

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SUMMARY OF 2006 STUDY RESULTS	1
3.0 BASES FOR REVISED COST	5
3.1 Changes in Key Assumptions.....	5
3.2 Escalation to 2008 Dollars	6
3.3 Revision of Spent Fuel Management Cost	6
3.4 Interim Storage of Class B and C LLRW.....	7
3.5 Revised Scenario 2 Study Results	8
4.0 REFERENCES	11

TABLES

Table 2-1	Scenario 2 Cost Summary by Account	2
Table 2-2	Scenario 2 Cost and Schedule Summary	4
Table 3-1	Updated Cost Summary by Account.....	10
Table 3-2	Updated Cost and Schedule Summary.....	10

FIGURES

Figure 2-1	Scenario 2 Summary Schedule	3
Figure 3-1	Updated Summary Schedule.....	9

APPENDICES

Appendix A	Updated Spent Fuel Shipping Schedule
Appendix B	Updated Project Schedule
Appendix C	Updated Detailed Cost Table
Appendix D	Updated Annual Cash Flow Table

1.0 INTRODUCTION

This addendum presents an update to the 2006 Decommissioning Cost Estimate Study of the Kewaunee Nuclear Power Plant (Ref. No. 1), hereinafter referred to as the 2006 Cost Study. The Kewaunee Nuclear Power Plant (Kewaunee) is owned by Dominion Energy Kewaunee, Inc. (DEK).

Specifically, the addendum provides an economic and technical update to Scenario 2 of the 2006 Cost Study which was based on the existing license expiration date of December 21, 2013, a 2017 Yucca Mountain opening date, and prompt dismantlement. This addendum was prepared to assist DEK in fulfilling the requirement for submission of a preliminary decommissioning plan and decommissioning cost estimate in accordance with Title 10 Code of Federal Regulations (CFR) Part 50.75(f)(2). This update of the 2006 Cost Study incorporates an up-to-date assessment of the major factors that could affect decommissioning Kewaunee at the end of the current license. EnergySolutions has incorporated the following revisions to Scenario 2 of the 2006 Cost Study.

1. Escalating costs from 2005 to 2008 dollars using aggregate annual escalation rates furnished by DEK.
2. Increasing spent fuel management costs to account for the delay in the Yucca Mountain opening date from 2017 to 2020 using a revised spent fuel shipping schedule furnished by DEK.
3. Incorporating the cost of establishing interim storage of Class B and C Low-Level Radioactive Waste (LLRW) due to the closure of the Barnwell LLRW Disposal Facility to out-of-compact generators in July 2008.
4. Incorporating the transportation and disposal cost of Class B and C operational waste projected by DEK to be accumulated during the period between November 2008 and December 21, 2013.
5. Incorporating the cost of placing Class B and C waste generated during decommissioning into environmentally secure reinforced concrete storage modules, and the subsequent removal of these wastes for transportation and disposal following the assumed 2025 opening of a hypothetical Class B and C waste disposal facility.
6. Incorporating the cost of demolition and disposal of the Class B and C reinforced concrete storage modules. The storage modules are assumed to be radiologically surveyed for release, but not to require surface decontamination.
7. Incorporating the Independent Spent Fuel Storage Installation (ISFSI) Phase 1 as-built and Phase 2 addition design information that was not available at the time of the 2006 Cost Study into the estimated cost of demolishing the ISFSI.

2.0 SUMMARY OF 2006 COST STUDY RESULTS

The 2006 Cost Study presented the results of a site-specific Decommissioning Cost Estimate Study for the Dominion Virginia Power (Dominion) Kewaunee Power Station. The study was performed to furnish an estimate, for financial planning purposes, of the costs for (1) decommissioning Kewaunee to the extent required to terminate the plant's operating license per 10 CFR 50.75(c), (2) post-shutdown management of spent fuel until acceptance by the U.S.

Department of Energy (DOE) per 10 CFR 50.54(bb), and (3) clean demolition of structures and restoration of the site to Greenfield conditions.

Accordingly, EnergySolutions established a Work Breakdown Structure (WBS) and cost accounting system to differentiate between three project accounts: "License Termination" (10 CFR 50.75(c)), "Spent Fuel" (10 CFR 10.54(bb)), or "Greenfield". The 2006 Cost Study costs and schedules for all activities were presented using these accounts. All costs were current as of September 2005.

The 2006 Cost Study analyzed six scenarios as defined by Dominion. The current study is an update to the 2006 Cost Study Scenario 2. The cost summary for Scenario 2, summarized by account, is given in Table 2-1.

**Table 2-1
Scenario 2 Cost Summary by Account
(2005 Dollars in Thousands)**

License Termination – 50.75(c)	Spent Fuel Management – 50.54 (bb)	Greenfield	Total
\$334,313	\$273,386	\$19,170	\$626,869

Scenario 2 was comprised of the following:

- DECON methodology.
- No license extension with shutdown on December 21, 2013.
- Terminate spent fuel pool operation seven years after permanent unit shutdown.
- Spent fuel will be stored in Multi-Purpose Canisters (MPCs) at an onsite Independent Spent Fuel Storage Installation (ISFSI) to be built in the future.
- A dry transfer facility will not be necessary.
- Yucca Mountain spent fuel repository opens in 2017.

This scenario incorporated the spent fuel schedule, developed by Dominion, modified to include the disposition of one Multi-Purpose Canister (MPC) containing Greater Than Class C (GTCC) waste. Spent fuel shipments to the DOE repository from the spent fuel pool begin in 2019 and are completed in 2047. The 10 CFR Part 50 license is terminated by 2021 with the 10 CFR Part 72 ISFSI license being terminated by 2048. The cost of a 10 CFR Part 72 ISFSI site-specific license and renewal was included. Figure 2-1 shows the summary project schedule, which was based on the spent fuel shipping constraints.

Figure 2-1
Scenario 2 Summary Schedule

Figure 6-2
Scenario 2 Summary Schedule
Kewaunee Power Station
DECON with Dry Storage, Fuel Pool Island, 2013 Shutdown and Repository Open in 2017

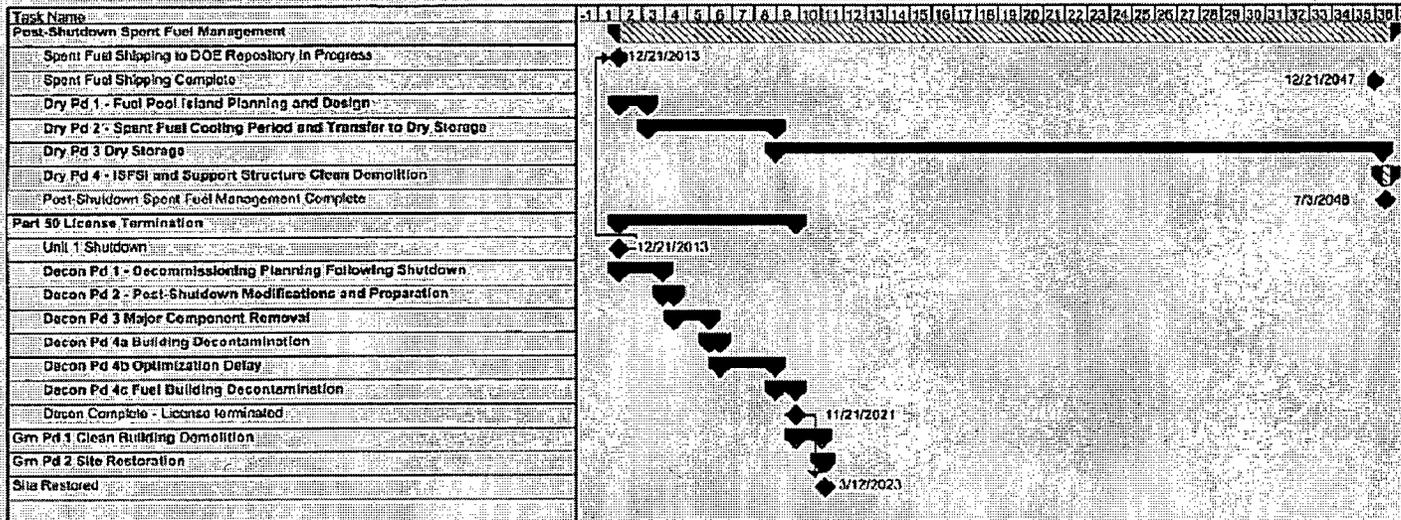


Table 2-2 summarizes the period durations and total costs, including contingency, for License Termination, Spent Fuel and Greenfield activities.

**Table 2-2
Scenario 2 Cost and Schedule Summary
(2005 Dollars in Thousands)**

Period No.	Period Description	Start	End	Years	Total Cost
A. License Termination (50.75(c))					
Decon Pd 1	Decommissioning Planning	12/21/2013	12/11/2015	1.97	\$93,122
Decon Pd 2	Post-Shutdown Modifications and Preparations	12/11/2015	6/17/2016	0.51	\$46,156
Decon Pd 3	Major Component Removal	6/17/2016	1/6/2018	1.55	\$112,187
Decon Pd 4a	Building Decontamination	1/6/2018	6/30/2018	0.47	\$35,111
Decon Pd 4b	Optimization Delay for Removal of Fuel from Pool	6/30/2018	12/21/2020	2.47	\$17,806
Decon Pd 4c	Balance of Decontamination and Final Status Survey	12/21/2020	11/21/2021	0.91	\$29,931
Account Total				7.88	\$334,313
B. Spent Fuel (50.54(bb))					
Dry Pd 1	Fuel Pool Island Planning and Design	12/21/2013	4/3/2015	1.28	\$20,383
Dry Pd 2	Spent Fuel Cooling and Transfer to Dry Storage	4/3/2015	12/21/2020	5.71	\$103,324
Dry Pd 3	Dry Storage	12/21/2020	5/8/2048	27.37	\$145,158
Dry Pd 4	ISFSI Demolition and Final Site Restoration	5/8/2048	9/11/2048	0.34	\$4,521
Account Total				34.70	\$273,386
C. Greenfield					
Grn Pd 1	Clean Building Demolition	11/21/2021	1/15/2023	1.14	\$14,047
Grn Pd 2	Site Restoration	1/15/2023	3/12/2023	0.15	\$5,123
Account Total				1.29	\$19,170
Scenario Total					\$626,869

The estimated cubic feet of waste for Scenario 2 was summarized as follows:

Class A	105,610
Class B	1,688
Class C	1,299
Greater than Class C	168

3.0 BASES FOR REVISED COST

3.1 Changes in Key Assumptions

The key assumptions used in the 2006 Cost Study can be categorized as either financial or technical. Financial assumptions consist of the unit cost of labor, labor overhead (consisting of fringe benefits and overhead), material, equipment, energy, contractor services, insurance, regulatory fees and property taxes required to perform decommissioning and spent fuel management activities. Additionally, the financial assumptions include the escalation rates applied to the various cost components to calculate a net present value of the future decommissioning and spent fuel management liabilities.

Technical assumptions pertain to the means and methods applied to accomplish decommissioning while satisfying environmental, safety, health and all other regulatory requirements. Technical assumptions are also affected by external constraints such as the availability of both a spent fuel repository, or other means of spent fuel disposition, and Low Level Radioactive Waste (LLRW) disposal facilities. The timeframes for availability of these facilities have a direct impact on the overall project schedule for decommissioning and spent fuel management.

Two significant changes in key technical assumptions have occurred since completion of the 2006 Cost Study. These are:

- Effective July 2008, the Barnwell facility in South Carolina no longer accepts LLRW from generators outside the Atlantic Compact, which is comprised of the states of South Carolina, Connecticut and New Jersey. With the closure of the Barnwell disposal facility, Kewaunee will no longer have access to a disposal facility for Class B and C wastes.
- In July 2008, Edward Sproat, III, Director of the Office of Civilian Radioactive Waste Management, testified to the U.S. House of Representatives that 2020 will be the earliest possible opening date for the Department of Energy's Yucca Mountain repository (Ref. No. 2).

The lack of a national capacity for Class B and C LLRW disposal will require generators to store these wastes on-site until a new facility is licensed and constructed to accept these wastes or until other commercial options for disposal become available. In keeping with guidance from DEK, *EnergySolutions* has incorporated the assumption that a Class B and C waste disposal facility will become available in 2025, and that the Phase 2 addition to the existing ISFSI may be licensed and used for interim storage of Class B and C waste.

As discussed in Section 2.1, the 2006 Cost Study assumed a Yucca Mountain opening date of 2017. Consistent with the recent Congressional testimony of Mr. Sproat regarding the Yucca Mountain opening date, *EnergySolutions* has incorporated a Yucca Mountain opening date of 2020 into the current update.

The current updated estimate now encompasses the following:

- DECON methodology.
- No license extension; shutdown on December 21, 2013.
- Termination of spent fuel pool operation seven years after permanent unit shutdown.
- Yucca Mountain opening date will be in 2020.
- The ISFSI Phase 2 construction cost. Phase 2 will be required to allow transfer of all spent fuel to the ISFSI. Spent fuel will be stored in Multi-Purpose Canisters (MPCs) at the existing onsite ISFSI as well at its addition.
- A dry transfer facility will not be necessary.
- The ISFSI Phase 2 addition may be licensed and used for interim storage of Class B and C waste.
- A Class B and C waste disposal facility will become available in 2025.
- Updated costs are escalated to 2008 dollars and new cost elements added are based on 2008 cost data.
- Class B and C waste currently in inventory, along with an estimate of annual quantities generated during operations through shut-down, will be stored on-site until decommissioning.

3.2 Escalation to 2008 Dollars

All 2006 Study costs were escalated from 2005 to 2008 dollars using the following annual aggregate escalation rates furnished by DEK:

2005 to 2006	3.863%
2006 to 2007	3.80%
2007 to 2008	3.814%

3.3 Revision of Spent Fuel Management Costs

DEK provided *EnergySolutions* with an updated spent fuel shipping schedule incorporating the revised Yucca Mountain opening date of 2020. The spent fuel shipping schedule furnished by DEK is based in part on the DOE's "Acceptance Priority Ranking & Annual Capacity Report," dated July 2004 (Ref. No. 3). The updated spent fuel shipping schedule is provided in Appendix A.

The delay in the opening date of Yucca Mountain from 2017 to 2020 had three effects on the cost estimate. First, the number of dry storage modules to be purchased during decommissioning increased from 31 to 33. Second, the ISFSI demolition costs increased due to the increase in the number of dry storage modules. Third, the ISFSI operating costs increased because the duration of ISFSI operations was extended from 2047 to 2049.

Additionally, the spent fuel management costs were increased to account for (1) the ISFSI as-built and Phase 2 design information that was not available during the 2006 Cost Study, which contributed to the increased ISFSI demolition costs, and (2) the inclusion of the Phase 2 construction cost. The 2006 Cost Study assumed that the ISFSI would be sufficient to transfer all spent fuel into dry storage following shutdown.

3.4 Interim Storage of Class B and C LLRW

The current lack of available Class B and C LLRW disposal capacity had the following effects on the cost estimate:

1. The ISFSI may have to be licensed for storage of these wastes.
2. Environmentally secure reinforced concrete storage modules must be purchased and may be installed on the ISFSI Phase 2 pad for receipt of Class B and C LLRW generated during decommissioning.
3. Class B and C LLRW generated during decommissioning, from chemical decontamination, filtration and segmentation of the reactor internals, will be placed in interim storage. Therefore, transportation and waste disposal costs for these activities will be deferred until 2025. At that time additional labor, material and equipment costs will be incurred to remove the wastes from the interim storage modules and place them in a shipping cask for transportation.
4. DEK will accumulate legacy Class B and C spent ion exchange resins and filters generated during operations that will require disposal during decommissioning.
5. The reinforced concrete storage modules will require radiological survey and disposal following completion of off-site disposal of the Class B and C wastes. Because the storage modules may be collocated at the ISFSI, the demolition of these modules is assumed to be deferred until the ISFSI demolition.
6. A new decommissioning period (Decon Pd 4d) was added to the project schedule and Work Breakdown Structure (WBS). This period consists of the removal of Class C and B waste in interim storage and transfer to a shipping cask for transportation and disposal. The period also includes performance of a verification survey to terminate the interim waste storage facility license. The period extends from June 1, 2025 to June 26, 2026.

DEK provided *EnergySolutions* with construction details and pricing for Dufrane Nuclear Shielding, Inc. Secure Environmental Container (SEC) model 8-120-H storage modules. Each module is designed to store an 8-120 cask liner or High Integrity Container (HIC). The Class B and C decommissioning waste will require 35 SEC model 8-120-H storage modules. An additional 14 SEC model 8-120-H storage modules will be required for the spent ion exchange resin and filter waste generated during operations; however, the cost of purchasing these modules will be incurred prior to shutdown and therefore are not included in the decommissioning estimate.

The cost developed in the 2006 Cost Study for disposal of the Class B and C wastes generated during decommissioning was based on the Barnwell published base rate and surcharge structure, and assumed to be representative of waste disposal rates at a future Class B and C waste disposal facility. This assumption in the 2006 Cost Study is still considered to be valid, therefore, escalation of the Class B and C waste disposal costs using DEK's aggregate annual escalation rates is reasonable. As stated in Section 3.1 above, new cost elements incorporated into this update are based on 2008 costs. Therefore, the waste disposal costs in 2008 dollars for the added cost element consisting of the operational waste disposal was developed using the Barnwell Atlantic Compact Rate Structure effective July 2007, which is the most current pricing available. The interim waste storage facility may be collocated with the spent fuel dry storage modules and

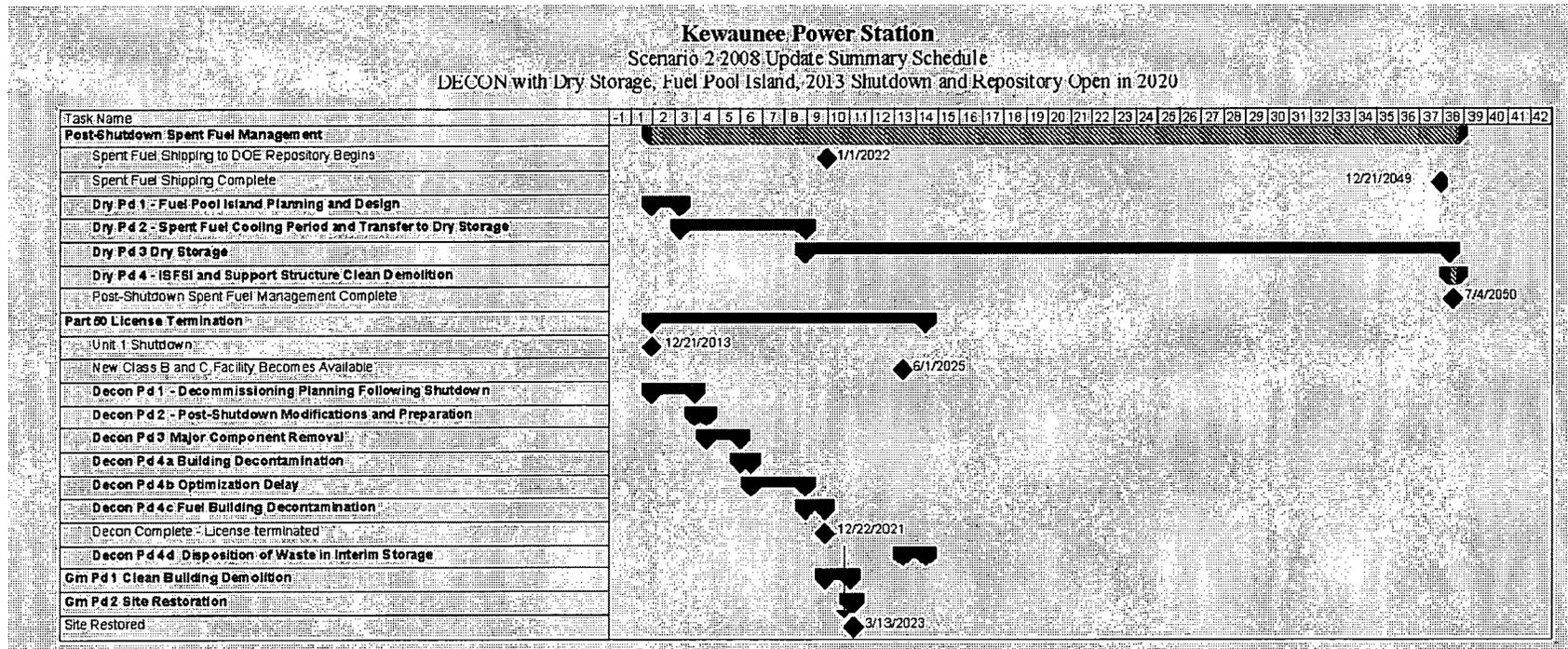
will require minimal maintenance and surveillance during the storage period; therefore, no additional undistributed costs were assumed to be required during Decon Pd 4d.

This study conservatively assumes that, following a radiological release survey, the reinforced concrete interim waste storage modules will be rubbleized and the resulting concrete and steel debris will be disposed of at a demolition debris landfill during the ISFSI demolition. However, it is likely that these storage modules could be transferred to another DEK power plant for reuse or sold to another nuclear utility.

3.5 Revised Scenario 2 Study Results

Figure 3-1 is a summary project schedule. A detailed schedule is provided in Appendix B. The schedule is based on the spent fuel shipping constraints. The 10 CFR Part 50 license is terminated by 2021, with the 10 CFR Part 72 ISFSI license being terminated by 2050.

Figure 3-1
Updated Summary Schedule



An updated cost summary by account is given in Table 3-1:

**Table 3-1
Updated Cost Summary by Account
(2008 Dollars in Thousands)**

License Termination – 50.75(c)	Spent Fuel Management – 50.54 (bb)	Greenfield	Total
\$380,623	\$322,400	\$21,454	\$724,477

Table 3-2 summarizes the updated period durations and total costs, including contingency, for License Termination, Spent Fuel and Greenfield activities. The updated Detailed Cost Table is provided in Appendix C, and the updated Annual Cash Flow Table is provided in Appendix D.

**Table 3-2
Updated Cost and Schedule Summary
(2008 Dollars in Thousands)**

Period No.	Period Description	Start	End	Years	Total Cost
A. License Termination (50.75(c))					
Decon Pd 1	Decommissioning Planning	12/21/13	12/11/15	1.97	\$104,611
Decon Pd 2	Post-Shutdown Modifications and Preparations	12/11/15	06/17/16	0.51	\$51,439
Decon Pd 3	Major Component Removal	06/17/16	01/06/18	1.55	\$110,264
Decon Pd 4a	Building Decontamination	01/06/18	06/30/18	0.47	\$39,299
Decon Pd 4b	Optimization Delay for Removal of Fuel from Pool	06/30/18	12/21/20	2.47	\$19,929
Decon Pd 4c	Balance of Decontamination and Final Status Survey	12/21/20	11/21/21	0.91	\$33,498
Decon Pd 4d	Disposition of Waste in Interim Storage	06/01/25	06/26/26	1.06	\$21,583
Account Total				8.94	\$380,623
B. Spent Fuel (50.54(bb))					
Dry Pd 1	Fuel Pool Island Planning and Design	12/21/13	04/03/15	1.28	\$22,815
Dry Pd 2	Spent Fuel Cooling and Transfer to Dry Storage	04/03/15	12/21/20	5.71	\$119,398
Dry Pd 3	Dry Storage	12/21/20	05/09/50	29.38	\$174,012
Dry Pd 4	ISFSI Demolition and Final Site Restoration	05/09/50	09/12/50	0.34	\$6,175
Account Total				36.71	\$322,400
C. Greenfield					
Grn Pd 1	Clean Building Demolition	11/21/21	01/15/23	1.14	\$15,720
Grn Pd 2	Site Restoration	01/15/23	03/12/23	0.15	\$5,734
Account Total				1.29	\$21,454
Scenario Total					\$724,477

LLRW disposal volumes for Class B and C wastes increased due to the inclusion of the operational waste that will be placed into interim storage. The updated estimated cubic feet of waste is summarized as follows:

Class A	105,610
Class B	2,049
Class C	2,622
Greater than Class C	168

4.0 REFERENCES

1. EnergySolutions, Inc., "Decommissioning Cost Estimate Study of the Kewaunee Nuclear Power Plant," Document No. 82A9584, Rev. 0, June 16, 2006.
2. Congressional Testimony, Edward F. Sproat, III, Director Office of Civilian Radioactive Waste Management, U.S. Department of Energy Before the Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, U.S. House of Representatives, July 15, 2008.
3. U.S. Department of Energy, "Acceptance Priority Ranking & Annual Capacity Report," DOE/RW-0567, July 2004.

Appendix A

Updated Spent Fuel Shipping Schedule



Kewaunee Power Station
Scenario 2 - Spent Fuel Shipping Schedule, Existing License and Repository Open in 2020

Year	On-Site Transfers			On-Site Inventory			Off-Site Transfers		
	Fuel Assemblies Discharged	No Dry Modules	Assemblies Transferred from Pool to Dry Storage	Assemblies in Fuel Pool Storage	Assemblies in Dry Storage	Total Assemblies in On-Site Storage	Total Assemblies to DOE	Assemblies Shipped to DOE From Pool	Assemblies Shipped to DOE from Dry Storage
2008	44	0	0	1081	0	1081	0	0	0
2009	44	2	64	1061	64	1125	0	0	0
2010	0	2	64	997	128	1125	0	0	0
2011	44	0	0	1041	128	1169	0	0	0
2012	44	2	64	1021	192	1213	0	0	0
2013	121	4	128	1014	320	1334	0	0	0
2014	0	23	736	278	1056	1334	0	0	0
2015	0	1	32	246	1088	1334	0	0	0
2016	0	3	64	182	1152	1334	0	0	0
2017	0	0	0	182	1152	1334	0	0	0
2018	0	1	32	150	1184	1334	0	0	0
2019	0	1	32	118	1216	1334	0	0	0
2020	0	4	118	0	1334	1334	0	0	0
2021	0	0	0	0	1334	1334	0	0	0
2022	0	0	0	0	1302	1302	32	0	32
2023	0	0	0	0	1238	1238	64	0	64
2024	0	0	0	0	1174	1174	64	0	64
2025	0	0	0	0	1110	1110	64	0	64
2026	0	0	0	0	982	982	128	0	128
2027	0	0	0	0	918	918	64	0	64
2028	0	0	0	0	854	854	64	0	64
2029	0	0	0	0	790	790	64	0	64
2030	0	0	0	0	758	758	32	0	32
2031	0	0	0	0	694	694	64	0	64
2032	0	0	0	0	630	630	64	0	64
2033	0	0	0	0	566	566	64	0	64
2034	0	0	0	0	566	566	0	0	0
2035	0	0	0	0	534	534	32	0	32
2036	0	0	0	0	502	502	32	0	32
2037	0	0	0	0	470	470	32	0	32
2038	0	0	0	0	406	406	64	0	64
2039	0	0	0	0	374	374	32	0	32
2040	0	0	0	0	342	342	32	0	32
2041	0	0	0	0	310	310	32	0	32
2042	0	0	0	0	246	246	64	0	64
2043	0	0	0	0	214	214	32	0	32
2044	0	0	0	0	182	182	32	0	32
2045	0	0	0	0	150	150	32	0	32
2046	0	0	0	0	118	118	32	0	32
2047	0	0	0	0	54	54	64	0	64
2048	0	0	0	0	22	22	32	0	32
2049	0	0	0	0	0	0	22	0	22
2050	0	0	0	0	0	0	0	0	0

Total Number MPCs 43
 No. Post S/D MPCs for fuel assemblies 33
 No. Post S/D MPCs for GTCC 1
 Number MPCs Required During Operation 10

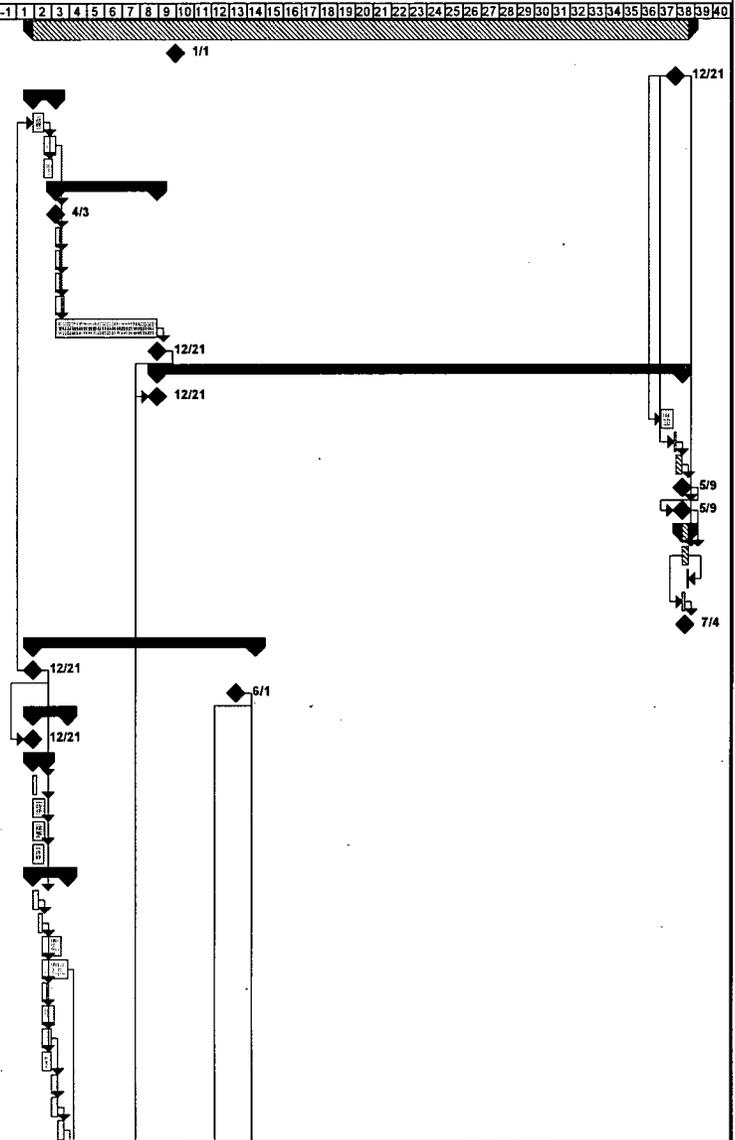
Note: Number of dry storage modules in 2016 includes two for spent fuel and one for Greater Than Class C waste generated during segmentation of the reactor internals.

Appendix B
Updated Project Schedule

Kewaunee Power Station
 Scenario 2 2008 Update Detailed Project Schedule
 DECON with Dry Storage, Fuel Pool Island, 2013 Shutdown and Repository Open in 2020

Note: Due to limitation of MS Project add 20 years to all dates

ID	Task Name	Duration	Start	Finish	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	Post-Shutdown Spent Fuel Management	9583 days	12/21/1993	9/12/2030	[Gantt bar from 12/21/1993 to 9/12/2030]																																								
2	Spent Fuel Shipping to DOE Repository Begins	0 days	1/1/2002	1/1/2002	[Task bar from 1/1/2002 to 1/1/2002]																																								
3	Spent Fuel Shipping Complete	0 days	12/21/2029	12/21/2029	[Task bar from 12/21/2029 to 12/21/2029]																																								
4	Dry Pd 1 - Fuel Pool Island Planning and Design	335 days	12/21/1993	4/3/1995	[Gantt bar from 12/21/1993 to 4/3/1995]																																								
5	Design Spent Fuel Pool Support System Modifications	160 days	12/21/1993	8/1/1994	[Task bar from 12/21/1993 to 8/1/1994]																																								
6	Design Control Room Relocation	175 days	8/2/1994	4/3/1995	[Task bar from 8/2/1994 to 4/3/1995]																																								
7	Design Spent Fuel Security System Modifications	130 days	8/2/1994	1/30/1995	[Task bar from 8/2/1994 to 1/30/1995]																																								
8	Dry Pd 2 - Spent Fuel Cooling Period and Transfer to Dry Storage	1493 days	4/3/1995	12/21/2000	[Gantt bar from 4/3/1995 to 12/21/2000]																																								
9	Dry Pd 2 Begins	0 days	4/3/1995	4/3/1995	[Task bar from 4/3/1995 to 4/3/1995]																																								
10	Modify Spent Fuel Support Systems	60 days	4/4/1995	6/26/1995	[Task bar from 4/4/1995 to 6/26/1995]																																								
11	Modify Control Room	60 days	4/4/1995	6/26/1995	[Task bar from 4/4/1995 to 6/26/1995]																																								
12	Modify SNF Security Systems	60 days	4/4/1995	6/26/1995	[Task bar from 4/4/1995 to 6/26/1995]																																								
13	Construct ISFSI Phase 2 Concrete Pad and Approach Apron	120 days	4/4/1995	9/18/1995	[Task bar from 4/4/1995 to 9/18/1995]																																								
14	Minimum Fuel Cooling and Transfer From Pool to DOE and Dry Storage	1493 days	4/4/1995	12/21/2000	[Task bar from 4/4/1995 to 12/21/2000]																																								
15	Spent Fuel Pool Empty	0 days	12/21/2000	12/21/2000	[Task bar from 12/21/2000 to 12/21/2000]																																								
16	Dry Pd 3 Dry Storage	7665 days	12/21/2000	5/9/2030	[Gantt bar from 12/21/2000 to 5/9/2030]																																								
17	Dry Storage Only Period Begins	0 days	12/21/2000	12/21/2000	[Task bar from 12/21/2000 to 12/21/2000]																																								
18	Preparation and NRC Review of Part 72 License Termination Plan	180 days	3/2/2029	11/8/2029	[Task bar from 3/2/2029 to 11/8/2029]																																								
19	Verification Survey of Horizontal Storage Modules	30 days	11/23/2029	1/3/2030	[Task bar from 11/23/2029 to 1/3/2030]																																								
20	Preparation of Final Report on Decommissioning and NRC Review	90 days	1/4/2030	5/9/2030	[Task bar from 1/4/2030 to 5/9/2030]																																								
21	Part 72 License Terminated	0 days	5/9/2030	5/9/2030	[Task bar from 5/9/2030 to 5/9/2030]																																								
22	Dry Storage Only Period Ends	0 days	5/9/2030	5/9/2030	[Task bar from 5/9/2030 to 5/9/2030]																																								
23	Dry Pd 4 - ISFSI and Support Structure Clean Demolition	90 days	5/10/2030	9/12/2030	[Gantt bar from 5/10/2030 to 9/12/2030]																																								
24	Clean Demolition of ISFSI	90 days	5/10/2030	9/12/2030	[Task bar from 5/10/2030 to 9/12/2030]																																								
25	Demolition and Disposal of Class B and C Storage Modules	20 days	8/16/2030	9/12/2030	[Gantt bar from 8/16/2030 to 9/12/2030]																																								
26	Clean Demolition of ISFSI Support Structures and Site Restoration	40 days	5/10/2030	7/4/2030	[Task bar from 5/10/2030 to 7/4/2030]																																								
27	Post-Shutdown Spent Fuel Management Complete	0 days	7/4/2030	7/4/2030	[Task bar from 7/4/2030 to 7/4/2030]																																								
28	Part 50 License Termination	3266 days	12/21/1993	6/27/2006	[Gantt bar from 12/21/1993 to 6/27/2006]																																								
29	Unit 1 Shutdown	0 days	12/21/1993	12/21/1993	[Task bar from 12/21/1993 to 12/21/1993]																																								
30	New Class B and C Facility Becomes Available	0 days	6/1/2005	6/1/2005	[Task bar from 6/1/2005 to 6/1/2005]																																								
31	Decon Pd 1 - Decommissioning Planning Following Shutdown	515 days	12/21/1993	12/11/1995	[Gantt bar from 12/21/1993 to 12/11/1995]																																								
32	Decon Pd 1 Begins	0 days	12/21/1993	12/21/1993	[Task bar from 12/21/1993 to 12/21/1993]																																								
33	Regulatory Compliance	180 days	12/21/1993	8/29/1994	[Gantt bar from 12/21/1993 to 8/29/1994]																																								
34	Prepare Unit 1 PSDAR & Shutdown Certification	60 days	12/21/1993	3/14/1994	[Task bar from 12/21/1993 to 3/14/1994]																																								
35	Prepare Decommissioning License Documents	180 days	12/21/1993	8/29/1994	[Task bar from 12/21/1993 to 8/29/1994]																																								
36	Prepare Modifications to Technical Specifications	180 days	12/21/1993	8/29/1994	[Task bar from 12/21/1993 to 8/29/1994]																																								
37	License ISFSI For Class B and C Interim Waste Storage	165 days	12/21/1993	8/8/1994	[Task bar from 12/21/1993 to 8/8/1994]																																								
38	Engineering and Planning	515 days	12/21/1993	12/11/1995	[Gantt bar from 12/21/1993 to 12/11/1995]																																								
39	Decommissioning Planning and Design	85 days	12/21/1993	4/18/1994	[Task bar from 12/21/1993 to 4/18/1994]																																								
40	Prepare Integrated Work Sequence and Schedule	55 days	4/19/1994	7/4/1994	[Task bar from 4/19/1994 to 7/4/1994]																																								
41	Prepare Activity Specifications	280 days	7/5/1994	7/31/1995	[Task bar from 7/5/1994 to 7/31/1995]																																								
42	Prepare Detailed Work Procedures	375 days	7/5/1994	12/11/1995	[Task bar from 7/5/1994 to 12/11/1995]																																								
43	Design Containment Access Modifications	65 days	7/5/1994	10/3/1994	[Task bar from 7/5/1994 to 10/3/1994]																																								
44	Develop Site Repowering Plan and Procedures	180 days	7/5/1994	3/13/1995	[Task bar from 7/5/1994 to 3/13/1995]																																								
45	Develop Approach for Primary System Decontamination	135 days	7/5/1994	1/9/1995	[Task bar from 7/5/1994 to 1/9/1995]																																								
46	Develop Site Characterization and Final Status Survey Procedures	130 days	7/5/1994	1/2/1995	[Task bar from 7/5/1994 to 1/2/1995]																																								
47	Procure Nonengineered Standard Equipment	90 days	1/10/1995	5/15/1995	[Task bar from 1/10/1995 to 5/15/1995]																																								
48	Design and procure special equipment and materials	90 days	1/10/1995	5/15/1995	[Task bar from 1/10/1995 to 5/15/1995]																																								
49	Test Special Equipment	90 days	5/16/1995	9/18/1995	[Task bar from 5/16/1995 to 9/18/1995]																																								



Appendix C

Updated Detailed Cost Table



Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
A. License Termination								
Decon Pd 1								
Distributed								
1.01	Planning and Design of Primary System Decontamination	\$202	\$2	\$0	\$0	\$204	\$26	\$230
1.03	Planning For Asbestos Removal	\$131	\$2	\$0	\$0	\$133	\$17	\$150
1.04	Planning and Design of Cold and Dark Site Repowering	\$577	\$6	\$0	\$0	\$583	\$76	\$659
1.05	Design Containment Access Modifications	\$222	\$3	\$0	\$0	\$225	\$29	\$254
1.06	Planning and Design of Site Characterization	\$316	\$3	\$0	\$0	\$319	\$41	\$360
1.07	Administrative activities	\$740	\$3	\$0	\$0	\$743	\$97	\$840
1.08	Preparation of Decommissioning Licensing Documents	\$1,613	\$5	\$0	\$0	\$1,618	\$210	\$1,828
1.09	Decommissioning Planning and Design	\$241	\$0	\$0	\$0	\$241	\$31	\$272
1.10	Prepare Integrated Work Sequence and Schedule	\$141	\$0	\$0	\$0	\$141	\$18	\$159
1.11	Prepare Activity Specifications	\$2,580	\$16	\$0	\$0	\$2,596	\$337	\$2,933
1.12	Prepare Detailed Work Procedures	\$2,334	\$6	\$0	\$0	\$2,340	\$304	\$2,644
1.13	Prepare License Termination Plan	\$319	\$8	\$0	\$0	\$327	\$43	\$370
1.14	Prepare Written Notification of Cessation of Operations	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.15	Prepare Written Notification of Fuel Removal from Vessel	\$0	\$0	\$0	\$0	\$0	\$0	\$0
1.16	License ISFSI For Class B and C Interim Waste Storage	\$428	\$6	\$0	\$459	\$893	\$116	\$1,009
Distributed	Subtotal	\$9,844	\$60	\$0	\$459	\$10,363	\$1,345	\$11,708
Undistributed								
2.01	Utility Staff	\$38,808	\$0	\$0	\$0	\$38,808	\$5,045	\$43,853
2.04	Insurance	\$0	\$0	\$0	\$888	\$888	\$133	\$1,021
2.05	Gross Receipts Taxes	\$0	\$0	\$0	\$6,503	\$6,503	\$975	\$7,478
2.06	Permits	\$0	\$0	\$0	\$1,056	\$1,056	\$158	\$1,214
2.07	Security Guard Force	\$1,488	\$0	\$0	\$0	\$1,488	\$223	\$1,711
2.08	Energy	\$0	\$0	\$0	\$1,887	\$1,887	\$283	\$2,170

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2

Decommissioning Alternative Decon

Spent Fuel Alternative Dry

License Status Existing

Fuel Pool Systems Modified

Repository Opening Date: 1/1/2020

Unit 1 Shut Down Date

12/21/2013

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
2.10	HP Supplies	\$0	\$904	\$0	\$0	\$904	\$136	\$1,040
2.11	Supplies and Services	\$0	\$0	\$0	\$940	\$940	\$141	\$1,081
2.13	Severance	\$28,987	\$0	\$0	\$0	\$28,987	\$4,348	\$33,335
Undistributed	Subtotal	\$69,283	\$904	\$0	\$11,274	\$81,461	\$11,442	\$92,903
Decon Pd 1	Subtotal	\$79,127	\$964	\$0	\$11,733	\$91,824	\$12,787	\$104,611

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Decon Pd 2								
Distributed								
2.01	Baseline Radiation Survey	\$458	\$90	\$0	\$0	\$548	\$71	\$619
2.02	Primary System Decon, Place Class B Waste In Interim Storage	\$1,026	\$319	\$50	\$0	\$1,395	\$181	\$1,576
2.03	Flush and Drain Non-Essential Systems, Place Class B Waste In Interim Storage	\$10	\$2	\$20	\$0	\$32	\$4	\$36
2.04	Modify Containment Access	\$336	\$504	\$0	\$0	\$840	\$109	\$949
2.05	Implement Cold and Dark	\$450	\$1,119	\$0	\$0	\$1,569	\$204	\$1,773
2.06	Asbestos Abatement of Pipe Insulation	\$11,979	\$916	\$588	\$0	\$13,483	\$3,101	\$16,584
2.07	Procure Non-Engineered Standard Equipment	\$0	\$2,783	\$0	\$0	\$2,783	\$362	\$3,145
2.08	Design, Specify, and Procure Special Items and Materials	\$844	\$5,116	\$0	\$0	\$5,960	\$775	\$6,735
2.09	Select Shipping Casks and Obtain Shipping Permits	\$30	\$30	\$0	\$0	\$60	\$8	\$68
2.10	Test Special Cutting and Handling Equipment and Train Operators	\$845	\$845	\$0	\$0	\$1,690	\$220	\$1,910
2.11	Construct New Change Rooms, Hot Laundry, In-Plant Laydown Areas	\$0	\$829	\$0	\$0	\$829	\$108	\$937
2.12	Purchase and Install Class B and C Storage Modules for Decommissioning Waste	\$81	\$1,053	\$0	\$0	\$1,134	\$148	\$1,282
2.13	Finalize Residual Radiation Inventory	\$67	\$6	\$0	\$0	\$73	\$9	\$82
Distributed	Subtotal	\$16,126	\$13,612	\$658	\$0	\$30,396	\$5,300	\$35,696
Undistributed								
2.01	Utility Staff	\$10,187	\$0	\$0	\$0	\$10,187	\$1,324	\$11,511
2.04	Insurance	\$0	\$0	\$0	\$233	\$233	\$35	\$268
2.06	Permits	\$0	\$0	\$0	\$277	\$277	\$42	\$319
2.07	Security Guard Force	\$391	\$0	\$0	\$0	\$391	\$59	\$450
2.08	Energy	\$0	\$0	\$0	\$533	\$533	\$80	\$613
2.10	HP Supplies	\$0	\$237	\$0	\$0	\$237	\$36	\$273
2.11	Supplies and Services	\$0	\$0	\$0	\$2,008	\$2,008	\$301	\$2,309
Undistributed	Subtotal	\$10,578	\$237	\$0	\$3,051	\$13,866	\$1,877	\$15,743

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2		License Status	Existing	Unit 1 Shut Down Date	12/21/2013
Decommissioning Alternative	Decon	Fuel Pool Systems	Modified		
Spent Fuel Alternative	Dry	Repository Opening Date:	1/1/2020		

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Decon Pd 2	Subtotal	\$26,704	\$13,849	\$658	\$3,051	\$44,262	\$7,177	\$51,439

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Decon Pd 3								
Distributed								
3.01	Remove Control Rod Drive (CRD) and Reactor Cavity Missile Shields	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.02	Remove Vessel Head Insulation, CRD Mechanisms and Cables, Air Ducts and Vessel Head	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3.03	Reactor Vessel Insulation Removal and Disposal	\$24	\$9	\$132	\$0	\$165	\$47	\$212
3.04	Reactor Internals Removal and Disposal, Place Class B and C Waste in Interim Storage	\$1,697	\$925	\$2,249	\$0	\$4,871	\$1,624	\$6,495
3.05	Reactor Vessel Removal	\$1,092	\$1,457	\$5,959	\$0	\$8,508	\$2,371	\$10,879
3.06	Decontaminate and Remove NonEssential Systems	\$3,113	\$332	\$6,666	\$0	\$10,111	\$2,326	\$12,437
3.07	Remove, Decon, Dispose of Steam Generators, Place Class B Waste in Interim Storage	\$1,680	\$1,706	\$8,431	\$0	\$11,817	\$2,718	\$14,535
3.08	Remove, Ship and Bury Pressurizer	\$345	\$395	\$1,777	\$0	\$2,517	\$579	\$3,096
3.09	Decontaminate and Remove Essential Systems	\$4,505	\$1,147	\$2,631	\$0	\$8,283	\$1,905	\$10,188
Distributed	Subtotal	\$12,456	\$5,971	\$27,845	\$0	\$46,272	\$11,570	\$57,842
Undistributed								
2.01	Utility Staff	\$27,980	\$0	\$0	\$0	\$27,980	\$3,637	\$31,617
2.04	Insurance	\$0	\$0	\$0	\$700	\$700	\$105	\$805
2.06	Permits	\$0	\$0	\$0	\$1,019	\$1,019	\$153	\$1,172
2.07	Security Guard Force	\$1,174	\$0	\$0	\$0	\$1,174	\$176	\$1,350
2.08	Energy	\$0	\$0	\$0	\$1,488	\$1,488	\$223	\$1,711
2.10	HP Supplies	\$0	\$1,349	\$0	\$0	\$1,349	\$202	\$1,551
2.11	Supplies and Services	\$0	\$0	\$0	\$5,511	\$5,511	\$827	\$6,338
2.13	Severance	\$6,850	\$0	\$0	\$0	\$6,850	\$1,028	\$7,878
Undistributed	Subtotal	\$36,004	\$1,349	\$0	\$8,718	\$46,071	\$6,351	\$52,422
Decon Pd 3	Subtotal	\$48,460	\$7,320	\$27,845	\$8,718	\$92,343	\$17,921	\$110,264

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Decon Pd 4a								
Distributed								
4.01	Decon Containment Building	\$1,449	\$831	\$9,251	\$0	\$11,531	\$2,652	\$14,183
4.07	Radiologically Contaminated Soil Remediation	\$30	\$376	\$6,314	\$0	\$6,720	\$1,546	\$8,266
4.11	Contaminated Roof Disposal	\$38	\$6	\$417	\$0	\$461	\$106	\$567
Distributed	Subtotal	\$1,517	\$1,213	\$15,982	\$0	\$18,712	\$4,304	\$23,016
Undistributed								
2.01	Utility Staff	\$6,408	\$0	\$0	\$0	\$6,408	\$833	\$7,241
2.04	Insurance	\$0	\$0	\$0	\$216	\$216	\$32	\$248
2.06	Permits	\$0	\$0	\$0	\$314	\$314	\$47	\$361
2.07	Security Guard Force	\$362	\$0	\$0	\$0	\$362	\$54	\$416
2.08	Energy	\$0	\$0	\$0	\$306	\$306	\$46	\$352
2.10	HP Supplies	\$0	\$392	\$0	\$0	\$392	\$59	\$451
2.11	Supplies and Services	\$0	\$0	\$0	\$1,286	\$1,286	\$193	\$1,479
2.13	Severance	\$4,987	\$0	\$0	\$0	\$4,987	\$748	\$5,735
Undistributed	Subtotal	\$11,757	\$392	\$0	\$2,122	\$14,271	\$2,012	\$16,283
Decon Pd 4a	Subtotal	\$13,274	\$1,605	\$15,982	\$2,122	\$32,983	\$6,316	\$39,299

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Decon Pd 4b								
Undistributed								
2.01	Utility Staff	\$3,054	\$0	\$0	\$0	\$3,054	\$397	\$3,451
2.04	Insurance	\$0	\$0	\$0	\$1,116	\$1,116	\$167	\$1,283
2.06	Permits	\$0	\$0	\$0	\$1,032	\$1,032	\$155	\$1,187
2.07	Security Guard Force	\$935	\$0	\$0	\$0	\$935	\$140	\$1,075
2.08	Energy	\$0	\$0	\$0	\$188	\$188	\$28	\$216
2.10	HP Supplies	\$0	\$148	\$0	\$0	\$148	\$22	\$170
2.11	Supplies and Services	\$0	\$0	\$0	\$779	\$779	\$117	\$896
2.13	Severance	\$10,131	\$0	\$0	\$0	\$10,131	\$1,520	\$11,651
Undistributed	Subtotal	\$14,120	\$148	\$0	\$3,115	\$17,383	\$2,546	\$19,929
Decon Pd 4b	Subtotal	\$14,120	\$148	\$0	\$3,115	\$17,383	\$2,546	\$19,929

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Decon Pd 4c								
Distributed								
4.02	Decon Fuel Handling Building	\$729	\$561	\$807	\$0	\$2,097	\$482	\$2,579
4.03	Decon Auxiliary Building	\$107	\$162	\$247	\$0	\$516	\$119	\$635
4.04	Decon Technical Support Building	\$16	\$25	\$22	\$0	\$63	\$14	\$77
4.05	Decon Decontamination Building	\$7	\$4	\$22	\$0	\$33	\$7	\$40
4.06	Remove Spent Fuel Storage Racks	\$1,048	\$838	\$1,467	\$0	\$3,353	\$771	\$4,124
4.10	MARSSIM FSS for Structures	\$2,984	\$673	\$0	\$323	\$3,980	\$517	\$4,497
4.11	MARSSIM FSS for Land Areas	\$4,307	\$379	\$0	\$0	\$4,686	\$609	\$5,295
4.12	Prepare final report of dismantling program	\$67	\$1	\$0	\$0	\$68	\$9	\$77
Distributed	Subtotal	\$9,265	\$2,643	\$2,565	\$323	\$14,796	\$2,528	\$17,324
Undistributed								
2.01	Utility Staff	\$6,733	\$0	\$0	\$0	\$6,733	\$875	\$7,608
2.04	Insurance	\$0	\$0	\$0	\$413	\$413	\$62	\$475
2.06	Permits	\$0	\$0	\$0	\$492	\$492	\$74	\$566
2.07	Security Guard Force	\$692	\$0	\$0	\$0	\$692	\$104	\$796
2.08	Energy	\$0	\$0	\$0	\$205	\$205	\$31	\$236
2.10	HP Supplies	\$0	\$247	\$0	\$0	\$247	\$37	\$284
2.11	Supplies and Services	\$0	\$0	\$0	\$1,385	\$1,385	\$208	\$1,593
2.13	Severance	\$4,014	\$0	\$0	\$0	\$4,014	\$602	\$4,616
Undistributed	Subtotal	\$11,439	\$247	\$0	\$2,495	\$14,181	\$1,993	\$16,174
Decon Pd 4c	Subtotal	\$20,704	\$2,890	\$2,565	\$2,818	\$28,977	\$4,521	\$33,498

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Decon Pd 4d								
Distributed								
4.01	Disposition Class B and C Operational Waste In Interim Storage	\$144	\$315	\$1,369	\$0	\$1,828	\$420	\$2,248
4.02	Disposition Class B and C Decommissioning Waste In Interim Storage	\$361	\$788	\$14,172	\$0	\$15,321	\$3,524	\$18,845
4.03	Interim Class B and C Storage Facility License Termination	\$166	\$24	\$0	\$244	\$434	\$56	\$490
Distributed	Subtotal	\$671	\$1,127	\$15,541	\$244	\$17,583	\$4,000	\$21,583
Decon Pd 4d	Subtotal	\$671	\$1,127	\$15,541	\$244	\$17,583	\$4,000	\$21,583

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
A. License Termination Subtotal		\$203,060	\$27,903	\$62,591	\$31,801	\$325,355	\$55,268	\$380,623
B. Spent Fuel								
Dry Pd 1								
Distributed								
1.01	Design Spent Fuel Support System Modifications	\$361	\$5	\$0	\$0	\$366	\$48	\$414
1.02	Design Control Room Relocation	\$346	\$4	\$0	\$0	\$350	\$46	\$396
1.03	Design Spent Fuel Storage Security Modifications	\$272	\$3	\$0	\$0	\$275	\$36	\$311
2.01	Install Spent Fuel Pool System Modifications	\$150	\$1,698	\$0	\$0	\$1,848	\$240	\$2,088
2.02	Implement Control Room Modifications	\$1,070	\$1,605	\$0	\$0	\$2,675	\$348	\$3,023
2.03	Implement Spent Fuel Pool Security Modifications	\$560	\$839	\$0	\$0	\$1,399	\$182	\$1,581
Distributed	Subtotal	\$2,759	\$4,154	\$0	\$0	\$6,913	\$900	\$7,813
Undistributed								
2.01	Utility Spent Fuel Staff	\$867	\$0	\$0	\$0	\$867	\$113	\$980
2.03	Fuel Pool Maintenance and Operation Staff	\$4,018	\$0	\$0	\$0	\$4,018	\$603	\$4,621
2.06	Insurance	\$0	\$0	\$0	\$1,129	\$1,129	\$169	\$1,298
2.07	Permits	\$0	\$0	\$0	\$2,174	\$2,174	\$326	\$2,500
2.08	Security Guard Force	\$4,030	\$0	\$0	\$0	\$4,030	\$604	\$4,634
2.09	Spent Fuel Maintenance	\$0	\$0	\$0	\$287	\$287	\$43	\$330
2.10	Energy	\$0	\$0	\$0	\$411	\$411	\$62	\$473
2.11	Supplies and Services	\$0	\$0	\$0	\$4	\$4	\$1	\$5
2.12	HP Supplies	\$0	\$140	\$0	\$0	\$140	\$21	\$161
Undistributed	Subtotal	\$8,915	\$140	\$0	\$4,005	\$13,060	\$1,942	\$15,002
Dry Pd 1	Subtotal	\$11,674	\$4,294	\$0	\$4,005	\$19,973	\$2,842	\$22,815

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status	Existing	Unit 1 Shut Down Date	12/21/2013
Decommissioning Alternative	Decon	Fuel Pool Systems	Modified	
Spent Fuel Alternative	Dry	Repository Opening Date:	1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Dry Pd 2								
Distributed								
2.04	NRC Review and Approval of 10 CFR Part 72 License Application	\$0	\$0	\$0	\$459	\$459	\$60	\$519
2.05	Purchase of Dry Storage Modules for Fuel Assemblies	\$0	\$38,744	\$0	\$0	\$38,744	\$8,911	\$47,655
2.06	Purchase of Dry Storage Modules for GTCC Waste	\$0	\$1,174	\$0	\$0	\$1,174	\$270	\$1,444
2.07	Construct ISFSI Phase 2 Concrete Pad and Approach Apron	\$370	\$402	\$0	\$0	\$772	\$100	\$872
Distributed	Subtotal	\$370	\$40,320	\$0	\$459	\$41,149	\$9,341	\$50,490
Undistributed								
2.01	Utility Spent Fuel Staff	\$3,870	\$0	\$0	\$0	\$3,870	\$503	\$4,373
2.03	Fuel Pool Maintenance and Operation Staff	\$17,934	\$0	\$0	\$0	\$17,934	\$2,690	\$20,624
2.06	Insurance	\$0	\$0	\$0	\$5,038	\$5,038	\$756	\$5,794
2.07	Permits	\$0	\$0	\$0	\$9,704	\$9,704	\$1,456	\$11,160
2.08	Security Guard Force	\$17,988	\$0	\$0	\$0	\$17,988	\$2,698	\$20,686
2.09	Spent Fuel Maintenance	\$0	\$0	\$0	\$1,280	\$1,280	\$192	\$1,472
2.10	Energy	\$0	\$0	\$0	\$1,832	\$1,832	\$275	\$2,107
2.11	Supplies and Services	\$0	\$0	\$0	\$1,714	\$1,714	\$257	\$1,971
2.12	HP Supplies	\$0	\$627	\$0	\$0	\$627	\$94	\$721
Undistributed	Subtotal	\$39,792	\$627	\$0	\$19,568	\$59,987	\$8,921	\$68,908
Dry Pd 2	Subtotal	\$40,162	\$40,947	\$0	\$20,027	\$101,136	\$18,262	\$119,398

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Dry Pd 3								
Distributed								
3.01	NRC Review and Approval of 10 CFR Part 72 License Renewal	\$0	\$0	\$0	\$459	\$459	\$60	\$519
3.02	Preparation and NRC Review of License Termination Plan	\$61	\$0	\$0	\$107	\$168	\$30	\$198
3.03	Verification Survey of Horizontal Storage Modules	\$46	\$24	\$0	\$0	\$70	\$9	\$79
3.04	Preparation of Final Report on Decommissioning and NRC Review	\$61	\$0	\$0	\$107	\$168	\$22	\$190
Distributed	Subtotal	\$168	\$24	\$0	\$673	\$865	\$121	\$986
Undistributed								
2.01	Utility Spent Fuel Staff	\$46,717	\$0	\$0	\$0	\$46,717	\$6,073	\$52,790
2.04	Additional Staff for Spent Fuel Shipping	\$5,734	\$0	\$0	\$0	\$5,734	\$745	\$6,479
2.06	Insurance	\$0	\$0	\$0	\$20,290	\$20,290	\$3,043	\$23,333
2.07	Permits	\$0	\$0	\$0	\$16,989	\$16,989	\$2,548	\$19,537
2.08	Security Guard Force	\$46,202	\$0	\$0	\$0	\$46,202	\$6,930	\$53,132
2.09	Spent Fuel Maintenance	\$0	\$0	\$0	\$2,466	\$2,466	\$370	\$2,836
2.10	Energy	\$0	\$0	\$0	\$3,971	\$3,971	\$596	\$4,567
2.11	Supplies and Services	\$0	\$0	\$0	\$4,240	\$4,240	\$636	\$4,876
2.12	HP Supplies	\$0	\$1,754	\$0	\$0	\$1,754	\$263	\$2,017
2.14	Severance	\$3,008	\$0	\$0	\$0	\$3,008	\$451	\$3,459
Undistributed	Subtotal	\$101,661	\$1,754	\$0	\$47,956	\$151,371	\$21,655	\$173,026
Dry Pd 3	Subtotal	\$101,829	\$1,778	\$0	\$48,629	\$152,236	\$21,776	\$174,012

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Dry Pd 4								
Distributed								
4.01	Demolition of ISFSI Support Structures	\$490	\$158	\$66	\$0	\$714	\$109	\$823
4.02	Clean Demolition of ISFSI	\$1,051	\$436	\$683	\$0	\$2,170	\$326	\$2,496
4.02	Demolition and Disposal of Class B and C Storage Modules	\$92	\$33	\$121	\$0	\$246	\$35	\$281
Distributed	Subtotal	\$1,633	\$627	\$870	\$0	\$3,130	\$470	\$3,600
Undistributed								
2.01	Utility Spent Fuel Staff	\$282	\$0	\$0	\$0	\$282	\$37	\$319
2.07	Permits	\$0	\$0	\$0	\$7	\$7	\$1	\$8
2.08	Security Guard Force	\$108	\$0	\$0	\$0	\$108	\$16	\$124
2.10	Energy	\$0	\$0	\$0	\$12	\$12	\$2	\$14
2.11	Supplies and Services	\$0	\$0	\$0	\$15	\$15	\$2	\$17
2.12	HP Supplies	\$0	\$14	\$0	\$0	\$14	\$2	\$16
2.14	Severance	\$1,806	\$0	\$0	\$0	\$1,806	\$271	\$2,077
Undistributed	Subtotal	\$2,196	\$14	\$0	\$34	\$2,244	\$331	\$2,575
Dry Pd 4	Subtotal	\$3,829	\$641	\$870	\$34	\$5,374	\$801	\$6,175

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date 12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified	
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
B. Spent Fuel	Subtotal	\$157,494	\$47,660	\$870	\$72,695	\$278,719	\$43,681	\$322,400
C. Greenfield								
Grn Pd 1								
Distributed								
1.01	Demolish Containment Building	\$1,800	\$387	\$198	\$0	\$2,385	\$349	\$2,734
1.02	Demolish Turbine Building	\$950	\$268	\$52	\$0	\$1,270	\$192	\$1,462
1.03	Demolish Auxilary Building	\$871	\$287	\$152	\$0	\$1,310	\$199	\$1,509
1.04	Demolish Fuel Handling Building	\$418	\$147	\$76	\$0	\$641	\$98	\$739
1.05	Demolish Decontamination Building	\$21	\$6	\$1	\$0	\$28	\$4	\$32
1.06	Demolish Steam Generator Storage Building	\$35	\$10	\$2	\$0	\$47	\$7	\$54
1.07	Demolish Non-Essential Structures	\$1,344	\$1,377	\$143	\$0	\$2,864	\$510	\$3,374
1.08	Clean Building Demolition Equipment	\$0	\$627	\$0	\$0	\$627	\$144	\$771
2.02	Remove temporary structures	\$29	\$23	\$0	\$0	\$52	\$9	\$61
Distributed	Subtotal	\$5,468	\$3,132	\$624	\$0	\$9,224	\$1,512	\$10,736
Undistributed								
2.01	Utility Staff	\$3,913	\$0	\$0	\$0	\$3,913	\$509	\$4,422
2.06	Security Guard Force	\$362	\$0	\$0	\$0	\$362	\$54	\$416
2.07	Energy	\$0	\$0	\$0	\$127	\$127	\$19	\$146
Undistributed	Subtotal	\$4,275	\$0	\$0	\$127	\$4,402	\$582	\$4,984
Grn Pd 1	Subtotal	\$9,743	\$3,132	\$624	\$127	\$13,626	\$2,094	\$15,720

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status Existing	Unit 1 Shut Down Date	12/21/2013
Decommissioning Alternative Decon	Fuel Pool Systems Modified		
Spent Fuel Alternative Dry	Repository Opening Date: 1/1/2020		

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
Grn Pd 2								
Distributed								
2.01	Site Restoration Equipment	\$0	\$41	\$0	\$0	\$41	\$9	\$50
2.03	Backfill and grade	\$339	\$247	\$0	\$0	\$586	\$101	\$687
Distributed	Subtotal	\$339	\$288	\$0	\$0	\$627	\$110	\$737
Undistributed								
2.01	Utility Staff	\$352	\$0	\$0	\$0	\$352	\$46	\$398
2.06	Security Guard Force	\$48	\$0	\$0	\$0	\$48	\$7	\$55
2.07	Energy	\$0	\$0	\$0	\$13	\$13	\$2	\$15
2.08	Severance	\$3,938	\$0	\$0	\$0	\$3,938	\$591	\$4,529
Undistributed	Subtotal	\$4,338	\$0	\$0	\$13	\$4,351	\$646	\$4,997
Grn Pd 2	Subtotal	\$4,677	\$288	\$0	\$13	\$4,978	\$756	\$5,734

Scenario -2
Kewaunee Power Station Detailed Cost Report

Scenario Number 2	License Status	Existing	Unit 1 Shut Down Date	12/21/2013
Decommissioning Alternative	Decon	Fuel Pool Systems	Modified	
Spent Fuel Alternative	Dry	Repository Opening Date:	1/1/2020	

2008 Dollars in Thousands

No	Item Description	Labor	Equipment	Waste	Other	Subtotal	Contingency	Total
C. Greenfield	Subtotal	\$14,420	\$3,420	\$624	\$140	\$18,604	\$2,850	\$21,454
Scenario No. 2	Total	\$374,974	\$78,983	\$64,085	\$104,636	\$622,678	\$101,799	\$724,477

Appendix D

Updated Annual Cash Flow Table

Kewaunee Power Station Annual Cost By Account

ScenarioNo 2

Unit No: Unit 1

Dollars in Thousands

Year	License Termination	Spent Fuel	Greenfield	Contingency	Total
2013	\$1,401	\$468	\$0	\$262	\$2,131
2014	\$46,485	\$15,544	\$0	\$8,685	\$70,714
2015	\$48,830	\$17,171	\$0	\$9,861	\$75,862
2016	\$71,503	\$17,675	\$0	\$15,811	\$104,989
2017	\$59,236	\$17,675	\$0	\$14,687	\$91,598
2018	\$37,506	\$17,675	\$0	\$10,216	\$65,397
2019	\$7,003	\$17,675	\$0	\$4,217	\$28,895
2020	\$7,779	\$17,383	\$0	\$4,281	\$29,443
2021	\$28,028	\$5,181	\$1,327	\$5,318	\$39,854
2022	\$0	\$5,181	\$11,814	\$2,557	\$19,551
2023	\$0	\$5,181	\$5,463	\$1,572	\$12,216
2024	\$0	\$5,181	\$0	\$741	\$5,922
2025	\$9,623	\$5,181	\$0	\$2,930	\$17,735
2026	\$7,960	\$5,181	\$0	\$2,552	\$15,692
2027	\$0	\$5,181	\$0	\$741	\$5,922
2028	\$0	\$5,181	\$0	\$741	\$5,922
2029	\$0	\$5,181	\$0	\$741	\$5,922
2030	\$0	\$5,181	\$0	\$741	\$5,922
2031	\$0	\$5,181	\$0	\$741	\$5,922
2032	\$0	\$5,181	\$0	\$741	\$5,922
2033	\$0	\$5,181	\$0	\$741	\$5,922
2034	\$0	\$5,181	\$0	\$741	\$5,922
2035	\$0	\$5,181	\$0	\$741	\$5,922
2036	\$0	\$5,181	\$0	\$741	\$5,922
2037	\$0	\$5,181	\$0	\$741	\$5,922
2038	\$0	\$5,181	\$0	\$741	\$5,922
2039	\$0	\$5,181	\$0	\$741	\$5,922
2040	\$0	\$5,181	\$0	\$741	\$5,922
2041	\$0	\$5,181	\$0	\$741	\$5,922
2042	\$0	\$5,181	\$0	\$741	\$5,922
2043	\$0	\$5,181	\$0	\$741	\$5,922
2044	\$0	\$5,181	\$0	\$741	\$5,922
2045	\$0	\$5,181	\$0	\$741	\$5,922
2046	\$0	\$5,181	\$0	\$741	\$5,922
2047	\$0	\$5,181	\$0	\$741	\$5,922
2048	\$0	\$5,181	\$0	\$741	\$5,922
2049	\$0	\$5,181	\$0	\$741	\$5,922
2050	\$0	\$7,204	\$0	\$1,063	\$8,267
Total	\$325,355	\$278,719	\$18,604	\$101,799	\$724,477