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.911E+06	1.16E+04	7.33E+02	7.00E+03	9.15E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.913E+06	1.16E+04	7.33E+02	7.00E+03	9.15E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.916E+06	1.16E+04	7.33E+02	7.00E+03	9.14E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.919E+06	1.16E+04	7.33E+02	7.00E+03	9.14E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.922E+06	1.15E+04	7.33E+02	7.00E+03	9.13E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.925E+06	1.15E+04	7.33E+02	7.00E+03	9.13E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.928E+06	1.15E+04	7.33E+02	7.00E+03	9.13E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.930E+06	1.15E+04	7.33E+02	7.00E+03	9.12E+03	5.59E+03	7.33E+02	2.25E+03	**3.70E+04**
1.933E+06	1.15E+04	7.33E+02	7.00E+03	9.12E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.936E+06	1.15E+04	7.33E+02	7.00E+03	9.11E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.939E+06	1.15E+04	7.33E+02	7.00E+03	9.11E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.942E+06	1.15E+04	7.33E+02	7.00E+03	9.11E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.945E+06	1.15E+04	7.33E+02	7.00E+03	9.10E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.948E+06	1.15E+04	7.33E+02	7.00E+03	9.10E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.950E+06	1.15E+04	7.33E+02	7.00E+03	9.09E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.953E+06	1.15E+04	7.33E+02	7.00E+03	9.09E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
1.956E+06	1.15E+04	7.33E+02	7.00E+03	9.09E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.959E+06	1.15E+04	7.33E+02	7.00E+03	9.08E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.962E+06	1.15E+04	7.33E+02	7.00E+03	9.08E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.965E+06	1.15E+04	7.33E+02	7.00E+03	9.07E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.968E+06	1.15E+04	7.33E+02	7.00E+03	9.07E+03	5.59E+03	7.33E+02	2.25E+03	**3.69E+04**
1.970E+06	1.15E+04	7.33E+02	7.00E+03	9.07E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.973E+06	1.15E+04	7.33E+02	7.00E+03	9.06E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.976E+06	1.15E+04	7.33E+02	7.00E+03	9.06E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.979E+06	1.15E+04	7.33E+02	7.00E+03	9.05E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.982E+06	1.14E+04	7.33E+02	7.00E+03	9.05E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.985E+06	1.14E+04	7.33E+02	7.00E+03	9.05E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.987E+06	1.14E+04	7.33E+02	7.00E+03	9.04E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.990E+06	1.14E+04	7.33E+02	7.00E+03	9.04E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.993E+06	1.14E+04	7.33E+02	7.00E+03	9.03E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.996E+06	1.14E+04	7.33E+02	7.00E+03	9.03E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
1.999E+06	1.14E+04	7.33E+02	7.00E+03	9.03E+03	5.59E+03	7.33E+02	2.25E+03	**3.68E+04**
2.002E+06	1.14E+04	7.33E+02	7.00E+03	9.02E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.005E+06	1.14E+04	7.33E+02	7.00E+03	9.02E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.007E+06	1.14E+04	7.33E+02	7.00E+03	9.02E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.010E+06	1.14E+04	7.33E+02	7.00E+03	9.01E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.013E+06	1.14E+04	7.33E+02	7.00E+03	9.01E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.016E+06	1.14E+04	7.33E+02	7.00E+03	9.00E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.019E+06	1.14E+04	7.33E+02	7.00E+03	9.00E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.022E+06	1.14E+04	7.33E+02	7.00E+03	9.00E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.025E+06	1.14E+04	7.33E+02	7.00E+03	8.99E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.027E+06	1.14E+04	7.33E+02	7.00E+03	8.99E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.030E+06	1.14E+04	7.33E+02	7.00E+03	8.98E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.033E+06	1.14E+04	7.33E+02	7.00E+03	8.98E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.036E+06	1.14E+04	7.33E+02	7.00E+03	8.98E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.039E+06	1.14E+04	7.33E+02	7.00E+03	8.97E+03	5.59E+03	7.33E+02	2.25E+03	**3.67E+04**
2.042E+06	1.14E+04	7.33E+02	7.00E+03	8.97E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.044E+06	1.14E+04	7.33E+02	7.00E+03	8.97E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.047E+06	1.14E+04	7.33E+02	7.00E+03	8.96E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.050E+06	1.14E+04	7.33E+02	7.00E+03	8.96E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.053E+06	1.14E+04	7.33E+02	7.00E+03	8.95E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.056E+06	1.14E+04	7.33E+02	7.00E+03	8.95E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.059E+06	1.13E+04	7.33E+02	7.00E+03	8.95E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.062E+06	1.13E+04	7.33E+02	7.00E+03	8.94E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.064E+06	1.13E+04	7.33E+02	7.00E+03	8.94E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.067E+06	1.13E+04	7.33E+02	7.00E+03	8.93E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.070E+06	1.13E+04	7.33E+02	7.00E+03	8.93E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.073E+06	1.13E+04	7.33E+02	7.00E+03	8.93E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.076E+06	1.13E+04	7.33E+02	7.00E+03	8.92E+03	5.59E+03	7.33E+02	2.25E+03	**3.66E+04**
2.079E+06	1.13E+04	7.33E+02	7.00E+03	8.92E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.082E+06	1.13E+04	7.33E+02	7.00E+03	8.91E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.084E+06	1.13E+04	7.33E+02	7.00E+03	8.91E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.087E+06	1.13E+04	7.33E+02	7.00E+03	8.91E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.090E+06	1.13E+04	7.33E+02	7.00E+03	8.90E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.093E+06	1.13E+04	7.33E+02	7.00E+03	8.90E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.096E+06	1.13E+04	7.33E+02	7.00E+03	8.90E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.099E+06	1.13E+04	7.33E+02	7.00E+03	8.89E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.101E+06	1.13E+04	7.33E+02	7.00E+03	8.89E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.104E+06	1.13E+04	7.33E+02	7.00E+03	8.89E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.107E+06	1.13E+04	7.33E+02	7.00E+03	8.88E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.110E+06	1.13E+04	7.33E+02	7.00E+03	8.88E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.113E+06	1.13E+04	7.33E+02	7.00E+03	8.87E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.116E+06	1.13E+04	7.33E+02	7.00E+03	8.87E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.119E+06	1.13E+04	7.33E+02	7.00E+03	8.87E+03	5.59E+03	7.33E+02	2.25E+03	**3.65E+04**
2.121E+06	1.13E+04	7.33E+02	7.00E+03	8.86E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.124E+06	1.13E+04	7.33E+02	7.00E+03	8.86E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.127E+06	1.13E+04	7.33E+02	7.00E+03	8.86E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.130E+06	1.13E+04	7.33E+02	7.00E+03	8.85E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.133E+06	1.13E+04	7.33E+02	7.00E+03	8.85E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.136E+06	1.13E+04	7.33E+02	7.00E+03	8.85E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.139E+06	1.13E+04	7.33E+02	7.00E+03	8.84E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.141E+06	1.13E+04	7.33E+02	7.00E+03	8.84E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.144E+06	1.13E+04	7.33E+02	7.00E+03	8.84E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.147E+06	1.12E+04	7.33E+02	7.00E+03	8.83E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.150E+06	1.12E+04	7.33E+02	7.00E+03	8.83E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.153E+06	1.12E+04	7.33E+02	7.00E+03	8.82E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.156E+06	1.12E+04	7.33E+02	7.00E+03	8.82E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.159E+06	1.12E+04	7.33E+02	7.00E+03	8.82E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.161E+06	1.12E+04	7.33E+02	7.00E+03	8.81E+03	5.59E+03	7.33E+02	2.25E+03	**3.64E+04**
2.164E+06	1.12E+04	7.33E+02	7.00E+03	8.81E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.167E+06	1.12E+04	7.33E+02	7.00E+03	8.81E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.170E+06	1.12E+04	7.33E+02	7.00E+03	8.80E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.173E+06	1.12E+04	7.33E+02	7.00E+03	8.80E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.176E+06	1.12E+04	7.33E+02	7.00E+03	8.79E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.178E+06	1.12E+04	7.33E+02	7.00E+03	8.79E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.181E+06	1.12E+04	7.33E+02	7.00E+03	8.79E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.184E+06	1.12E+04	7.33E+02	7.00E+03	8.78E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.187E+06	1.12E+04	7.33E+02	7.00E+03	8.78E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.190E+06	1.12E+04	7.33E+02	7.00E+03	8.78E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.193E+06	1.12E+04	7.33E+02	7.00E+03	8.77E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.196E+06	1.12E+04	7.33E+02	7.00E+03	8.77E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.198E+06	1.12E+04	7.33E+02	7.00E+03	8.77E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.201E+06	1.12E+04	7.33E+02	7.00E+03	8.76E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.204E+06	1.12E+04	7.33E+02	7.00E+03	8.76E+03	5.59E+03	7.33E+02	2.25E+03	**3.63E+04**
2.207E+06	1.12E+04	7.33E+02	7.00E+03	8.76E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.210E+06	1.12E+04	7.33E+02	7.00E+03	8.75E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.213E+06	1.12E+04	7.33E+02	7.00E+03	8.75E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.216E+06	1.12E+04	7.33E+02	7.00E+03	8.75E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.218E+06	1.12E+04	7.33E+02	7.00E+03	8.74E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.221E+06	1.12E+04	7.33E+02	7.00E+03	8.74E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.224E+06	1.12E+04	7.33E+02	7.00E+03	8.74E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.227E+06	1.12E+04	7.33E+02	7.00E+03	8.73E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.230E+06	1.12E+04	7.33E+02	7.00E+03	8.73E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.233E+06	1.12E+04	7.33E+02	7.00E+03	8.72E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.235E+06	1.11E+04	7.33E+02	7.00E+03	8.72E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.238E+06	1.11E+04	7.33E+02	7.00E+03	8.72E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.241E+06	1.11E+04	7.33E+02	7.00E+03	8.71E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.244E+06	1.11E+04	7.33E+02	7.00E+03	8.71E+03	5.59E+03	7.33E+02	2.25E+03	**3.62E+04**
2.247E+06	1.11E+04	7.33E+02	7.00E+03	8.71E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.250E+06	1.11E+04	7.33E+02	7.00E+03	8.70E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.253E+06	1.11E+04	7.33E+02	7.00E+03	8.70E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.255E+06	1.11E+04	7.33E+02	7.00E+03	8.70E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.258E+06	1.11E+04	7.33E+02	7.00E+03	8.69E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.261E+06	1.11E+04	7.33E+02	7.00E+03	8.69E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.264E+06	1.11E+04	7.33E+02	7.00E+03	8.69E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.267E+06	1.11E+04	7.33E+02	7.00E+03	8.68E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.270E+06	1.11E+04	7.33E+02	7.00E+03	8.68E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.273E+06	1.11E+04	7.33E+02	7.00E+03	8.68E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.275E+06	1.11E+04	7.33E+02	7.00E+03	8.67E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.278E+06	1.11E+04	7.33E+02	7.00E+03	8.67E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.281E+06	1.11E+04	7.33E+02	7.00E+03	8.67E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.284E+06	1.11E+04	7.33E+02	7.00E+03	8.66E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.287E+06	1.11E+04	7.33E+02	7.00E+03	8.66E+03	5.59E+03	7.33E+02	2.25E+03	**3.61E+04**
2.290E+06	1.11E+04	7.33E+02	7.00E+03	8.66E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.292E+06	1.11E+04	7.33E+02	7.00E+03	8.65E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.295E+06	1.11E+04	7.33E+02	7.00E+03	8.65E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.298E+06	1.11E+04	7.33E+02	7.00E+03	8.65E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.301E+06	1.11E+04	7.33E+02	7.00E+03	8.64E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.304E+06	1.11E+04	7.33E+02	7.00E+03	8.64E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.307E+06	1.11E+04	7.33E+02	7.00E+03	8.64E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.310E+06	1.11E+04	7.33E+02	7.00E+03	8.63E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.312E+06	1.11E+04	7.33E+02	7.00E+03	8.63E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.315E+06	1.11E+04	7.33E+02	7.00E+03	8.63E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.318E+06	1.11E+04	7.33E+02	7.00E+03	8.62E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.321E+06	1.10E+04	7.33E+02	7.00E+03	8.62E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.324E+06	1.10E+04	7.33E+02	7.00E+03	8.62E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.327E+06	1.10E+04	7.33E+02	7.00E+03	8.61E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.330E+06	1.10E+04	7.33E+02	7.00E+03	8.61E+03	5.59E+03	7.33E+02	2.25E+03	**3.60E+04**
2.332E+06	1.10E+04	7.33E+02	7.00E+03	8.61E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.335E+06	1.10E+04	7.33E+02	7.00E+03	8.60E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.338E+06	1.10E+04	7.33E+02	7.00E+03	8.60E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.341E+06	1.10E+04	7.33E+02	7.00E+03	8.60E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.344E+06	1.10E+04	7.33E+02	7.00E+03	8.59E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.347E+06	1.10E+04	7.33E+02	7.00E+03	8.59E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.349E+06	1.10E+04	7.33E+02	7.00E+03	8.59E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.352E+06	1.10E+04	7.33E+02	7.00E+03	8.58E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.355E+06	1.10E+04	7.33E+02	7.00E+03	8.58E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.358E+06	1.10E+04	7.33E+02	7.00E+03	8.58E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.361E+06	1.10E+04	7.33E+02	7.00E+03	8.57E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.364E+06	1.10E+04	7.33E+02	7.00E+03	8.57E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.367E+06	1.10E+04	7.33E+02	7.00E+03	8.57E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.369E+06	1.10E+04	7.33E+02	7.00E+03	8.56E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.372E+06	1.10E+04	7.33E+02	7.00E+03	8.56E+03	5.59E+03	7.33E+02	2.25E+03	**3.59E+04**
2.375E+06	1.10E+04	7.33E+02	7.00E+03	8.56E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.378E+06	1.10E+04	7.33E+02	7.00E+03	8.55E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.381E+06	1.10E+04	7.33E+02	7.00E+03	8.55E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.384E+06	1.10E+04	7.33E+02	7.00E+03	8.55E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.387E+06	1.10E+04	7.33E+02	7.00E+03	8.54E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.389E+06	1.10E+04	7.33E+02	7.00E+03	8.54E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.392E+06	1.10E+04	7.33E+02	7.00E+03	8.54E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.395E+06	1.10E+04	7.33E+02	7.00E+03	8.54E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.398E+06	1.10E+04	7.33E+02	7.00E+03	8.53E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.401E+06	1.10E+04	7.33E+02	7.00E+03	8.53E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.404E+06	1.10E+04	7.33E+02	7.00E+03	8.52E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.407E+06	1.10E+04	7.33E+02	7.00E+03	8.52E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.409E+06	1.09E+04	7.33E+02	7.00E+03	8.52E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.412E+06	1.09E+04	7.33E+02	7.00E+03	8.52E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.415E+06	1.09E+04	7.33E+02	7.00E+03	8.51E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.418E+06	1.09E+04	7.33E+02	7.00E+03	8.51E+03	5.59E+03	7.33E+02	2.25E+03	**3.58E+04**
2.421E+06	1.09E+04	7.33E+02	7.00E+03	8.51E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.424E+06	1.09E+04	7.33E+02	7.00E+03	8.50E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.426E+06	1.09E+04	7.33E+02	7.00E+03	8.50E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.429E+06	1.09E+04	7.33E+02	7.00E+03	8.50E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.432E+06	1.09E+04	7.33E+02	7.00E+03	8.49E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.435E+06	1.09E+04	7.33E+02	7.00E+03	8.49E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.438E+06	1.09E+04	7.33E+02	7.00E+03	8.49E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.441E+06	1.09E+04	7.33E+02	7.00E+03	8.48E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.444E+06	1.09E+04	7.33E+02	7.00E+03	8.48E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.446E+06	1.09E+04	7.33E+02	7.00E+03	8.48E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.449E+06	1.09E+04	7.33E+02	7.00E+03	8.48E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.452E+06	1.09E+04	7.33E+02	7.00E+03	8.47E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.455E+06	1.09E+04	7.33E+02	7.00E+03	8.47E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.458E+06	1.09E+04	7.33E+02	7.00E+03	8.47E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.461E+06	1.09E+04	7.33E+02	7.00E+03	8.46E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.464E+06	1.09E+04	7.33E+02	7.00E+03	8.46E+03	5.59E+03	7.33E+02	2.25E+03	**3.57E+04**
2.466E+06	1.09E+04	7.33E+02	7.00E+03	8.46E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.469E+06	1.09E+04	7.33E+02	7.00E+03	8.45E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.472E+06	1.09E+04	7.33E+02	7.00E+03	8.45E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.475E+06	1.09E+04	7.33E+02	7.00E+03	8.45E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.478E+06	1.09E+04	7.33E+02	7.00E+03	8.44E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.481E+06	1.09E+04	7.33E+02	7.00E+03	8.44E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.483E+06	1.09E+04	7.33E+02	7.00E+03	8.44E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.486E+06	1.09E+04	7.33E+02	7.00E+03	8.44E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.489E+06	1.09E+04	7.33E+02	7.00E+03	8.43E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.492E+06	1.09E+04	7.33E+02	7.00E+03	8.43E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.495E+06	1.09E+04	7.33E+02	7.00E+03	8.43E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.498E+06	1.08E+04	7.33E+02	7.00E+03	8.42E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.501E+06	1.08E+04	7.33E+02	7.00E+03	8.42E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.503E+06	1.08E+04	7.33E+02	7.00E+03	8.42E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.506E+06	1.08E+04	7.33E+02	7.00E+03	8.41E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.509E+06	1.08E+04	7.33E+02	7.00E+03	8.41E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.512E+06	1.08E+04	7.33E+02	7.00E+03	8.41E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.515E+06	1.08E+04	7.33E+02	7.00E+03	8.40E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.518E+06	1.08E+04	7.33E+02	7.00E+03	8.40E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.521E+06	1.08E+04	7.33E+02	7.00E+03	8.40E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.523E+06	1.08E+04	7.33E+02	7.00E+03	8.40E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.526E+06	1.08E+04	7.33E+02	7.00E+03	8.39E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.529E+06	1.08E+04	7.33E+02	7.00E+03	8.39E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.532E+06	1.08E+04	7.33E+02	7.00E+03	8.39E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.535E+06	1.08E+04	7.33E+02	7.00E+03	8.38E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**
2.538E+06	1.08E+04	7.33E+02	7.00E+03	8.38E+03	5.59E+03	7.33E+02	2.25E+03	**3.56E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.540E+06	1.08E+04	7.33E+02	7.00E+03	8.38E+03	5.59E+03	7.33E+02	2.25E+03	**3.55E+04**
2.543E+06	1.08E+04	7.33E+02	7.00E+03	8.37E+03	5.59E+03	7.33E+02	2.25E+03	**3.55E+04**
2.546E+06	1.08E+04	7.33E+02	7.00E+03	8.37E+03	5.59E+03	7.33E+02	2.25E+03	**3.55E+04**
2.549E+06	1.08E+04	7.33E+02	7.00E+03	8.37E+03	5.59E+03	7.33E+02	2.25E+03	**3.55E+04**
2.552E+06	1.08E+04	7.33E+02	7.00E+03	8.37E+03	5.59E+03	7.33E+02	2.25E+03	**3.55E+04**
2.555E+06	1.08E+04	7.33E+02	7.00E+03	8.36E+03	5.59E+03	7.33E+02	2.25E+03	**3.55E+04**
2.558E+06	1.08E+04	7.33E+02	7.00E+03	8.36E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.560E+06	1.08E+04	7.33E+02	7.00E+03	8.36E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.563E+06	1.08E+04	7.33E+02	7.00E+03	8.35E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.566E+06	1.08E+04	7.33E+02	7.00E+03	8.35E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.569E+06	1.08E+04	7.33E+02	7.00E+03	8.35E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.572E+06	1.08E+04	7.33E+02	7.00E+03	8.34E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.575E+06	1.08E+04	7.33E+02	7.00E+03	8.34E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.578E+06	1.08E+04	7.33E+02	7.00E+03	8.34E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.580E+06	1.08E+04	7.33E+02	7.00E+03	8.34E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.583E+06	1.07E+04	7.33E+02	7.00E+03	8.33E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.586E+06	1.07E+04	7.33E+02	7.00E+03	8.33E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.589E+06	1.07E+04	7.33E+02	7.00E+03	8.33E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.592E+06	1.07E+04	7.33E+02	7.00E+03	8.32E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.595E+06	1.07E+04	7.33E+02	7.00E+03	8.32E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.597E+06	1.07E+04	7.33E+02	7.00E+03	8.32E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.600E+06	1.07E+04	7.33E+02	7.00E+03	8.32E+03	5.59E+03	7.33E+02	2.25E+03	**3.54E+04**
2.603E+06	1.07E+04	7.33E+02	7.00E+03	8.31E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.606E+06	1.07E+04	7.33E+02	7.00E+03	8.31E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.609E+06	1.07E+04	7.33E+02	7.00E+03	8.31E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.612E+06	1.07E+04	7.33E+02	7.00E+03	8.30E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.615E+06	1.07E+04	7.33E+02	7.00E+03	8.30E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.617E+06	1.07E+04	7.33E+02	7.00E+03	8.30E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.620E+06	1.07E+04	7.33E+02	7.00E+03	8.30E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.623E+06	1.07E+04	7.33E+02	7.00E+03	8.29E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.626E+06	1.07E+04	7.33E+02	7.00E+03	8.29E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.629E+06	1.07E+04	7.33E+02	7.00E+03	8.29E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.632E+06	1.07E+04	7.33E+02	7.00E+03	8.28E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.635E+06	1.07E+04	7.33E+02	7.00E+03	8.28E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.637E+06	1.07E+04	7.33E+02	7.00E+03	8.28E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.640E+06	1.07E+04	7.33E+02	7.00E+03	8.28E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.643E+06	1.07E+04	7.33E+02	7.00E+03	8.27E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.646E+06	1.07E+04	7.33E+02	7.00E+03	8.27E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.649E+06	1.07E+04	7.33E+02	7.00E+03	8.27E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.652E+06	1.07E+04	7.33E+02	7.00E+03	8.26E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**
2.655E+06	1.07E+04	7.33E+02	7.00E+03	8.26E+03	5.59E+03	7.33E+02	2.25E+03	**3.53E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.657E+06	1.07E+04	7.33E+02	7.00E+03	8.26E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.660E+06	1.07E+04	7.33E+02	7.00E+03	8.26E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.663E+06	1.07E+04	7.33E+02	7.00E+03	8.25E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.666E+06	1.07E+04	7.33E+02	7.00E+03	8.25E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.669E+06	1.07E+04	7.33E+02	7.00E+03	8.25E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.672E+06	1.07E+04	7.33E+02	7.00E+03	8.24E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.674E+06	1.07E+04	7.33E+02	7.00E+03	8.24E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.677E+06	1.07E+04	7.33E+02	7.00E+03	8.24E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.680E+06	1.07E+04	7.33E+02	7.00E+03	8.24E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.683E+06	1.07E+04	7.33E+02	7.00E+03	8.23E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.686E+06	1.07E+04	7.33E+02	7.00E+03	8.23E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.689E+06	1.07E+04	7.33E+02	7.00E+03	8.23E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.692E+06	1.07E+04	7.33E+02	7.00E+03	8.22E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.694E+06	1.07E+04	7.33E+02	7.00E+03	8.22E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.697E+06	1.07E+04	7.33E+02	7.00E+03	8.22E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.700E+06	1.06E+04	7.33E+02	7.00E+03	8.22E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.703E+06	1.06E+04	7.33E+02	7.00E+03	8.21E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.706E+06	1.06E+04	7.33E+02	7.00E+03	8.21E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.709E+06	1.06E+04	7.33E+02	7.00E+03	8.21E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.712E+06	1.06E+04	7.33E+02	7.00E+03	8.21E+03	5.59E+03	7.33E+02	2.25E+03	**3.52E+04**
2.714E+06	1.06E+04	7.33E+02	7.00E+03	8.20E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.717E+06	1.06E+04	7.33E+02	7.00E+03	8.20E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.720E+06	1.06E+04	7.33E+02	7.00E+03	8.20E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.723E+06	1.06E+04	7.33E+02	7.00E+03	8.19E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.726E+06	1.06E+04	7.33E+02	7.00E+03	8.19E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.729E+06	1.06E+04	7.33E+02	7.00E+03	8.19E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.731E+06	1.06E+04	7.33E+02	7.00E+03	8.19E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.734E+06	1.06E+04	7.33E+02	7.00E+03	8.18E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.737E+06	1.06E+04	7.33E+02	7.00E+03	8.18E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.740E+06	1.06E+04	7.33E+02	7.00E+03	8.18E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.743E+06	1.06E+04	7.33E+02	7.00E+03	8.18E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.746E+06	1.06E+04	7.33E+02	7.00E+03	8.17E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.749E+06	1.06E+04	7.33E+02	7.00E+03	8.17E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.751E+06	1.06E+04	7.33E+02	7.00E+03	8.17E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.754E+06	1.06E+04	7.33E+02	7.00E+03	8.16E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.757E+06	1.06E+04	7.33E+02	7.00E+03	8.16E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.760E+06	1.06E+04	7.33E+02	7.00E+03	8.16E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.763E+06	1.06E+04	7.33E+02	7.00E+03	8.16E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.766E+06	1.06E+04	7.33E+02	7.00E+03	8.15E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.769E+06	1.06E+04	7.33E+02	7.00E+03	8.15E+03	5.59E+03	7.33E+02	2.25E+03	**3.51E+04**
2.771E+06	1.06E+04	7.33E+02	7.00E+03	8.15E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**

Table D6-6: Summary Table for UHS Heat Load

	LOCA Unit			Non-LOCA Unit				Combined
Time (s)	RHR HxR (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	RHR HxR (BTU/s)	Fuel Pool Cooling (via RHR HxR) (BTU/s)	Pump Heat Load (BTU/s)	Cooler Heat Load (BTU/s)	TOTAL (BTU/s)
2.774E+06	1.06E+04	7.33E+02	7.00E+03	8.15E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.777E+06	1.06E+04	7.33E+02	7.00E+03	8.14E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.780E+06	1.06E+04	7.33E+02	7.00E+03	8.14E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.783E+06	1.06E+04	7.33E+02	7.00E+03	8.14E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.786E+06	1.06E+04	7.33E+02	7.00E+03	8.13E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.788E+06	1.06E+04	7.33E+02	7.00E+03	8.13E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.791E+06	1.06E+04	7.33E+02	7.00E+03	8.13E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.794E+06	1.06E+04	7.33E+02	7.00E+03	8.13E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.797E+06	1.06E+04	7.33E+02	7.00E+03	8.12E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.800E+06	1.06E+04	7.33E+02	7.00E+03	8.12E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.803E+06	1.06E+04	7.33E+02	7.00E+03	8.12E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.806E+06	1.06E+04	7.33E+02	7.00E+03	8.12E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.808E+06	1.06E+04	7.33E+02	7.00E+03	8.11E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.811E+06	1.06E+04	7.33E+02	7.00E+03	8.11E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.814E+06	1.06E+04	7.33E+02	7.00E+03	8.11E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.817E+06	1.06E+04	7.33E+02	7.00E+03	8.11E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.820E+06	1.06E+04	7.33E+02	7.00E+03	8.10E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.823E+06	1.05E+04	7.33E+02	7.00E+03	8.10E+03	5.59E+03	7.33E+02	2.25E+03	**3.50E+04**
2.826E+06	1.05E+04	7.33E+02	7.00E+03	8.10E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.828E+06	1.05E+04	7.33E+02	7.00E+03	8.10E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.831E+06	1.05E+04	7.33E+02	7.00E+03	8.09E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.834E+06	1.05E+04	7.33E+02	7.00E+03	8.09E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.837E+06	1.05E+04	7.33E+02	7.00E+03	8.09E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.840E+06	1.05E+04	7.33E+02	7.00E+03	8.08E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.843E+06	1.05E+04	7.33E+02	7.00E+03	8.08E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.845E+06	1.05E+04	7.33E+02	7.00E+03	8.08E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**
2.848E+06	1.05E+04	7.33E+02	7.00E+03	8.08E+03	5.59E+03	7.33E+02	2.25E+03	**3.49E+04**

Figure D6-2 presents a plot showing the individual contributions of the LOCA unit, the non-LOCA unit, and the fuel pool cooling to the total heat load. Figure D6-3 shows the total heat load to the UHS. These plots only show the first 500,000 seconds so that there is fidelity in the plot for the peak values (which occur at the beginning of the event).

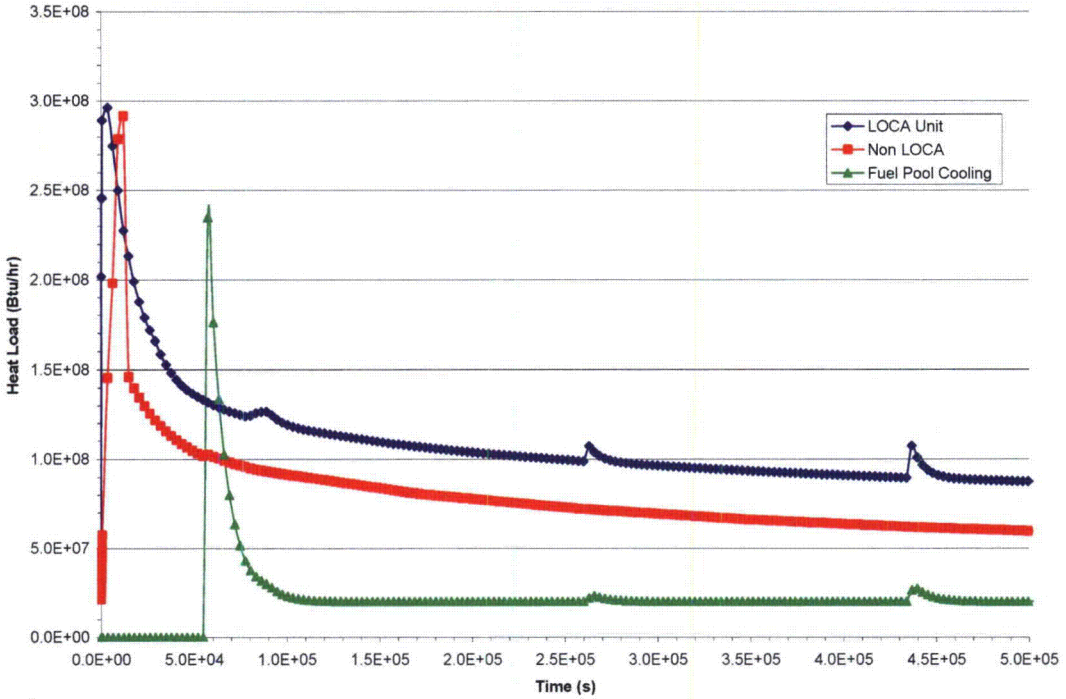

Fig. D6-2: Individual Heat Loads to UHS

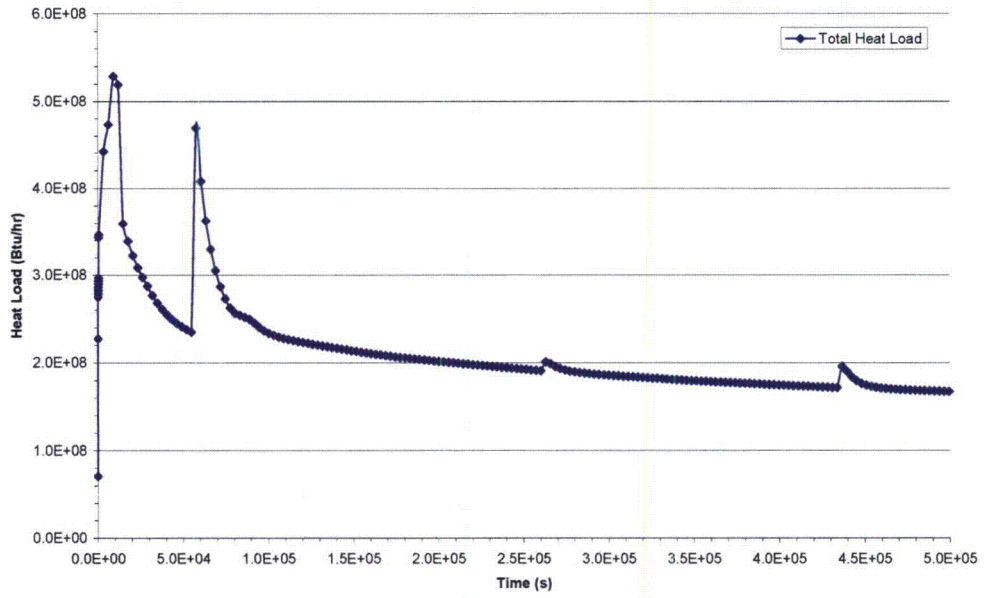

Fig. D6-3: Total Heat Loads to UHS

D7.0 SUMMARY AND CONCLUSIONS

The heat load rejected to the UHS is calculated in this attachment for a scenario in which the cooling lake is lost with a coincident LOCA and LOOP at one unit and normal shutdown plus fuel pool cooling via the RHR system at the other unit. Heat rejection to the UHS is maximized by taking credit for maximum RHR heat exchanger performance and operation of all available RHR divisions.

The results of this calculation are documented in Table D6-6, which presents the total heat load to the UHS as a function of time.

Attachment E removed due to proprietary content

	A	B	C	D	E	H	I	J
1	**Heat Into Suppression Pool:**							
2	**Pumps**	**Motor Rating (hp)**	**BTU/s**					
3	RHR Pumps	800	=B3*2545/3600				**LOCA UNIT**	
4	HPCS Pumps	3050	=B4*2545/3600	Time	Time	From SP	Pumps	Coolers
5	LPCS	1517	=B5*2545/3600	hr	s	BTU/S	BTU/S	BTU/S
6	**Pump Total**		**=3*C3+C4+C5**	1	0	=(G6-F6)*605*2	=$C$16	=$C$27
7				1	60	=(G7-F7)*605*2	=$C$16	=$C$27
8				1	120	=(G8-F8)*605*2	=$C$16	=$C$27
9	**Additional Heat to UHS**			1	180	=(G9-F9)*605*2	=$C$16	=$C$27
10	**Pumps**	**Motor Rating (hp)**	**BTU/s**	1	240	=(G10-F10)*605*2	=$C$16	=$C$27
11	RHR SW Pumps (4x)	200	=B11*2545/3600	1	300	=(G11-F11)*605*2	=$C$16	=$C$27
12	DG CW Pump (Single Unit)	75	=B12*2545/3600	1	360	=(G12-F12)*605*2	=$C$16	=$C$27
13	DG CW Pump (Common Unit)	125	=B13*2545/3600	1	420	=(G13-F13)*605*2	=$C$16	=$C$27
14	HPCS DG CW Pump	100	=B14*2545/3600	1	480	=(G14-F14)*605*2	=$C$16	=$C$27
15	*Fuel Pool Emegency Makeup Pumps not in service			1	540	=(G15-F15)*605*2	=$C$16	=$C$27
16	**Pump Total**		**=C11*4+C12+C13/2+C14**	1	600	72600	=$C$16	=$C$27
17				1	3451	74550	=$C$16	=$C$27
18				=FLOOR(E18/3600,1)	6301	68640	=$C$16	=$C$27
19	**Service Water Heat Exchangers**	Design Heat Transfer (BTU/hr)	BTU/s	=FLOOR(E19/3600,1)	9152	61730	=$C$16	=$C$27
20	HPCS DG Cooler	8500500	=B20/3600	=FLOOR(E20/3600,1)	12000	55460	=$C$16	=$C$27
21	DG Cooler 0A*	=8600000/2	=B21/3600	=FLOOR(E21/3600,1)	14850	51530	=$C$16	=$C$27
22	DG Cooler 1A	8600000	=B22/3600	=FLOOR(E22/3600,1)	17700	47600	=$C$16	=$C$27
23	NW Cubicle Area Cooler	750000	=B23/3600	=FLOOR(E23/3600,1)	20550	44410	=$C$16	=$C$27
24	SW Cubicle Area Cooler	750000	=B24/3600	=FLOOR(E24/3600,1)	23400	41910	=$C$16	=$C$27
25	SE Cubicle Area Cooler	1108000	=B25/3600	=FLOOR(E25/3600,1)	26260	39970	=$C$16	=$C$27
26	NE Cubicle Area Cooler	1194000	=B26/3600	=FLOOR(E26/3600,1)	29110	38310	=$C$16	=$C$27
27	**Cooler Total**	**=SUM(B20:B26)**	**=SUM(C20:C26)**	=FLOOR(E27/3600,1)	31960	36290	=$C$16	=$C$27

Excel Equations for Non-LOCA Unit

	K
4	**From SP**
5	BTU/S
6	=IF(E6<7200,((-0.000000000000470681*E6^4+0.000000000949019*E6^3-0.00000707826*E6^2+0.0315846*E6+105)-F6)*605+$C$3,VLOOKUP(E6,'Non LOCA Unit'!$A$35:$E$1034,5,FALSE))

	M	N	O
4	Pumps	Coolers	**TOTAL BOTH UNITS**
5	BTU/S	BTU/S	**BTU/S**
6	=IF(E6<57600,$C$11*2+$C$13/2+$C$14,$C$11*4+$C$12+$C$13/2+$C$14)	=IF(E6<57600,$C$23+$C$24+$C$26+$C$21,SUM($C$23:$C$26)+$C$21)	**=SUM(H6:N6)**

Tabulation of Non-LOCA unit heat load during shutdown cooling

	A	B	C
33	seconds	Sensible Heat	ECCS Pumps
34	s	btu/s	btu/s
35	9152	31907.9956364018	=SUM('Heat Calc'!$C$3,'Heat Calc'!$C$4:$C$5)
36	10800	31907.9956364018	=SUM('Heat Calc'!$C$3,'Heat Calc'!$C$4:$C$5)
37	12000	38332.295326285	=SUM('Heat Calc'!$C$3,'Heat Calc'!$C$4:$C$5)
38	12600	38332.295326285	=SUM('Heat Calc'!$C$3,'Heat Calc'!$C$4:$C$5)
39	14850	0	=SUM('Heat Calc'!$C$3,'Heat Calc'!$C$4:$C$5)

	D
33	**Core Decay**
34	Btu/s
35	=FORECAST(A35,OFFSET('Decay Heat'!$R$4:$R$97,MATCH('Non LOCA Unit'!A35,'Decay Heat'!$P$4:$P$97,1)-1,0,2),OFFSET('Decay Heat'!$P$4:$P$97, MATCH('Non LOCA Unit'!A35,'Decay Heat'!$P$4:$P$97,1)-1,0,2))

	E
33	TOTAL
34	btu/s
35	=SUM(B35:D35)