AmerGen Energy Company, LLC
4300 Winfield Road
Warrenville, IL 60555

www.exeloncorp.com

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10 CFR 50.75(f)

April 14, 2004
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U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Oyster Creek Generating Station
Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Submittal of Preliminary Decommissioning Cost Estimate

In accordance with 10 CFR 50.75(f)(2), "Reporting and recordkeeping for decommissioning planning," paragraph (f)(2), "each power reactor licensee shall at or about 5 years prior to the projected end of operations submit a preliminary decommissioning cost estimate which includes an up-to-date assessment of the major factors that could affect the cost to decommission." Accordingly, attached is a preliminary decommissioning cost estimate for Oyster Creek Generating Station (OCGS). Although OCGS will be seeking license renewal, this cost estimate is being submitted since the facility operating license for OCGS currently expires on April 9, 2009.

If you have any questions or require additional information, please contact Mr. Tom Loomis at 610-765-5510.

Very truly yours,

Jeffrey A. Benjamin
Vice President - Licensing and Regulatory Affairs
AmerGen Energy Company, LLC

Attachment 1 - Oyster Creek Generating Station Decommissioning Cost Analysis

cc: H. J. Miller, Administrator, USNRC, Region I
R. J. Summers, USNRC Senior Resident Inspector, OCGS
P. S. Tam, Senior Project Manager, USNRC
File No. 03035

A001

ATTACHMENT 1

OYSTER CREEK GENERATING STATION

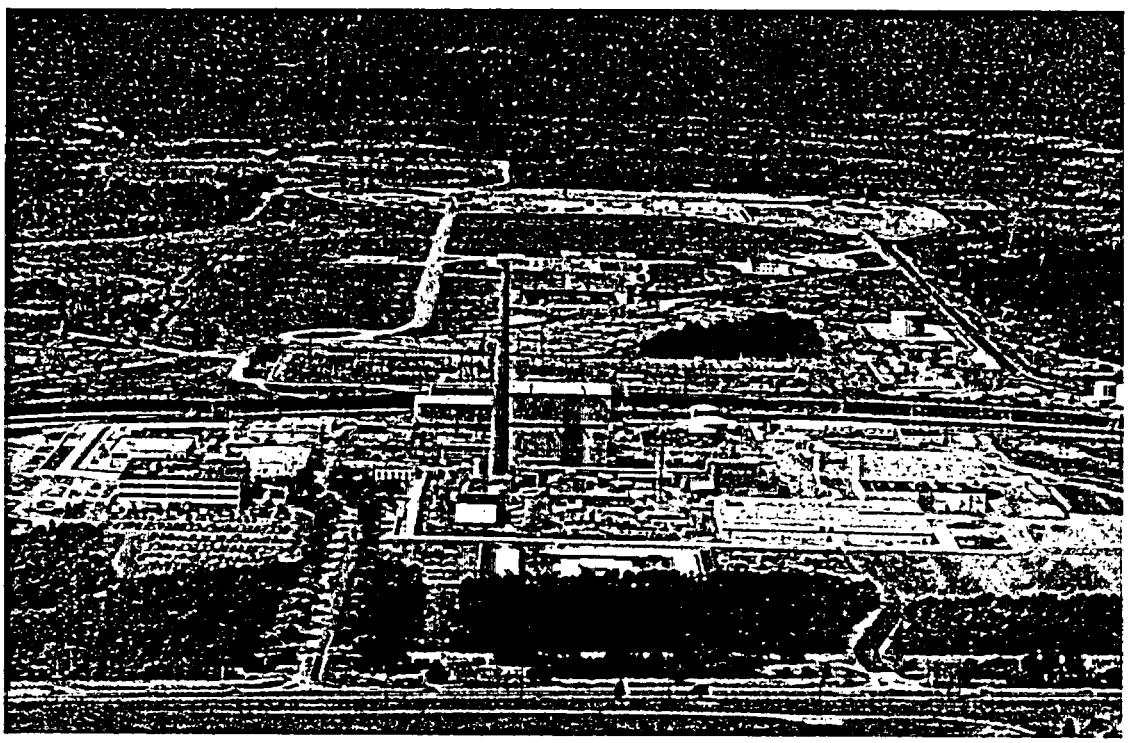
DECOMMISSIONING COST ESTIMATE

Document E16-1455-006, Rev. 0

DECOMMISSIONING COST ANALYSIS

for the

OYSTER CREEK NUCLEAR GENERATING STATION



prepared for

AmerGen Energy, LLC

prepared by

TLG Services, Inc.
Bridgewater, Connecticut

March 2004

APPROVALS

President/ Quality Assurance Manager	Thomas S. LaGuardia	3/22/04 Date
Project Manager	William A. Cloutier, Jr.	3/22/04 Date
Project Engineer	Albert A. Koehl	3/22/04 Date
Technical Manager	Francis W. Seymore	3/22/04 Date

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REVISION LOG

No.	CRA No.	Date	Item Revised	Reason for Revision
0		03-22-04		Original Issue

EXECUTIVE SUMMARY

This report presents estimates of the cost to decommission the Oyster Creek Nuclear Generating Station (Oyster Creek) for the selected decommissioning scenarios following the scheduled cessation of plant operations. The analysis relies upon site-specific, technical information, originally developed in an evaluation for the GPU Nuclear Corporation in 1997-99,[1] updated to reflect current assumptions pertaining to the disposition of the nuclear unit and relevant industry experience in undertaking such projects. The updated estimates are designed to provide AmerGen Energy with sufficient information to assess their financial obligations, as they pertain to the eventual decommissioning of the nuclear unit.

The primary goal of the decommissioning is the removal and disposal of the contaminated systems and structures so that the plant's operating license can be terminated. The analysis recognizes that spent fuel will be stored at the site in the plant's storage pool and/or in an independent spent fuel storage installation (ISFSI) until such time that it can transferred to a U.S. Department of Energy (DOE) facility. Consequently, the estimates also include those costs to manage and subsequently decommission these storage facilities.

The estimates are based on numerous fundamental assumptions, including regulatory requirements, project contingencies, low-level radioactive waste disposal practices, high-level radioactive waste management options, and site restoration requirements. The estimates incorporate a minimum cooling period of approximately 5½ years for the spent fuel that resides in the storage pool when operations cease. In two of the scenarios evaluated, any residual fuel remaining in the pool after the 5½-year period is relocated to the ISFSI to await transfer to a DOE facility (the fuel is assumed to remain in the storage pool for the third scenario). The estimates also include the dismantling of non-essential structures and limited restoration of the site.

Alternatives and Regulations

The Nuclear Regulatory Commission (NRC or Commission) provided initial decommissioning requirements in its rule adopted on June 27, 1988.[2] In this rule, the NRC set forth financial criteria for decommissioning licensed nuclear power facilities. The regulations addressed planning needs, timing, funding methods, and

1 "Decommissioning Cost Estimate for the Oyster Creek Nuclear Generating Station," Document No. G01-1271-003, TLG Services, Inc., February 1999.

2 U.S. Code of Federal Regulations, Title 10, Parts 30, 40, 50, 51, 70 and 72 "General Requirements for Decommissioning Nuclear Facilities," Nuclear Regulatory Commission, Federal Register Volume 53, Number 123 (p 24018 et seq.), June 27, 1988.

environmental review requirements for decommissioning. The rule also defined three decommissioning alternatives as being acceptable to the NRC: DECON, SAFSTOR, and ENTOMB.

> DECON is defined as "the alternative in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level that permits the property to be released for unrestricted use shortly after cessation of operations."[3]
>
> SAFSTOR is defined as "the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use."[4] Decommissioning is to be completed within 60 years, although longer time periods will be considered when necessary to protect public health and safety.
>
> ENTOMB is defined as "the alternative in which radioactive contaminants are encased in a structurally long-lived material, such as concrete; the entombed structure is appropriately maintained and continued surveillance is carried out until the radioactive material decays to a level permitting unrestricted release of the property."[5] As with the SAFSTOR alternative, decommissioning is currently required to be completed within 60 years.

The 60-year restriction has limited the practicality of the ENTOMB alternative at commercial reactors that generate significant amounts of long-lived radioactive material. In 1997, the Commission directed its staff to re-evaluate this alternative and identify the technical requirements and regulatory actions that would be necessary for entombment to become a viable option. The resulting evaluation provided several recommendations, however, rulemaking has been deferred pending the completion of additional research studies, e.g., on engineered barriers.

In 1996, the NRC published revisions to the general requirements for decommissioning nuclear power plants to clarify ambiguities and codify procedures and terminology as a means of enhancing efficiency and uniformity in the decommissioning process.[6] The amendments allow for greater public participation

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3 Ibid. Page FR24022, Column 3.
4 Ibid.
5 Ibid. Page FR24023, Column 2.
6 U.S. Code of Federal Regulations, Title 10, Parts 2, 50, and 51, "Decommissioning of Nuclear

and better define the transition process from operations to decommissioning. Regulatory Guide 1.184, issued in July 2000, further described the methods and procedures acceptable to the NRC staff for implementing the requirements of the 1996 revised rule relating to the initial activities and major phases of the decommissioning process. The costs and schedules presented in this analysis follow the general guidance and processes described in the amended regulations.

Decommissioning Scenarios for Oyster Creek

Three decommissioning scenarios are evaluated for the nuclear unit. The scenarios selected are representative of alternatives available to the owner and are defined as follows:

1. DECON: The operating license expires in April 2009. The first scenario assumes that the total duration of the physical dismantling process is minimized. The existing ISFSI is expanded to accommodate any residual spent fuel remaining from plant operations so as to facilitate the decontamination and dismantling of the power block structures. Spent fuel storage operations continue at the site until the transfer of the fuel to the DOE is complete, assumed to be in the year 2027.

2. Delayed DECON: In the second scenario, the unit is prepared for an abbreviated period of storage. The spent fuel discharged to the storage pool, once operations cease, remains in the pool until it can be transferred to a DOE facility, i.e., the ISFSI is not used to offload the pool. Decommissioning is delayed until the transfer of the fuel to the DOE is complete, i.e., in the year 2027. The unit is then decommissioned.

3. SAFSTOR: The unit is placed into safe-storage in the third scenario. However, decommissioning is deferred beyond the fuel storage period to the maximum extent possible; termination of the license would conclude within the maximum required 60-year period. Spent fuel remaining in the spent fuel storage pool after a minimum cooling period of 5½ years is transferred to the ISFSI for interim storage until the transfer of the fuel to the DOE is complete, assumed to be in the year 2027.

Power Reactors," Nuclear Regulatory Commission, Federal Register Volume 61, (p 39278 et seq.), July 29, 1996.

Methodology

The methodology used to develop the estimate described within this document follows the basic approach originally presented in the cost estimating guidelines[7] developed by the Atomic Industrial Forum (now Nuclear Energy Institute). This reference describes a unit factor method for determining decommissioning activity costs. The unit factors used in this analysis incorporate site-specific costs and the latest available information on worker productivity in decommissioning.

An activity duration critical path is used to determine the total decommissioning program schedule. The schedule is relied upon in calculating the carrying costs, which include program management, administration, field engineering, equipment rental, and support services such as quality control and security. This systematic approach for assembling decommissioning estimates ensures a high degree of confidence in the reliability of the resulting cost estimate.

Contingency

Consistent with cost estimating practice, contingencies are applied to the decontamination and dismantling costs developed as "specific provision for unforeseeable elements of cost within the defined project scope, particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur."[8] The cost elements in the estimates are based on ideal conditions; therefore, the types of unforeseeable events that are almost certain to occur in decommissioning, based on industry experience, are addressed through a percentage contingency applied on a line-item basis. This contingency factor is a nearly universal element in all large-scale construction and demolition projects. It should be noted that contingency, as used in this analysis, does not account for price escalation and inflation in the cost of decommissioning over the remaining operating life of the station.

The use and role of contingency within decommissioning estimates is not a safety factor issue. Safety factors provide additional security and address situations that may never occur. Contingency funds, by contrast, are expected to be fully expended throughout the program. Inclusion of contingency is necessary to provide assurance that sufficient funding will be available to accomplish the intended tasks.

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7 T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986.

8 Project and Cost Engineers' Handbook, Second Edition, American Association of Cost Engineers, Marcel Dekker, Inc., New York, New York, p. 239.

Low-Level Radioactive Waste Disposal

The contaminated and activated material generated in the decontamination and dismantling of a commercial nuclear reactor is classified as low-level (radioactive) waste, although not all of the material is suitable for "shallow-land" disposal. With the passage of the "Low-Level Radioactive Waste Policy Act" in 1980,[9] and its Amendments of 1985,[10] the states became ultimately responsible for the disposition of low-level radioactive waste generated within their own borders.

New Jersey is a member of the three-state Atlantic Interstate Low-Level Radioactive Waste Management Compact, formed after New Jersey formally joined the Northeast Regional Compact. The Barnwell Low-Level Radioactive Waste Management Facility, located in South Carolina, is expected to be available to support the decommissioning of Oyster Creek. It is also assumed that AmerGen Energy can access other disposal sites should it prove cost-effective. As such, rate schedules for both the Barnwell and the Envirocare facility in Utah are used to generate disposal costs.

High-Level Radioactive Waste Management

Congress passed the "Nuclear Waste Policy Act"[11] (NWPA) in 1982, assigning the responsibility for disposal of the spent nuclear fuel created by the commercial nuclear generating plants to the DOE. Two permanent disposal facilities were envisioned, as well as an interim storage facility. To recover the cost, the legislation created a Nuclear Waste Fund through which money is collected from the sale of electricity generated by the power plants. The NWPA, along with the individual disposal contracts with the utilities, specified that the DOE was to begin accepting spent fuel by January 31, 1998.

Since the original legislation, the DOE has announced several delays in the program schedule. By January 1998, the DOE had failed to initiate the disposal of spent nuclear fuel and high level waste, as required by the NWPA and the utility contracts. As a result, utilities have initiated legal action against the DOE. While legal actions continue, the DOE has no plans to receive spent fuel prior to completing the construction of its geologic repository.

Operation of DOE's yet-to-be constructed repository is contingent upon the review and approval of the facility's license application by the NRC, the successful resolution of pending litigation, and the development of a national transportation system. By

9 "Low-Level Radioactive Waste Policy Act of 1980," Public Law 96-573, 1980.
10 "Low-Level Radioactive Waste Policy Amendments Act of 1985," Public Law 99-240, 1986.
11 "Nuclear Waste Policy Act of 1982 and Amendments," U.S. Department of Energy's Office of Civilian Radioactive Management, 1982.

comparison, the Private Fuel Storage consortium submitted an application for an interim storage facility in 1997. To date, the Atomic Safety and Licensing Board has issued only a partial ruling on one of several issues that need to be resolved prior to the NRC issuing a license for the facility. With a more technically complex and politically sensitive application for permanent disposal, it is not unreasonable to expect that the NRC's approval to construct the repository at Yucca Mountain would require at least as long a review period. Construction would therefore begin sometime around the year 2010, at the earliest. The DOE has no plans for receiving spent fuel from commercial nuclear plant sites prior to this date and startup operations may be phased in, creating additional delays. For estimating purposes, AmerGen Energy has assumed that the high-level waste repository, or some interim storage facility, will be fully operational by 2015. This timetable is consistent with the findings of an evaluation recently issued to Congress by the Government Accounting Office.[12]

The NRC requires that licensees establish a program to manage and provide funding for the caretaking of all irradiated fuel at the reactor site until title of the fuel is transferred to the DOE.[13] Interim storage of the fuel, until the DOE has completed the transfer, will be in the storage pool and/or an ISFSI located on the Oyster Creek site.

The ISFSI, which is independently licensed and operated, will be expanded to support decommissioning operations. For the DECON and SAFSTOR scenarios, the facility is sized to accommodate the inventory of spent fuel residing in the plant's storage pool at the conclusion of the required cooling period. Once emptied, the reactor building can be either decontaminated and dismantled, or prepared for long-term storage. In the Delayed DECON scenario, the existing ISFSI and storage pool remain operational and are used for the interim storage of the fuel until such time that the DOE can complete the transfer.

The DOE's generator allocation/receipt schedules are based upon the oldest fuel receiving the highest priority. Given this scenario and an anticipated rate of transfer, spent fuel is projected to remain at the site for approximately 19 years after the cessation of operations. Consequently, costs are included within the estimates for the long-term caretaking of the spent fuel at the Oyster Creek site until the year 2027.

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12 "Technical, Schedule, and Cost Uncertainties of the Yucca Mountain Repository Project," GAO-02-191, December 2001.

13 "Domestic Licensing of Production and Utilization Facilities," U.S. Code of Federal Regulations, Title 10, Part 50.54 (bb).

Site Restoration

The efficient removal of the contaminated materials at the site may result in damage to many of the site structures. Blasting, coring, drilling, and the other decontamination activities will substantially damage power block structures, potentially weakening the footings and structural supports. Prompt demolition once the license is terminated is clearly the most appropriate and cost-effective option. It is unreasonable to anticipate that these structures would be repaired and preserved after the radiological contamination is removed. The cost to dismantle site structures with a work force already mobilized is more efficient and less costly than if the process were deferred. Experience at shutdown generating stations has shown that plant facilities quickly degrade without maintenance, adding additional expense and creating potential hazards to the public and the demolition work force. Consequently, this analysis assumes that non-essential site structures within the restricted access area are removed to a nominal depth of three feet below the local grade level wherever possible. The site is then backfilled, graded and stabilized.

Summary

The costs to decommission Oyster Creek are evaluated for several decommissioning scenarios, incorporating both the DECON and SAFSTOR decommissioning alternatives. Regardless of the timing of the decommissioning activities, the estimates assume the eventual removal of all the contaminated and activated plant components and structural materials, such that the facility operator may then have unrestricted use of the site with no further requirement for an operating license. Delayed decommissioning (Delayed DECON) is initiated after the spent fuel has been removed from the site and is accomplished within the 60-year period required by current NRC regulations. In the interim, the spent fuel remains in storage at the site until such time that the transfer to a DOE facility can be completed. Once the transfer is complete, the storage facilities are also decommissioned.

The scenarios analyzed for the purpose of generating the estimates are described in Section 2. The assumptions are presented in Section 3, along with schedules of annual expenditures. The major cost contributors are identified in Section 6, with detailed activity costs, waste volumes, and associated manpower requirements delineated in Appendices C, D, and E. Cost summaries for the various scenarios are provided at the end of this section for the major cost components.

SUMMARY OF DECOMMISSIONING COST ELEMENTS
DECON
(Thousands of 2003 Dollars)

Activity	Total
Decontamination	14,149
Removal	106,014
Packaging	12,406
Transportation	5,561
Waste Disposal	96,915
Off-site Waste Processing	36,757
Program Management [1]	236,572
Spent Fuel Pool Isolation	9,332
ISFSI Related (non-operating)	81,723
Insurance and Regulatory Fees	18,601
Energy	4,095
Characterization and Licensing Surveys	10,191
Property Taxes	20,638
Miscellaneous Equipment	5,998
Site O&M	5,526
Total [2]	664,477
NRC License Termination	480,331
Spent Fuel Management	141,648
Site Restoration	42,498

[1] Includes engineering and security
[2] Columns may not add due to rounding

SUMMARY OF DECOMMISSIONING COST ELEMENTS
DELAYED DECON
(Thousands of 2003 Dollars)

Activity	Total
Decontamination	18,113
Removal	95,991
Packaging	8,829
Transportation	4,258
Waste Disposal	58,593
Off-site Waste Processing	43,866
Program Management [1]	261,672
Spent Fuel Pool Isolation	9,332
ISFSI Related (non-operating)	38,655
Insurance and Regulatory Fees	31,133
Energy	11,808
Characterization and Licensing Surveys	11,524
Property Taxes	25,513
Miscellaneous Equipment	9,183
Site O&M	6,798
Total [2]	635,270
NRC License Termination	414,583
Spent Fuel Management	175,539
Site Restoration	45,148

[1] Includes engineering and security
[2] Columns may not add due to rounding

SUMMARY OF DECOMMISSIONING COST ELEMENTS
SAFSTOR
(Thousands of 2003 Dollars)

Activity	Total
Decontamination	18,035
Removal	99,217
Packaging	8,949
Transportation	4,282
Waste Disposal	56,405
Off-site Waste Processing	43,468
Program Management [1]	343,367
Spent Fuel Pool Isolation	9,332
ISFSI Related (non-operating)	77,603
Insurance and Regulatory Fees	69,823
Energy	8,933
Characterization and Licensing Surveys	11,524
Property Taxes	67,209
Miscellaneous Equipment	16,269
Site O&M	17,696
Total [2]	852,113
NRC License Termination	610,009
Spent Fuel Management	196,982
Site Restoration	45,122

[1] Includes engineering and security
[2] Columns may not add due to rounding

1. INTRODUCTION

This report presents estimates of the cost to decommission the Oyster Creek Nuclear Generating Station (Oyster Creek) for the scenarios described in Section 2, following a scheduled cessation of plant operations. The analysis is designed to provide AmerGen Energy with sufficient information to assess its financial obligations, as they pertain to the eventual decommissioning of the nuclear unit. It is not a detailed engineering document, but a financial analysis prepared in advance of the detailed engineering that will be required to carry out the decommissioning.

1.1 OBJECTIVES OF STUDY

The objectives of this study are to prepare comprehensive estimates of the cost to decommission Oyster Creek, to provide a sequence or schedule for the associated activities, and to develop waste stream projections from the decontamination and dismantling activities. For the purposes of this study, the shutdown date was taken as April 9, 2009, the expiration date of the current operating license.

1.2 SITE DESCRIPTION

The Oyster Creek nuclear unit is about two miles inland from the shore of Barnegat Bay on the coast of New Jersey. The site is approximately nine miles south of Toms River, New Jersey; about fifty miles east of Philadelphia, Pennsylvania; and sixty miles south of Newark, New Jersey. The generating station is comprised of a single reactor with supporting facilities.

Oyster Creek was designed and constructed by the General Electric Company Atomic Power Equipment Department as a turnkey project. The reactor is a single-cycle, forced circulation boiling water reactor producing steam for direct use in the steam turbine. The reactor vessel and the recirculation system are contained within the drywell of a pressure absorption containment system housed within the reactor building. The primary containment system consists of the drywell, vent pipes, and a pool of water contained in the absorption chamber (torus). The reactor building encloses the primary containment system, thereby providing a secondary containment.

Oyster Creek presently operates under a full term operating license at a maximum thermal power level of about 1930 MWth with a corresponding

gross electrical output of approximately 670 MWe. Heat produced in the reactor is converted to electrical energy by the steam and power conversion system. A turbine-generator system converts the thermal energy of steam produced by the reactor into mechanical shaft power and then into electrical energy. The turbine consists of a high-pressure, double-flow turbine element and three double-flow, low-pressure turbine elements all aligned in tandem. The generator is a direct-driven 60 cycle, 24,000 volt, conductor-cooled, synchronous generator rated at 640,700 kW. The turbine is operated in a closed feedwater cycle which condenses the steam; the heated feedwater is returned to the reactor. Heat rejected in the main condensers is removed by the circulating water system.

The circulating water system provides the heat sink required for removal of waste heat in the power plant's thermal cycle. Water is drawn from Barnegat Bay through a 140 foot wide intake canal which follows the general course of the south branch of Forked River. The system has the principal function of removing heat by absorbing this energy in the main condenser. After passing through the plant condensers, the water is routed through the discharge canal which empties into Barnegat Bay.

1.3 REGULATORY GUIDANCE

The Nuclear Regulatory Commission (NRC or Commission) provided initial decommissioning requirements in its rule "General Requirements for Decommissioning Nuclear Facilities," issued in June 1988.[1] This rule set forth financial criteria for decommissioning licensed nuclear power facilities. The regulation addressed decommissioning planning needs, timing, funding methods, and environmental review requirements. The intent of the rule was to ensure that decommissioning would be accomplished in a safe and timely manner and that adequate funds would be available for this purpose. Subsequent to the rule, the NRC issued Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors,"[2] which provided additional guidance to the licensees of nuclear facilities on the financial methods acceptable to the NRC staff for complying with the requirements of the rule. The regulatory guide addressed the funding requirements and provided guidance on the content and form of the financial assurance mechanisms indicated in the rule.

The rule defined three decommissioning alternatives as being acceptable to the NRC: DECON, SAFSTOR, and ENTOMB. The DECON alternative, the option evaluated for this analysis, assumes that any contaminated or activated portion of the plant's systems, structures, and facilities are removed

or decontaminated to levels that permit the site to be released for unrestricted use shortly after the cessation of plant operations. The rule also placed limits on the time allowed to complete the decommissioning process. For SAFSTOR, the process is restricted in overall duration to 60 years, unless it can be shown that a longer duration is necessary to protect public health and safety. The guidelines for ENTOMB are similar, providing the NRC with both sufficient leverage and flexibility to ensure that these deferred options are only used in situations where it is reasonable and consistent with the definition of decommissioning. At the conclusion of a 60-year dormancy period (or longer for ENTOMB if the NRC approves such a case), the site would still require significant remediation to meet the unrestricted release limits for license termination.

The ENTOMB alternative has not been viewed as a viable option for power reactors due to the significant time required to isolate the long-lived radionuclides for decay to permissible levels. However, with recent rulemaking permitting the controlled release of a site, the NRC has re-evaluated this alternative.[3] The resulting feasibility study, based upon an assessment by Pacific Northwest National Laboratory, concluded that the method did have conditional merit for some, if not most, reactors. However, the staff also found that additional rulemaking would be needed before this option could be treated as a generic alternative. The NRC had considered rulemaking to alter the 60-year time for completing decommissioning and to clarify the use of engineered barriers for reactor entombments.[4] However, the staff has recently recommended that rulemaking be deferred, based upon several factors, e.g., no licensee has committed to pursuing the entombment option, the unresolved issues associated with the disposition of greater-than-Class C material (GTCC), and the NRC's current priorities, at least until after the additional research studies are complete. The Commission has concurred with the staff's recommendation.

The NRC published revisions to the general requirements for decommissioning nuclear power plants in 1996.[5] When the regulations were adopted in 1988, it was assumed that the majority of licensees would decommission at the end of the facility's operating licensed life. Since that time, several licensees permanently and prematurely ceased operations. Exemptions from certain operating requirements were required once the reactor was defueled to facilitate the decommissioning. Each case was handled individually, without clearly defined generic requirements. The NRC amended the decommissioning regulations in 1996 to clarify ambiguities and codify procedures and terminology as a means of enhancing efficiency and uniformity in the decommissioning process. The new amendments allow for

greater public participation and better define the transition process from operations to decommissioning.

Under the revised regulations, licensees will submit written certification to the NRC within 30 days after the decision to cease operations. Certification will also be required once the fuel is permanently removed from the reactor vessel. Submittal of these notices will entitle the licensee to a fee reduction and eliminate the obligation to follow certain requirements needed only during operation of the reactor. Within two years of submitting notice of permanent cessation of operations, the licensee is required to submit a Post-Shutdown Decommissioning Activities Report (PSDAR) to the NRC. The PSDAR describes the planned decommissioning activities, the associated sequence and schedule, and an estimate of expected costs. Prior to completing decommissioning, the licensee is required to submit an application to the NRC to terminate the license, which will include a License Termination Plan (LTP).

1.3.1 Nuclear Waste Policy Act

Congress passed the Nuclear Waste Policy Act[6] (NWPA) in 1982, assigning the responsibility for disposal of the spent nuclear fuel created by the commercial nuclear generating plants to the U.S. Department of Energy (DOE). Two permanent disposal facilities and an interim storage facility were envisioned. To recover the cost, the legislation created a Nuclear Waste Fund through which money is collected from the sale of electricity generated by the power plants. The NWPA, along with the individual disposal contracts with the utilities, specified that the DOE was to begin accepting spent fuel by January 31, 1998.

After pursuing a national site selection process, the NWPA was amended in 1987 to designate Yucca Mountain, Nevada, as the only site to be evaluated for geologic disposal of high-level waste. Also in 1987, the DOE announced a five-year delay (1998 to 2003) in the opening date for the repository. Two years later, in 1989, an additional seven-year delay was announced, primarily due to problems in obtaining the permits necessary from the State of Nevada to perform the required characterization of the site.

Generators have responded to this impasse by initiating legal action and constructing supplemental storage as a means of maintaining necessary operating margins. In an August 2000 ruling,[7] the U.S.

Court of Appeals for the Federal Circuit reaffirmed the utility position that DOE had breached its contractual obligation. Legal actions with the DOE continue; however, the DOE's position has remained unchanged. The agency continues to maintain that its delayed performance is unavoidable because it does not have an operational repository and does not have authority to provide storage in the interim. Consequently the DOE has no plans to receive spent fuel from the commercial reactors until the repository is operational.

The NRC requires that licensees establish a program to manage and provide funding for the management of all irradiated fuel at the reactor until title of the fuel is transferred to the Secretary of Energy, pursuant to Title 10 of the Code of Federal Regulations (10 CFR), §50.54 (bb).[8] This funding requirement is fulfilled through inclusion of certain high-level waste cost elements in the decommissioning estimates, as identified in Section 3.

An independent spent fuel storage installation (ISFSI) is currently operational at the site to provide supplement fuel storage. In two of the scenarios evaluated, the ISFSI is expanded to accommodate the inventory of spent fuel residing in the plant's storage pool at the conclusion of the required cooling period. Once emptied, the reactor building can be either decontaminated and dismantled or prepared for long-term storage. In the Delayed DECON scenario, the storage pool remains operational and is used for the interim storage of the fuel. The ISFSI remains operational; however, it is not used to offload the pool. Both facilities are maintained until such time that the DOE can complete the transfer.

For estimating purposes, the DOE is assumed to initiate spent fuel receipt in the year 2015. The DOE's generator allocation/receipt schedules are based upon the oldest fuel receiving the highest priority. Given this scenario and an anticipated rate of transfer, spent fuel is projected to remain at the site for almost 19 years after the cessation of operations. Consequently, costs are included within the analysis for the continued operation of the storage pool and the expansion of the ISFSI, as required, and for the long-term caretaking of the spent fuel at the site until the year 2027.

[This evaluation is prepared without prejudice to the rights of AmerGen Energy to pursue legal and contractual remedies from the DOE in light of recent court decisions.]

1.3.2 Low-Level Radioactive Waste Acts

The contaminated and activated material generated in the decontamination and dismantling of a commercial nuclear reactor is classified as low-level (radioactive) waste, although not all of the material is suitable for "shallow-land" disposal. Congress passed the "Low-Level Radioactive Waste Policy Act" in 1980,[9] declaring the states as being ultimately responsible for the disposition of low-level radioactive waste generated within their own borders. The federal law encouraged the formation of regional groups or compacts to implement this objective safely, efficiently, and economically, and set a target date of 1986 for implementation. After little progress, the "Low-Level Radioactive Waste Policy Amendments Act of 1985,"[10] extended the implementation schedule, with specific milestones and stiff sanctions for non-compliance. However, to date, no new compact facilities have been successfully sited, licensed, and constructed.

New Jersey is a member of the three-state Atlantic Interstate Low-Level Radioactive Waste Management Compact, formed after New Jersey formally joined the Northeast Regional Compact. The Barnwell Low-Level Radioactive Waste Management Facility, located in South Carolina, is expected to be available to support the decommissioning of Oyster Creek. It is also assumed that AmerGen Energy can access other disposal sites should it prove cost-effective. As such, rate schedules for both the Barnwell and the Envirocare facility in Utah are used to generate disposal costs.

1.3.3 Radiological Criteria for License Termination

In 1997, the NRC published Subpart E, "Radiological Criteria for License Termination,"[11] amending 10 CFR §20. This subpart provides radiological criteria for releasing a facility for unrestricted use. The regulation states that the site can be released for unrestricted use if radioactivity levels are such that the average member of a critical group would not receive a Total Effective Dose Equivalent (TEDE) in excess of 25 millirem per year, and provided that residual radioactivity has been reduced to levels that are As Low As Reasonably Achievable (ALARA). The decommissioning estimates for Oyster Creek assume that the site will be remediated to a residual level consistent with the NRC-prescribed level.

It should be noted that the NRC and the Environmental Protection Agency (EPA) differ on the amount of residual radioactivity considered acceptable in site remediation. The EPA has two limits that apply to radioactive materials. An EPA limit of 15 millirem per year is derived from criteria established by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).[12] An additional limit of 4 millirem per year, as defined in 40 CFR §141.16, is applied to drinking water.[13]

On October 9, 2002, the NRC signed an agreement with the EPA on the radiological decommissioning and decontamination of NRC-licensed sites. The Memorandum of Understanding (MOU) [14] provides that EPA will defer exercise of authority under CERCLA for the majority of facilities decommissioned under NRC authority. The MOU also includes provisions for NRC and EPA consultation for certain sites when, at the time of license termination, (1) groundwater contamination exceeds EPA-permitted levels; (2) NRC contemplates restricted release of the site; and/or (3) residual radioactive soil concentrations exceed levels defined in the MOU.

The MOU does not impose any new requirements on NRC licensees and should reduce the involvement of the EPA with NRC licensees who are decommissioning. Most sites are expected to meet the NRC criteria for unrestricted use, and the NRC believes that only a few sites will have groundwater or soil contamination in excess of the levels specified in the MOU that trigger consultation with the EPA. However, if there are other hazardous materials on the site, the EPA may be involved in the cleanup. As such, the possibility of dual regulation remains for certain licensees. The present study does not include any costs for this occurrence.

2. DECOMMISSIONING ALTERNATIVES

Detailed cost estimates were developed to decommission Oyster Creek utilizing a combination of the approved decommissioning alternatives: DECON and SAFSTOR. Although the alternatives differ with respect to technique, process, cost, and schedule, they attain the same result: the ultimate release of the site for unrestricted use.

Three decommissioning scenarios were evaluated for the nuclear unit. The scenarios selected are representative of alternatives available to the owner and are defined as follows:

1. DECON: The operating license expires in April 2009. The first scenario assumes that the total duration of the physical dismantling process is minimized. The existing ISFSI is expanded to accommodate any residual spent fuel remaining from plant operations so as to facilitate the decontamination and dismantling of the power block structures. Spent fuel storage operations continue at the site until the transfer of fuel to the DOE is complete, assumed to be in the year 2027.

2. Delayed DECON: In the second scenario, the unit is prepared for an abbreviated period of storage. The spent fuel discharged to the storage pool, once operations cease, remains in the pool until it can be transferred to a DOE facility, i.e., an ISFSI is not used to offload the pool. Decommissioning is delayed until the transfer of the fuel to the DOE is complete, i.e., in the year 2027. The unit is then decommissioned.

3. SAFSTOR: The unit is placed into safe-storage in the third scenario. However, decommissioning is deferred beyond the fuel storage period to the maximum extent possible; termination of the license would conclude within the maximum required 60-year period. Spent fuel remaining in the spent fuel storage pool after a minimum cooling period of 5½ years is transferred to the ISFSI for interim storage.

The following sections describe the basic activities associated with each alternative. Although detailed procedures for each activity identified are not provided, and the actual sequence of work may vary, the activity descriptions provide a basis not only for estimating but also for the expected scope of work, i.e., engineering and planning at the time of decommissioning.

The conceptual approach that the NRC has described in its regulations divides decommissioning into three phases. The initial phase commences with the effective date of permanent cessation of operations and involves the transition of both plant

and licensee from reactor operations (i.e., power production) to facility de-activation and closure. During the first phase, notification is to be provided to the NRC certifying the permanent cessation of operations and the removal of fuel from the reactor vessel. The licensee would then be prohibited from reactor operation.

The second phase encompasses activities during the storage period or during major decommissioning activities, or a combination of the two. The third phase pertains to the activities involved in license termination. The decommissioning estimates developed for Oyster Creek are also divided into phases or periods; however, demarcation of the phases is based upon major milestones within the project or significant changes in the projected expenditures.

2.1 DECON

The DECON alternative, as defined by the NRC, is "the alternative in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed or decontaminated to a level that permits the property to be released for unrestricted use shortly after cessation of operations." This study does not address the cost to dispose of the spent fuel residing at the site; such costs are funded through a surcharge on electrical generation. However, the study does estimate the costs incurred with the interim on-site storage of the fuel pending shipment by the DOE to an off-site disposal facility.

2.1.1 Period 1 – Preparations

In anticipation of the cessation of plant operations, detailed preparations are undertaken to provide a smooth transition from plant operations to site decommissioning. Through implementation of a staffing transition plan, the organization required to manage the intended decommissioning activities is assembled from available plant staff and outside resources. Preparations include the planning for permanent defueling of the reactor, revision of technical specifications applicable to the operating conditions and requirements, a characterization of the facility and major components, and the development of the PSDAR.

Engineering and Planning

The PSDAR, required within two years of the notice to cease operations, provides a description of the licensee's planned decommissioning activities, a timetable, and the associated financial requirements of the intended decommissioning program. Upon receipt of the PSDAR, the

NRC will make the document available to the public for comment in a local hearing to be held in the vicinity of the reactor site. Ninety days following submittal and NRC receipt of the PSDAR, the licensee may begin to perform major decommissioning activities under a modified 10 CFR §50.59 procedure, i.e., without specific NRC approval. Major activities are defined as any activity that results in permanent removal of major radioactive components, permanently modifies the structure of the containment, or results in dismantling components (for shipment) containing GTCC, as defined by 10 CFR §61. Major components are further defined as comprising the reactor vessel and internals, large bore reactor recirculation system piping, and other large components that are radioactive. The NRC includes the following additional criteria for use of the §50.59 process in decommissioning. The proposed activity must not:

- foreclose release of the site for possible unrestricted use,
- significantly increase decommissioning costs,
- cause any significant environmental impact, or
- violate the terms of the licensee's existing license.

Existing operational technical specifications are reviewed and modified to reflect plant conditions and the safety concerns associated with permanent cessation of operations. The environmental impact associated with the planned decommissioning activities is also considered. Typically, a licensee will not be allowed to proceed if the consequences of a particular decommissioning activity are greater than that bounded by previously evaluated environmental assessments or impact statements. In this instance, the licensee would have to submit a license amendment for the specific activity and update the environmental report.

The decommissioning program outlined in the PSDAR will be designed to accomplish the required tasks within the ALARA guidelines (as defined in 10 CFR §20) for protection of personnel from exposure to radiation hazards. It will also address the continued protection of the health and safety of the public and the environment during the dismantling activity. Consequently, with the development of the PSDAR, activity specifications, cost-benefit and safety analyses, work packages and procedures, would be assembled to support the proposed decontamination and dismantling activities.

Site Preparations

Following final plant shutdown, and in preparation for actual decommissioning activities, the following activities are initiated:

- Characterization of the site and surrounding environs. This includes radiation surveys of work areas, major components (including the reactor vessel and its internals), internal piping, and primary shield cores.

- Expansion of the existing ISFSI for the interim storage of spent fuel in wet storage.

- Isolation of the spent fuel storage pool and fuel handling systems, such that decommissioning operations can commence on the balance of the plant. The pool will remain operational for approximately 5½ years following the cessation of operations before the inventory resident at shutdown can be transferred to either the ISFSI or a DOE facility.

- Specification of transport and disposal requirements for activated materials and/or hazardous materials, including shielding and waste stabilization.

- Development of procedures for occupational exposure control, control and release of liquid and gaseous effluent, processing of radwaste (including dry-active waste, resins, filter media, metallic and non-metallic components generated in decommissioning), site security and emergency programs, and industrial safety.

2.1.2 Period 2 – Decommissioning Operations

This period includes the physical decommissioning activities associated with the removal and disposal of contaminated and activated components and structures, including the successful termination of the 10 CFR §50 operating license. Significant decommissioning activities in this phase include:

- Construction of temporary facilities and/or modification of existing facilities to support dismantling activities. This may include a centralized processing area to facilitate equipment removal and component preparations for off-site disposal.

- Reconfiguration and modification of site structures and facilities as needed to support decommissioning operations. This may include the upgrading of roads (on- and off-site) to facilitate hauling and transport. Modifications may be required to the containment structure to facilitate access of large/heavy equipment. Modifications may also be required to the refueling area of the building to support the segmentation of the reactor vessel internals and component extraction.

- Design and fabrication of temporary and permanent shielding to support removal and transportation activities, construction of contamination control envelopes, and the procurement of specialty tooling.

- Procurement (lease or purchase) of shipping canisters, cask liners, and industrial packages.

- Decontamination of components and piping systems as required to control (minimize) worker exposure.

- Removal of piping and components no longer essential to support decommissioning operations.

- Transfer of the steam separator and dryer assemblies to the dryer-separator pool for segmentation. Segmentation by weight and activity maximizes the loading of the shielded transport casks. The operations are conducted under water using remotely operated tooling and contamination controls.

- Disconnection of the control blades from the drives on the vessel lower head. Blades are transferred to the spent fuel pool for packaging.

- Disassembly, segmentation, and packaging of the core shroud and in-core guide tubes. Some of the material is expected to exceed Class C disposal requirements. As such, those segments are packaged in a modified fuel storage canister for geologic disposal.

- Removal and segmentation of the remaining internals including the fuel support castings and core plate assembly.

- Draining and decontamination of the reactor well and the permanent sealing of the spent fuel transfer gate. Install shielded platform for segmentation of reactor vessel. Cutting operations are performed in air using remotely operated equipment within a contamination control envelope, with the water level maintained just below the cut to minimize the working area dose rates. Sections are transferred to the dryer-separator pool for packaging and interim storage.

- Disconnection of the control rod drives and instrumentation tubes from reactor vessel lower head. The lower reactor head and vessel supporting structure are then segmented.

- Removal of the reactor recirculation pumps. Exterior surfaces are decontaminated and openings covered. Components can serve as their own burial containers provided that all penetrations are properly sealed.

- Demolition of the sacrificial shield activated concrete by controlled demolition.

- Transfer of the spent fuel from the storage pool to the DOE and ISFSI pad for interim storage.

At least two years prior to the anticipated date of license termination, a LTP is required. Submitted as a supplement to the FSAR or its equivalent, the plan must include: a site characterization, description of the remaining dismantling activities, plans for site remediation, procedures for the final radiation survey, designation of the end use of the site, an updated cost estimate to complete the decommissioning, and any associated environmental concerns. The NRC will notice the receipt of the plan, make the plan available for public comment, and schedule a local hearing. LTP approval will be subject to any conditions and limitations as deemed appropriate by the Commission. The licensee may then commence with the final remediation of site facilities and services, including:

- Removal of remaining plant systems and associated components as they become nonessential to the decommissioning program or worker health and safety (e.g., waste collection and treatment systems, electrical power and ventilation systems).

- Removal of the steel liners from the drywell, disposing of the activated and contaminated sections as radioactive waste. Removal of any activated/ contaminated concrete.

- Removal of the steel liners from the steam separator and dryer pool, reactor well, and spent fuel storage pools.

- Surveys of the decontaminated areas of the containment structure.

- Removal of the contaminated equipment and material from the turbine and radwaste buildings, and any other contaminated facility. Use radiation and contamination control techniques until radiation surveys indicate that the structures can be released for unrestricted access and conventional demolition. This activity may necessitate the dismantling and disposition of most of the systems and components (both clean and contaminated) located within these buildings. This activity will facilitate surface decontamination and subsequent verification surveys required prior to obtaining release for demolition.

- Routing of material removed in the decontamination and dismantling to a central processing area. Material certified to be free of contamination is released for unrestricted disposition, e.g., as scrap, recycle, or general disposal. Contaminated material is characterized and segregated for additional off-site processing (disassembly, chemical cleaning, volume reduction, and waste treatment), and/or packaged for controlled disposal at a low-level radioactive waste disposal facility.

Incorporated into the LTP is the Final Survey Plan. This plan identifies the radiological surveys to be performed once the decontamination activities are completed and is developed using the guidance provided in the "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)."[15] This document incorporates the statistical approaches to survey design and data interpretation used by the EPA. It also identifies state-of-the-art, commercially available instrumentation and procedures for conducting radiological surveys. Use of this guidance ensures that the surveys are conducted in a manner that provides a high degree of confidence that applicable NRC criteria are satisfied. Once the survey is complete, the results are provided to the NRC in a format that can be verified. The NRC then reviews and evaluates the information,

performs an independent confirmation of radiological site conditions, and makes a determination on final termination of the license.

The NRC will terminate the operating license if it determines that site remediation has been performed in accordance with the LTP, and that the terminal radiation survey and associated documentation demonstrate that the facility is suitable for release.

2.1.3 Period 3 – Site Restoration

Following completion of decommissioning operations, site restoration activities will begin. Efficient removal of the contaminated materials and verification that residual radionuclide concentrations are below the NRC limits will result in substantial damage to many of the structures. Although performed in a controlled, safe manner, blasting, coring, drilling, scarification (surface removal), and the other decontamination activities will substantially degrade power block structures including the reactor and radwaste buildings. Under certain circumstances, verifying that subsurface radionuclide concentrations meet NRC site release requirements will require removal of grade slabs and lower floors, potentially weakening footings and structural supports. This removal activity will be necessary for those facilities and plant areas where historical records, when available, indicate the potential for radionuclides having been present in the soil, where system failures have been recorded, or where it is required to confirm that subsurface process and drain lines were not breached over the operating life of the station.

Prompt dismantling of site structures is clearly the most appropriate and cost-effective option. It is unreasonable to anticipate that these structures would be repaired and preserved after the radiological contamination is removed. The cost to dismantle site structures with a work force already mobilized on site is more efficient than if the process were deferred. Site facilities quickly degrade without maintenance, adding additional expense and creating potential hazards to the public as well as to future workers. Abandonment creates a breeding ground for vermin infestation as well as other biological hazards.

This cost study presumes that non-essential structures and site facilities are dismantled as a continuation of the decommissioning activity. Foundations and exterior walls are removed to a nominal depth of three feet below grade. The three-foot depth allows for the

placement of gravel for drainage, as well as topsoil, so that vegetation can be established for erosion control. Site areas affected by the dismantling activities are restored and the plant area graded as required to prevent ponding and inhibit the refloating of subsurface materials.

Concrete rubble produced by demolition activities is processed to remove rebar and miscellaneous embedments. The processed material is then used on site to backfill voids. Excess materials are trucked to an off-site area for disposal as construction debris.

2.1.4 ISFSI Operations and Decommissioning

The ISFSI will continue to operate under a separate and independent license (10 CFR §72) following the termination of the §50 operating license. Assuming the DOE starts accepting fuel in 2015, transfer of spent fuel from Oyster Creek is anticipated to begin in 2025 and continue through the year 2027.

At the conclusion of the spent fuel transfer process, the ISFSI will be decommissioned. The Commission will terminate the §72 license if it determines that the remediation of the ISFSI has been performed in accordance with an ISFSI license termination plan and that the final radiation survey and associated documentation demonstrate that the facility is suitable for release. Once the requirements are satisfied, the NRC can terminate the license for the ISFSI.

The assumed design for the ISFSI is based upon the use of a multi-purpose canister and a concrete overpack for pad storage. For purposes of this cost analysis, it is assumed that once the inner canisters containing the spent fuel assemblies have been removed, any required decontamination performed, and the license for the facility terminated, the modules can be dismantled using conventional techniques for the demolition of reinforced concrete. The concrete storage pad will then be removed, and the area graded and landscaped to conform to the surrounding environment.

2.2 SAFSTOR AND DELAYED DECOMMISSIONING

The NRC defines SAFSTOR as "the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use." The facility is left intact

(during the dormancy period), with structures maintained in a sound condition. Systems not required to operate in support of the spent fuel pool or site surveillance and security are drained, de-energized, and secured. Minimal cleaning/removal of loose contamination and/or fixation and sealing of remaining contamination is performed. Access to contaminated areas is secured to provide controlled access for inspection and maintenance.

The engineering and planning requirements are similar to those for the DECON alternative, although a shorter time period is expected for these activities due to the more limited work scope. Site preparations are also similar to those for the DECON alternative. However, with the exception of the required radiation surveys and site characterizations, the mobilization and preparation of site facilities is less extensive.

The following discussion is appropriate for both the SAFSTOR and Delayed DECON scenarios, the primary differences being in the storage methods for the spent fuel and the length of the dormancy period. Spent fuel is continued to be stored in the wet storage pool for the Delayed DECON scenario until such time that the transfer to a DOE facility can be completed, i.e., the ISFSI is not used to offload the pool. Decommissioning operations are assumed to begin once the transfer is complete. By contrast, all of the fuel remaining in the storage pool after the minimum required cooling period is relocated to the ISFSI in the SAFSTOR scenario and the pool emptied. The nuclear unit remains in storage after fuel transfer operations are completed, with decommissioning operations initiated such that the license is terminated within the required 60-year time period.

2.2.1 Period 1 - Preparations

Preparations for long-term storage include the planning for permanent defueling of the reactor, revision of technical specifications appropriate to the operating conditions and requirements, a characterization of the facility and major components, and the development of the PSDAR.

The process of placing the plant in safe-storage includes, but is not limited to, the following activities:

- Isolation of the spent fuel storage services and fuel handling systems so that safe-storage operations may commence on the balance of the plant. This activity may be carried out by plant personnel in accordance with existing operating technical specifications. Activities

are scheduled around the fuel handling systems to the greatest extent possible.

- Draining and de-energizing of the non-contaminated systems not required to support continued site operations or maintenance.
- Disposing of contaminated filter elements and resin beds not required for processing wastes from layup activities for future operations.
- Draining of the reactor vessel, with the internals left in place and the vessel head secured.
- Draining and de-energizing non-essential, contaminated systems with decontamination as required for future maintenance and inspection.
- Preparing lighting and alarm systems whose continued use is required; de-energizing portions of fire protection, electric power, and HVAC systems whose continued use is not required.
- Cleaning of the loose surface contamination from building access pathways.
- Performing an interim radiation survey of plant, posting warning signs where appropriate.
- Erecting physical barriers and/or securing all access to radioactive or contaminated areas, except as required for inspection and maintenance.
- Installing security and surveillance monitoring equipment and relocating security fence around secured structures, as required.

2.2.2 Period 2 - Dormancy

The second phase identified by the NRC in its rule addresses licensed activities during a storage period and is applicable to the dormancy phases of the deferred decommissioning alternatives. Dormancy activities include a 24-hour security force, preventive and corrective maintenance on security systems, area lighting, general building maintenance, heating and ventilation of buildings, routine radiological

inspections of contaminated structures, maintenance of structural integrity, and a site environmental and radiation monitoring program. Resident maintenance personnel perform equipment maintenance, inspection activities, routine services to maintain safe conditions, adequate lighting, heating, and ventilation, and periodic preventive maintenance on essential site services.

An environmental surveillance program is carried out during the dormancy period to ensure that releases of radioactive material to the environment are prevented and/or detected and controlled. Appropriate emergency procedures are established and initiated for potential releases that exceed prescribed limits. The environmental surveillance program constitutes an abbreviated version of the program in effect during normal plant operations.

Security during the dormancy period is conducted primarily to prevent unauthorized entry and to protect the public from the consequences of its own actions. The security fence, sensors, alarms, and other surveillance equipment provide security. Fire and radiation alarms are also monitored and maintained. While remote surveillance is an option, it does not offer the immediate response time of a physical presence.

The transfer of the spent fuel to a DOE facility continues during this period until complete. Fuel is shipped exclusively from the ISFSI in the SAFSTOR scenario and from the pool and the ISFSI in the Delayed DECON scenario.

After an optional period of storage (such that license termination is accomplished within 60 years of final shutdown), it is required that the licensee submit an application to terminate the license, along with an LTP (described in Section 2.1.2), thereby initiating the third phase.

2.2.3 Periods 3 and 4 - Delayed Decommissioning

Prior to the commencement of decommissioning operations, preparations are undertaken to reactivate site services and prepare for decommissioning. Preparations include engineering and planning, a detailed site characterization, and the assembly of a decommissioning management organization. Final planning for activities and the writing of activity specifications and detailed procedures are also initiated at this time.

Much of the work in developing a termination plan is relevant to the development of the detailed engineering plans and procedures. The activities associated with this phase and the follow-on decontamination and dismantling processes are detailed in Sections 2.1.1 and 2.1.2. The primary difference between the sequences anticipated for the DECON and deferred scenarios is the absence, in the latter, of any constraint on the availability of the fuel storage facilities for decommissioning.

Variations in the length of the dormancy period are expected to have little effect upon the quantities of radioactive wastes generated from system and structure removal operations. Given the levels of radioactivity and spectrum of radionuclides expected from thirty to forty years of plant operation, no plant process system identified as being contaminated upon final shutdown will become releasable due to the decay period alone, i.e., there is no significant reduction in the waste generated from the decommissioning activities. However, due to the lower activity levels, a greater percentage of the waste volume can be designated for off-site processing and recovery.

The delay in decommissioning also yields lower working area radiation levels. As such, the estimates for the delayed scenarios incorporate reduced ALARA controls for the SAFSTOR's lower occupational exposure potential.

Although the initial radiation levels due to ^{60}Co will decrease during the dormancy period, the internal components of the reactor vessel will still exhibit sufficiently high radiation dose rates to require remote sectioning under water due to the presence of long-lived radionuclides such as ^{94}Nb, ^{59}Ni, and ^{63}Ni. Therefore, the dismantling procedures described for the DECON alternative would still be employed during deferred scenarios. Portions of the biological shield will still be radioactive due to the presence of activated trace elements with long half-lives (^{152}Eu and ^{154}Eu). Decontamination will require controlled removal and disposal. It is assumed that radioactive corrosion products on inner surfaces of piping and components will not have decayed to levels that will permit unrestricted use or allow conventional removal. These systems and components will be surveyed as they are removed and disposed of in accordance with the existing radioactive release criteria.

2.2.4 Period 5 – Site Restoration

Following completion of decommissioning operations, site-restoration activities can begin. If the site structures are to be dismantled, dismantling as a continuation of the decommissioning process is clearly the most appropriate and cost-effective option, as described in Section 2.1.3. The basis for the dismantling cost in the deferred scenarios is consistent with that described for DECON, presuming the removal of structures and site facilities to a nominal depth of three feet below grade and the limited restoration of the site.

3. COST ESTIMATE

The cost estimates prepared for decommissioning Oyster Creek consider the unique features of the site, including the NSSS, power generation systems, support services, site buildings, and ancillary facilities. The basis of the estimates, including the sources of information relied upon, the estimating methodology employed, site-specific considerations, and other pertinent assumptions, is described in this section.

3.1 BASIS OF ESTIMATE

The estimates were developed with site-specific, technical information originally developed in an evaluation prepared for the GPU Nuclear Corporation in 1997-99.[16] The information was reviewed for the current analysis and updated as deemed appropriate. The site-specific considerations and assumptions used in the previous evaluation were also revisited. Modifications were incorporated where new information was available or experience from ongoing decommissioning programs provided viable alternatives or improved processes.

3.2 METHODOLOGY

The methodology used to develop the estimates follows the basic approach originally presented in the AIF/NESP-036 study report, "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates,"[17] and the DOE "Decommissioning Handbook."[18] These documents present a unit factor method for estimating decommissioning activity costs, which simplifies the estimating calculations. Unit factors for concrete removal ($/cubic yard), steel removal ($/ton), and cutting costs ($/inch) were developed using local labor rates. The activity-dependent costs were estimated with the item quantities (cubic yards and tons), developed from plant drawings and inventory documents. Removal rates and material costs for the conventional disposition of components and structures relied upon information available in the industry publication, "Building Construction Cost Data," published by R.S. Means.[19]

This analysis reflects lessons learned from TLG's involvement in the Shippingport Station Decommissioning Project, completed in 1989, as well as the decommissioning of the Cintichem reactor, hot cells, and associated facilities, completed in 1997. In addition, the planning and engineering for the Pathfinder, Shoreham, Rancho Seco, Trojan, Yankee Rowe, Big Rock Point, Maine Yankee, Humboldt Bay-3, Oyster Creek, Connecticut Yankee, and San Onofre-1 nuclear units have provided additional insight into the process, the

regulatory aspects, and the technical challenges of decommissioning commercial nuclear units.

The unit factor method provides a demonstrable basis for establishing reliable cost estimates. The detail provided in the unit factors, including activity duration, labor costs (by craft), and equipment and consumable costs, ensures that essential elements have not been omitted. Appendix A presents the detailed development of a typical unit factor. Appendix B provides the values contained within one set of factors developed for this analysis.

Work Difficulty Factors

WDFs were assigned to each area, commensurate with the inefficiencies associated with working in confined, hazardous environments. The ranges used for the WDFs are as follows:

- Access Factor 0% to 40%
- Respiratory Protection Factor 0% to 50%
- Radiation/ALARA Factor 0% to 100%
- Protective Clothing Factor 0% to 30%
- Work Break Factor 8.33%

These factors and their associated range of values were developed in conjunction with the Atomic Industrial Forum's Guideline Study. The factors (and their suggested application) are discussed in more detail in Appendix F.

Scheduling Program Durations

The unit factors, adjusted by the WDFs as described above, are applied against the inventory of materials to be removed in the radiologically controlled areas. The resulting man-hours, or crew-hours, are used in the development of the decommissioning program schedule, using resource loading and event sequencing considerations. The scheduling of conventional removal and dismantling activities are based upon productivity information available from the "Building Construction Cost Data" publication.

An area-by-area activity duration critical path was used to develop the total decommissioning program schedule. The unit cost factors, adjusted for WDF's as described above, were applied against the inventory of materials to be removed in each defined work area. Each work area was assessed for the most efficient number of workers/crews for the decommissioning activities. These adjusted unit cost factors were applied against the available manpower so that

an overall duration for removal of components and piping from each work area could be calculated. Work area identification is consistent with the Survey Tracking Number (STN) system utilized by GPU's radiological services group in the 1997 timeframe. An index of the GPU STN's is provided in Appendix G.

The program schedule is used to determine the period-dependent costs for program management, administration, field engineering, equipment rental, contracted services, etc. The study relies upon regional or site-specific salary and wage rates for the personnel associated with the intended program.

3.3 FINANCIAL COMPONENTS OF THE COST MODEL

TLG's proprietary decommissioning cost model, DECCER, produces a number of distinct cost elements. These direct expenditures, however, do not comprise the total cost to accomplish the project goal, i.e., license termination and site restoration.

Inherent in any cost estimate that does not rely on historical data is the inability to specify the precise source of costs imposed by factors such as tool breakage, accidents, illnesses, weather delays, and labor stoppages. In the DECCER cost model, contingency fulfills this role. Contingency is added to each line item to account for costs that are difficult or impossible to develop analytically. Such costs are historically inevitable over the duration of a job of this magnitude; therefore, this cost analysis includes funds to cover these types of expenses.

3.3.1 Contingency

The activity- and period-dependent costs are combined to develop the total decommissioning cost. A contingency is then applied on a line-item basis, using one or more of the contingency types listed in the AIF/NESP-036 study. "Contingencies" are defined in the American Association of Cost Engineers "Project and Cost Engineers' Handbook"[20] as "specific provision for unforeseeable elements of cost within the defined project scope; particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur." The cost elements in this analysis are based upon ideal conditions and maximum efficiency; therefore, consistent with industry practice, a contingency factor has been applied. In the AIF/NESP-036 study, the types of unforeseeable events that are likely to occur in decommissioning are discussed and guidelines are provided for percentage contingency in each category. It should be noted that contingency, as used in this

analysis, does not account for price escalation and inflation in the cost of decommissioning over the remaining operating life of the station.

The use and role of contingency within decommissioning estimates is not a "safety factor issue." Safety factors provide additional security and address situations that may never occur. Contingency funds are expected to be fully expended throughout the program. They also provide assurance that sufficient funding is available to accomplish the intended tasks. An estimate without contingency, or from which contingency has been removed, can disrupt the orderly progression of events and jeopardize a successful conclusion to the decommissioning process.

For example, the most technologically challenging task in decommissioning a commercial nuclear station is the disposition of the reactor vessel and internal components, now highly radioactive after a lifetime of exposure to core activity. The disposition of these components forms the basis of the critical path (schedule) for decommissioning operations. Cost and schedule are interdependent, and any deviation in schedule has a significant impact on cost for performing a specific activity.

Disposition of the reactor vessel internals involves the underwater cutting of complex components that are highly radioactive. Costs are based upon optimum segmentation, handling, and packaging scenarios. The schedule is primarily dependent upon the turnaround time for the heavily shielded shipping casks, including preparation, loading, and decontamination of the containers for transport. The number of casks required is a function of the pieces generated in the segmentation activity, a value calculated on optimum performance of the tooling employed in cutting the various subassemblies. The expected optimization, however, may not be achieved, resulting in delays and additional program costs. For this reason, contingency must be included to mitigate the consequences of the expected inefficiencies inherent in this complex activity, along with related concerns associated with the operation of highly specialized tooling, field conditions, and water clarity.

Contingency funds are an integral part of the total cost to complete the decommissioning process. Exclusion of this component puts at risk a successful completion of the intended tasks and, potentially, subsequent related activities. For this study, TLG examined the major activity-related problems (decontamination, segmentation, equipment

handling, packaging, transport, and waste disposal) that necessitate a contingency. Individual activity contingencies ranged from 10% to 75%, depending on the degree of difficulty judged to be appropriate from TLG's actual decommissioning experience. The contingency values used in this study are as follows:

Decontamination	50%
Contaminated Component Removal	25%
Contaminated Component Packaging	10%
Contaminated Component Transport	15%
Low-Level Radioactive Waste Disposal	25%
Reactor Segmentation	75%
NSSS Component Removal	25%
Reactor Waste Packaging	25%
Reactor Waste Transport	25%
Reactor Vessel Component Disposal	50%
GTCC Disposal	15%
Non-Radioactive Component Removal	15%
Heavy Equipment and Tooling	15%
Supplies	25%
Engineering	15%
Energy	15%
Characterization and Termination Surveys	30%
Construction	15%
Taxes and Fees	10%
Insurance	10%
Staffing	15%

The contingency values are applied to the appropriate components of the estimates on a line item basis. A composite value is then reported at the end of each estimate. For example, the composite contingency value reported for the DECON alternative is 18.9%. Values for the other alternatives are delineated within the detailed cost tables in Appendix D and E.

3.3.2 Financial Risk

In addition to the routine uncertainties addressed by contingency, another cost element that is sometimes necessary to consider when bounding decommissioning costs relates to uncertainty, or risk.

Examples can include changes in work scope, pricing, job performance, and other variations that could conceivably, but not necessarily, occur. Consideration is sometimes necessary to generate a level of confidence in the estimate, within a range of probabilities. TLG considers these types of costs under the broad term "financial risk." Included within the category of financial risk are:

- Transition activities and costs: ancillary expenses associated with eliminating 50% to 80% of the site labor force shortly after the cessation of plant operations, added cost for worker separation packages throughout the decommissioning program, national or company-mandated retraining, and retention incentives for key personnel.

- Delays in approval of the decommissioning plan, due to intervention, public participation in local community meetings, legal challenges, and national and local hearings.

- Changes in the project work scope from the baseline estimate, involving the discovery of unexpected levels of contaminants, contamination in places not previously expected, contaminated soil previously undiscovered (either radioactive or hazardous material contamination), variations in plant inventory or configuration not indicated by the as-built drawings.

- Regulatory changes, e.g., affecting worker health and safety, site release criteria, waste transportation, and disposal.

- Policy decisions altering national commitments, e.g., in the ability to accommodate certain waste forms for disposition, or in the timetable for such, e.g., the start and rate of acceptance of spent fuel by the DOE.

- Pricing changes for basic inputs, such as labor, energy, materials, and burial. Some of these inputs may vary slightly, e.g. -10% to +20%; burial could vary from -50% to +200% or more.

It has been TLG's experience that the results of a risk analysis, when compared with the base case estimate for decommissioning, indicate that the chances of the base decommissioning estimate's being too high is a low probability, and the chances that the estimate is too low is a higher probability. This is mostly due to the pricing uncertainty for

low-level radioactive waste burial, and to a lesser extent due to schedule increases from changes in plant conditions and to pricing variations in the cost of labor (both craft and staff). This cost study, however, does not add any additional costs to the estimate for financial risk since there is insufficient historical data from which to project future liabilities. Consequently, the areas of uncertainty or risk are revisited periodically and addressed through repeated revisions or updates of the base estimate.

3.4 SITE-SPECIFIC CONSIDERATIONS

There are a number of site-specific considerations that affect the method for dismantling and removal of equipment from the site and the degree of restoration required. The cost impact of the considerations identified below is included in this cost study.

3.4.1 Spent Fuel Management

The cost to dispose of spent fuel generated from plant operations is not reflected within the estimates to decommission the Oyster Creek site. Ultimate disposition of the spent fuel is within the province of the DOE's Waste Management System, as defined by the NWPA. As such, the disposal cost is financed by a 1 mill/kWhr surcharge paid into the DOE's waste fund during operations. However, the NRC requires licensees to establish a program to manage and provide funding for the management of all irradiated fuel at the reactors until title of the fuel is transferred to the Secretary of Energy. This funding requirement is fulfilled through inclusion of certain high-level waste cost elements within the estimates, as described below.

The total inventory of assemblies that will require handling during decommissioning is based upon several assumptions. The pickup of commercial fuel is assumed to begin in the year 2015 and will proceed on an oldest fuel first basis. The maximum rate at which the fuel is removed from the commercial sites is based upon an annual capacity at the geologic repository of 3,000 metric tons of uranium (MTU). Any delay in the startup of the repository or decrease in the rate of acceptance will correspondingly prolong the transfer process and result in the fuel remaining at the site longer.

In all three scenarios, the ISFSI will continue to operate until such time that the transfer of spent fuel to the DOE can be completed. Assuming that the DOE commences repository operation in 2015, fuel is projected

to be removed from the Oyster Creek site by the year 2027. In the Delayed Decommissioning scenario, the ISFSI is only used to store fuel placed during plant operations. To reduce caretaking costs, the smaller inventory of fuel assemblies located in the ISFSI is preferentially off-loaded as the allocations permit

Operation and maintenance costs for the storage facilities (the ISFSI and the pool for the Delayed DECON scenario) are included within the estimates and address the cost for staffing the facilities, as well as security, insurance, and licensing fees. The estimates include the costs to purchase, load, and transfer the fuel storage canisters. Costs are also provided for the final disposition of the facilities once the transfer is complete.

Repository Startup

Operation of the DOE's yet-to-be constructed geologic repository is contingent upon the review and approval of the facility's license application by the NRC, the successful resolution of pending litigation, and the development of a national transportation system. By comparison, the NRC's review of the application for an interim storage facility submitted by the Private Fuel Storage consortium began in 1997 and is still ongoing. With a more technically complex and politically sensitive application for permanent disposal, it is not unreasonable to expect that NRC approval to construct the repository at Yucca Mountain will require at least as long a review period. Construction would therefore begin sometime around the year 2010, at the earliest. Therefore, the spent fuel management plan described in this section is predicated upon the DOE initiating the pickup of commercial fuel in the year 2015. This timetable is consistent with the findings of an evaluation recently issued to Congress by the Government Accounting Office.[21]

Spent Fuel Management Model

AmerGen Energy LLC is a wholly-owned subsidiary of Exelon Generation, LLC; the Exelon nuclear fleet, including the AmerGen units, consists of 21 units at 11 sites in Illinois, Pennsylvania, and New Jersey, including the inactive units at Dresden, Peach Bottom, and Zion. The ability to complete the decommissioning of these units, particularly for the DECON and Delayed DECON alternatives, is highly dependent upon when the DOE is assumed to remove spent fuel from the sites.

The DOE's repository program assumes that spent fuel will be accepted for disposal from the nation's commercial nuclear plants in the order (the "queue") in which it was removed from service ("oldest fuel first").[22] A computer model developed by Exelon Nuclear was used to determine when the DOE would provide allocations in the queue for removal of spent fuel from the individual sites. Repository operations were based upon annual industry-wide acceptance rates of 400 MTU/year for year 1, 600 MTU/ year for year 2, 1200 MTU/year for year 3, 2000 MTU/year for year 4, and 3000 MTU/year for year 5 and beyond. [23]

ISFSIs are constructed as necessary to maintain full-core discharge capability at the individual sites. Once the DOE begins repository operations, queue allocations are used to ship spent fuel from Exelon's operating sites in the following order: Limerick, Quad Cities, Byron, Braidwood, LaSalle and Clinton. Spent fuel shipments are then made from decommissioning sites in the order of retirement.

Canister Design

A multi-purpose storage canister (similar to the HOLTEC HI-STORM system), with a 68-fuel assemblies capacity, is assumed for future cask acquisitions. A unit cost of $420,000 is used for pricing the internal multi-purpose canister (MPC), with an additional cost of $330,000 for the concrete overpack. The DOE is assumed to provide the MPC for fuel transferred directly from the pool to the DOE at no cost to the owner.

Canister Loading and Transfer

An average cost of $200,000 is used for the labor to load/transport the spent fuel from the pool to the ISFSI pad, based upon industry experience. For estimating purposes, 50% of this cost is used to estimate the cost to transfer the fuel from the ISFSI to the DOE.

Operations and Maintenance

Annual costs (excluding labor) of approximately $969,000 and $71,000 are used for operation and maintenance of the spent fuel pools and the ISFSI, respectively.

ISFSI Design Considerations

A multi-purpose (storage and transport) dry shielded storage canister with a vertical, reinforced concrete storage overpack is used as a basis

for the cost analyses. Approximately 50% of the overpacks are assumed to have some level of neutron-induced activation as a result of the long-term storage of the fuel, i.e., to levels exceeding free-release limits. Approximately 10% of the concrete and steel is assumed to be removed from the overpacks for controlled disposal. The cost to dispose of this material, as well as the demolition of the ISFSI facility, is included in the estimates.

3.4.2 Reactor Vessel and Internal Components

The NSSS (reactor vessel and reactor recirculation system components) will be decontaminated using chemical agents prior to the start of cutting operations (for DECON alternative only). A decontamination factor (average reduction) of 10 is assumed for the process.

The reactor pressure vessel and internal components are segmented for disposal in shielded, reusable transportation casks. Segmentation is performed in the dryer-separator pool, where a turntable and remote cutter are installed. The vessel is segmented in place, using a mast-mounted cutter supported off the lower head and directed from a shielded work platform installed overhead in the reactor cavity. Transportation cask specifications and transportation regulations will dictate segmentation and packaging methodology.

The dismantling of the reactor internals will generate radioactive waste considered unsuitable for shallow land disposal, i.e., GTCC. Although the material is not classified as high-level waste, the DOE has indicated it will accept this waste for disposal at the future high-level waste repository.[24] However, the DOE has not been forthcoming with an acceptance criteria or disposition schedule for this material, and numerous questions remain as to the ultimate disposal cost and waste form requirements. As such, for purposes of this study, the GTCC has been packaged and disposed of as high-level waste, at a cost equivalent to that envisioned for the spent fuel. It is not anticipated that the DOE would accept this waste prior to completing the transfer of spent fuel. Therefore, until such time the DOE is ready to accept GTCC waste, it is reasonable to assume that this material would remain in storage at the Oyster Creek site.

Intact disposal of the reactor vessel and internal components can provide savings in cost and worker exposure by eliminating the complex segmentation requirements, isolation of the GTCC material,

and transport/storage of the resulting waste packages. Portland General Electric (PGE) was able to dispose of the Trojan reactor as an intact package. However, its location on the Columbia River simplified the transportation analysis since:

- the reactor package could be secured to the transport vehicle for the entire journey, i.e., the package was not lifted during transport,
- there were no man-made or natural terrain features between the plant site and the disposal location that could produce a large drop, and
- transport speeds were very low, limited by the overland transport vehicle and the river barge.

As a member of the Northwest Compact, PGE had a site available for disposal of the package - the US Ecology facility in Washington State. The characteristics of this arid site proved favorable in demonstrating compliance with land disposal regulations.

It is not known whether this option will be available when Oyster Creek ceases operation. Future viability of this option will depend upon the ultimate location of the disposal site, as well as the disposal site licensee's ability to accept highly radioactive packages and effectively isolate them from the environment. Additionally, with BWRs, the diameter of the reactor vessel may severely limit overland transport. Consequently, the study assumes the reactor vessel will require segmentation, as a bounding condition.

3.4.3 Primary System Components

Reactor recirculation piping is cut from the reactor vessel once the water level in the vessel (used for personnel shielding during dismantling and cutting operations in and around the vessel) is dropped below the nozzle zone. The piping is boxed and transported by shielded van. The reactor recirculation pumps and motors are lifted out intact, packaged, and transported for processing and/or disposal.

3.4.4 Main Turbine and Condenser

The main turbine will be dismantled using conventional maintenance procedures. The turbine rotors and shafts will be removed to a laydown area. The lower turbine casings will be removed from their anchors by controlled demolition. The main condensers will also be disassembled and moved to a laydown area. Material is then prepared for transportation to an off-site recycling facility where it will be surveyed and designated for either decontamination or volume reduction, conventional disposal, or controlled disposal. Components will be packaged and readied for transport in accordance with the intended disposition.

3.4.5 Transportation Methods

Contaminated piping, components, and structural material other than the highly activated reactor vessel and internal components will qualify as LSA-I, II or III or Surface Contaminated Object, SCO-I or II, as described in Title 49.[25] The contaminated material will be packaged in Industrial Packages (IP I, II, or III, as defined in subpart 173.411) for transport unless demonstrated to qualify as their own shipping containers. The reactor vessel and internal components are expected to be transported in accordance with §71, as Type B. It is conceivable that the reactor, due to its limited specific activity, could qualify as LSA II or III. However, the high radiation levels on the outer surface would require that additional shielding be incorporated within the packaging so as to attenuate the dose to levels acceptable for transport.

Transport of the highly activated metal, produced in the segmentation of the reactor vessel and internal components, will be by shielded truck cask. Cask shipments may exceed 95,000 pounds, including vessel segment(s), supplementary shielding, cask tie-downs, and tractor-trailer. The maximum level of activity per shipment assumed permissible was based upon the license limits of the available shielded transport casks. The segmentation scheme for the vessel and internal segments is designed to meet these limits.

The transport of large intact components, e.g., large heat exchangers and other oversized components, will be by a combination of truck, rail, and/or multi-wheeled transporter.

The low-level radioactive waste requiring controlled disposal will be sent to one of two currently available burial facilities. Transportation costs

are based upon the mileage to either the Envirocare facility in Clive, Utah, or the Barnwell facility in South Carolina. Memphis, Tennessee, is used as the destination for off-site processing. Transportation costs are estimated using published tariffs from Tri-State Motor Transit.[26]

3.4.6 Low-Level Radioactive Waste Disposal

To the greatest extent practical, metallic material generated in the decontamination and dismantling processes is treated to reduce the total volume requiring controlled disposal. The treated material, meeting the regulatory and/or site release criterion, is released as scrap, requiring no further cost consideration. Conditioning and recovery of the waste stream is performed off site at a licensed processing center.

Material requiring controlled disposal is packaged and transported to one of two currently available burial facilities. Very low-level radioactive material, e.g., structural steel and contaminated concrete, is sent to Envirocare. More highly contaminated and activated material is sent to Barnwell. Disposal fees are based upon current charges for operating waste, with surcharges added for the highly activated components, e.g., generated in the segmentation of the reactor vessel.

3.4.7 Site Conditions Following Decommissioning

The NRC will terminate (or amend) the site licenses if it determines that site remediation has been performed in accordance with the license termination plan, and that the terminal radiation survey and associated documentation demonstrate that the facility is suitable for release. The NRC's involvement in the decommissioning process will end at this point. Building codes and environmental regulations will dictate the next step in the decommissioning process, as well as the owner's own future plans for the site.

Non-essential structures or buildings severely damaged in decontamination process are removed to a nominal depth of three feet below grade. Concrete rubble generated from demolition activities is processed and made available as clean fill. The excavations will be regraded such that the power block area will have a final contour consistent with adjacent surroundings.

The estimates assume the remediation of a significant volume of contaminated soil. This assumption may be affected by continued plant

operations and/or future regulatory actions, such as the development of site-specific release criteria.

Asphalt surfaces in the immediate vicinity of the Oyster Creek site buildings are broken up and the material used for backfill on site if needed.

3.5 ASSUMPTIONS

The following are the major assumptions made in the development of the estimates for decommissioning the site.

3.5.1 Estimating Basis

The study follows the principles of ALARA through the use of work duration adjustment factors. These factors address the impact of activities such as radiological protection instruction, mock-up training, and the use of respiratory protection and protective clothing. The factors lengthen a task's duration, increasing costs and lengthening the overall schedule. ALARA planning is considered in the costs for engineering and planning, and in the development of activity specifications and detailed procedures. Changes to worker exposure limits may impact the decommissioning cost and project schedule.

3.5.2 Labor Costs

The craft labor required to decontaminate and dismantle the nuclear units will be acquired through standard site contracting practices. The current cost of labor at the site is used as an estimating basis. Costs for site administration, operations, construction, and maintenance personnel are based upon average salary information provided by AmerGen Energy or from comparable industry information.

AmerGen Energy will hire a Decommissioning Operations Contractor (DOC) to manage the decommissioning. The owner will provide site security, radiological health and safety, quality assurance and overall site administration during the decommissioning and demolition phases. Contract personnel will provide engineering services, e.g., for preparing the activity specifications, work procedures, activation, and structural analyses, under the direction of AmerGen Energy.

3.5.3 Design Conditions

Any fuel cladding failure that occurred during the lifetime of the plant is assumed to have released fission products at sufficiently low levels that the buildup of quantities of long-lived isotopes (e.g., ^{137}Cs, ^{90}Sr, or transuranics) has been prevented from reaching levels exceeding those that permit the major NSSS components to be shipped under current transportation regulations and disposal requirements.

The curie contents of the vessel and internals at final shutdown are derived from those listed in NUREG/CR-3474.[27] Actual estimates are derived from the curie/gram values contained therein and adjusted for the different mass of the Oyster Creek components, projected operating life, and different periods of decay. Additional short-lived isotopes were derived from CR-0130[28] and CR-0672,[29] and benchmarked to the long-lived values from CR-3474.

The disposal cost for the control blades removed from the vessel with the final core load is included within the estimates. Disposition of any blades stored in the pools from operations is considered an operating expense and therefore not accounted for in the estimates.

Activation of the reactor building structure is confined to the sacrificial shield. More extensive activation (at very low levels) of the interior structures within containment has been detected at several reactors and the owners have elected to dispose of the affected material at a controlled facility rather than reuse the material as fill on site or send it to a landfill. The ultimate disposition of the material removed from the reactor building will depend upon the site release criteria selected, as well as the designated end use for the site.

3.5.4 General

Transition Activities

Existing warehouses will be cleared of non-essential material and remain for use by AmerGen Energy and its subcontractors. The plant's operating staff will perform the following activities at no additional cost or credit to the project during the transition period:

- Drain and collect fuel oils, lubricating oils, and transformer oils for recycle and/or sale.

- Drain and collect acids, caustics, and other chemical stores for recycle and/or sale.
- Process operating waste inventories, i.e., the estimates do not address the disposition of any legacy wastes; the disposal of operating wastes during this initial period is not considered a decommissioning expense.

Scrap and Salvage

The existing plant equipment is considered obsolete and suitable for scrap as deadweight quantities only. AmerGen Energy will make economically reasonable efforts to salvage equipment following final plant shutdown. However, dismantling techniques assumed by TLG for equipment in this analysis are not consistent with removal techniques required for salvage (resale) of equipment. Experience has indicated that some buyers wanted equipment stripped down to very specific requirements before they would consider purchase. This required expensive rework after the equipment had been removed from its installed location. Since placing a salvage value on this machinery and equipment would be speculative, and the value would be small in comparison to the overall decommissioning expenses, this analysis does not attempt to quantify the value that an owner may realize based upon those efforts.

It is assumed, for purposes of this analysis, that any value received from the sale of scrap generated in the dismantling process would be more than offset by the on-site processing costs. The dismantling techniques assumed in the decommissioning estimates do not include the additional cost for size reduction and preparation to meet "furnace ready" conditions. For example, the recovery of copper from electrical cabling may require the removal and disposition of any contaminated insulation, an added expense. With a volatile market, the potential profit margin in scrap recovery is highly speculative, regardless of the ability to free release this material. This assumption is an implicit recognition of scrap value in the disposal of clean metallic waste at no additional cost to the project.

Furniture, tools, mobile equipment such as forklifts, trucks, bulldozers, and other property owned by AmerGen Energy will be removed at no cost or credit to the decommissioning project. Disposition may include relocation to other facilities. Spare parts will also be made available for alternative use.

Energy

For estimating purposes, the plant is assumed to be de-energized, with the exception of those facilities associated with spent fuel storage. Replacement power costs are used for the cost of energy consumption during decommissioning for tooling, lighting, ventilation, and essential services.

Insurance

Costs for continuing coverage (nuclear liability and property insurance) following cessation of plant operations and during decommissioning are included and based upon current operating premiums. Reductions in premiums, throughout the decommissioning process, are based upon the guidance and the limits for coverage defined in the NRC's proposed rulemaking "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors."[30] The NRC's financial protection requirements are based on various reactor (and spent fuel) configurations.

Taxes

Property taxes are included for all decommissioning periods with the exception of the transition phase.

Site Modifications

The perimeter fence and in-plant security barriers will be moved, as appropriate, to conform to the Site Security Plan in force during the various stages of the project.

3.6 COST ESTIMATE SUMMARY

A schedule of expenditures for each scenario is provided in Tables 3.1 through 3.3. Decommissioning costs are reported in the year of projected expenditure; however, the values are provided in thousands of 2003 dollars. Costs are not inflated, escalated, or discounted over the period of expenditure. The annual expenditures are based upon the detailed activity costs reported in Appendices C through E, along with the schedule discussed in Section 4.

TABLE 3.1
SCHEDULE OF ANNUAL EXPENDITURES
DECON
(thousands, 2003 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2009	27,562	448	526	21	15,282	43,840
2010	46,627	9,969	711	17,258	32,722	107,286
2011	41,990	14,372	683	48,241	17,993	123,280
2012	37,003	5,622	543	20,919	14,881	78,968
2013	36,832	5,485	539	20,483	14,797	78,135
2014	34,570	4,899	481	17,051	12,204	69,205
2015	21,881	1,794	212	2,641	7,445	33,973
2016	16,386	8,875	88	7	4,566	29,922
2017	13,124	8,671	61	0	2,674	24,529
2018	2,990	0	22	0	2,543	5,555
2019	2,990	0	22	0	2,543	5,555
2020	2,998	0	22	0	2,552	5,572
2021	2,990	0	22	0	2,543	5,555
2022	2,990	0	22	0	2,543	5,555
2023	2,990	0	22	0	2,543	5,555
2024	2,998	0	22	0	2,552	5,572
2025	2,990	0	22	0	4,153	7,165
2026	2,990	0	22	0	5,303	8,315
2027	2,991	335	22	6	11,642	14,994
2028	1,493	1,286	35	719	2,414	5,948
	307,385	61,755	4,095	127,345	163,897	664,477

TABLE 3.2
SCHEDULE OF ANNUAL EXPENDITURES
DELAYED DECON
(thousands, 2003 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2009	23,621	448	526	21	3,138	27,754
2010	27,331	3,662	678	1,963	15,938	49,571
2011	5,134	74	539	29	4,179	9,955
2012	5,148	74	541	29	4,192	9,983
2013	5,134	74	539	29	4,179	9,955
2014	5,134	74	539	29	4,179	9,955
2015	5,134	74	539	29	4,179	9,955
2016	5,148	74	541	29	4,192	9,983
2017	5,134	74	539	29	4,179	9,955
2018	5,134	74	539	29	4,179	9,955
2019	5,134	74	539	29	4,179	9,955
2020	5,148	74	541	29	4,192	9,983
2021	5,134	74	539	29	4,179	9,955
2022	5,134	74	539	29	4,179	9,955
2023	5,134	74	539	29	4,179	9,955
2024	5,148	74	541	29	4,192	9,983
2025	5,134	74	539	29	6,019	11,795
2026	15,715	345	539	29	12,193	28,821
2027	40,761	5,655	539	3,534	16,232	66,721
2028	38,665	13,238	541	32,351	9,792	94,585
2029	43,293	8,341	425	35,619	6,211	93,889
2030	33,206	4,825	302	22,169	7,555	68,057
2031	15,505	7,461	98	11	5,212	28,285
2032	14,005	10,365	66	0	1,874	26,310
	329,161	55,444	11,808	96,132	142,724	635,270

TABLE 3.3
SCHEDULE OF ANNUAL EXPENDITURES
SAFSTOR
(thousands, 2003 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2009	23,621	448	526	21	11,809	36,425
2010	27,331	3,662	678	1,963	27,430	61,063
2011	5,134	74	539	29	14,534	20,309
2012	5,148	74	541	29	14,574	20,365
2013	5,134	74	539	29	14,534	20,309
2014	4,715	74	432	29	11,864	17,113
2015	3,314	74	72	29	2,932	6,420
2016	3,323	74	72	29	2,941	6,439
2017	3,314	74	72	29	2,932	6,420
2018	3,314	74	72	29	2,932	6,420
2019	3,314	74	72	29	2,932	6,420
2020	3,323	74	72	29	2,941	6,439
2021	3,314	74	72	29	2,932	6,420
2022	3,314	74	72	29	2,932	6,420
2023	3,314	74	72	29	2,932	6,420
2024	3,323	74	72	29	2,941	6,439
2025	3,314	74	72	29	4,542	8,030
2026	3,314	74	72	29	5,692	9,180
2027	3,312	74	72	29	5,691	9,178
2028	2,871	74	72	29	2,648	5,694
2029	2,863	74	72	29	2,640	5,678
2030	2,863	74	72	29	2,640	5,678
2031	2,863	74	72	29	2,640	5,678
2032	2,871	74	72	29	2,648	5,694
2033	2,863	74	72	29	2,640	5,678
2034	2,863	74	72	29	2,640	5,678
2035	2,863	74	72	29	2,640	5,678
2036	2,871	74	72	29	2,648	5,694
2037	2,863	74	72	29	2,640	5,678
2038	2,863	74	72	29	2,640	5,678
2039	2,863	74	72	29	2,640	5,678
2040	2,871	74	72	29	2,648	5,694
2041	2,863	74	72	29	2,640	5,678
2042	2,863	74	72	29	2,640	5,678

TABLE 3.3 (continued)
SCHEDULE OF ANNUAL EXPENDITURES
SAFSTOR
(thousands, 2003 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2043	2,863	74	72	29	2,640	5,678
2044	2,871	74	72	29	2,648	5,694
2045	2,863	74	72	29	2,640	5,678
2046	2,863	74	72	29	2,640	5,678
2047	2,863	74	72	29	2,640	5,678
2048	2,871	74	72	29	2,648	5,694
2049	2,863	74	72	29	2,640	5,678
2050	2,863	74	72	29	2,640	5,678
2051	2,863	74	72	29	2,640	5,678
2052	2,871	74	72	29	2,648	5,694
2053	2,863	74	72	29	2,640	5,678
2054	2,863	74	72	29	2,640	5,678
2055	2,863	74	72	29	2,640	5,678
2056	2,871	74	72	29	2,648	5,694
2057	2,863	74	72	29	2,640	5,678
2058	2,863	74	72	29	2,640	5,678
2059	2,863	74	72	29	2,640	5,678
2060	2,871	74	72	29	2,648	5,694
2061	2,863	74	72	29	2,640	5,678
2062	2,863	74	72	29	2,640	5,678
2063	2,863	74	72	29	2,640	5,678
2064	10,930	261	235	29	4,416	15,871
2065	36,160	4,088	539	2,400	8,869	52,056
2066	43,816	15,361	539	32,857	11,503	104,076
2067	44,287	8,075	412	36,086	5,993	94,854
2068	30,755	4,247	278	18,643	8,099	62,022
2069	15,478	8,668	91	8	4,377	28,622
2070	12,584	9,505	59	0	1,678	23,827
	411,347	58,222	8,933	93,546	280,064	852,113

4. SCHEDULE ESTIMATE

The schedules for the decommissioning scenarios considered in this study follow the sequence presented in the AIF/NESP-036 study, with minor changes to reflect recent experience and site-specific constraints. In addition, the scheduling has been revised to reflect the spent fuel management plans described in Section 3.4.1.

A schedule or sequence of activities is presented in Figure 4.1 for the DECON decommissioning alternative. The schedule is also representative of the work activities identified in the delayed dismantling scenarios, absent any spent fuel constraints. The scheduling sequence assumes that fuel is removed from the spent fuel pool within the first 5½ years after operations cease. The key activities listed in the schedule do not reflect a one-to-one correspondence with those activities in the cost tables, but reflect dividing some activities for clarity and combining others for convenience. The schedule was prepared using the "Microsoft Project 2002" computer software.[31]

4.1 SCHEDULE ESTIMATE ASSUMPTIONS

The schedule reflects the results of a precedence network developed for the site decommissioning activities, i.e., a PERT (Program Evaluation and Review Technique) Software Package. The work activity durations used in the precedence network reflect the actual man-hour estimates from the cost tables, adjusted by stretching certain activities over their slack range and shifting the start and end dates of others. The following assumptions were made in the development of the decommissioning schedule:

- The reactor building is isolated until such time that all spent fuel has been discharged from the spent fuel pool to the DOE or to the ISFSI. Decontamination and dismantling of the storage pool is initiated once the transfer of spent fuel to the ISFSI is complete.

- All work (except vessel and internals removal) is performed during an 8-hour workday, 5 days per week, with no overtime. There are eleven paid holidays per year.

- Reactor and internals removal activities are performed by using separate crews for different activities working on different shifts, with a corresponding backshift charge for the second shift.

- Multiple crews work parallel activities to the maximum extent possible, consistent with optimum efficiency, adequate access for cutting, removal and laydown space, and with the stringent safety measures necessary during demolition of heavy components and structures.

- For plant systems removal, the systems with the longest removal durations in areas on the critical path are considered to determine the duration of the activity.

4.2 PROJECT SCHEDULE

The period-dependent costs presented in the detailed cost tables are based upon the durations developed in the schedule for decommissioning Oyster Creek. Durations are established between several milestones in each project period; these durations are used to establish a critical path for the entire project. In turn, the critical path duration for each period is used as the basis for determining the period-dependent costs. A second critical path is also shown for the spent fuel cooling period, which determines the release of the reactor building for final decontamination.

Project timelines are provided in Figures 4.2 through 4.4. Milestone dates are based on a shutdown date of April 9, 2009. The start of decommissioning operations in the Delayed Decommissioning scenario is concurrent with the end of the fuel transfer activity, i.e. to an off-site DOE facility.

FIGURE 4.1

ACTIVITY SCHEDULE

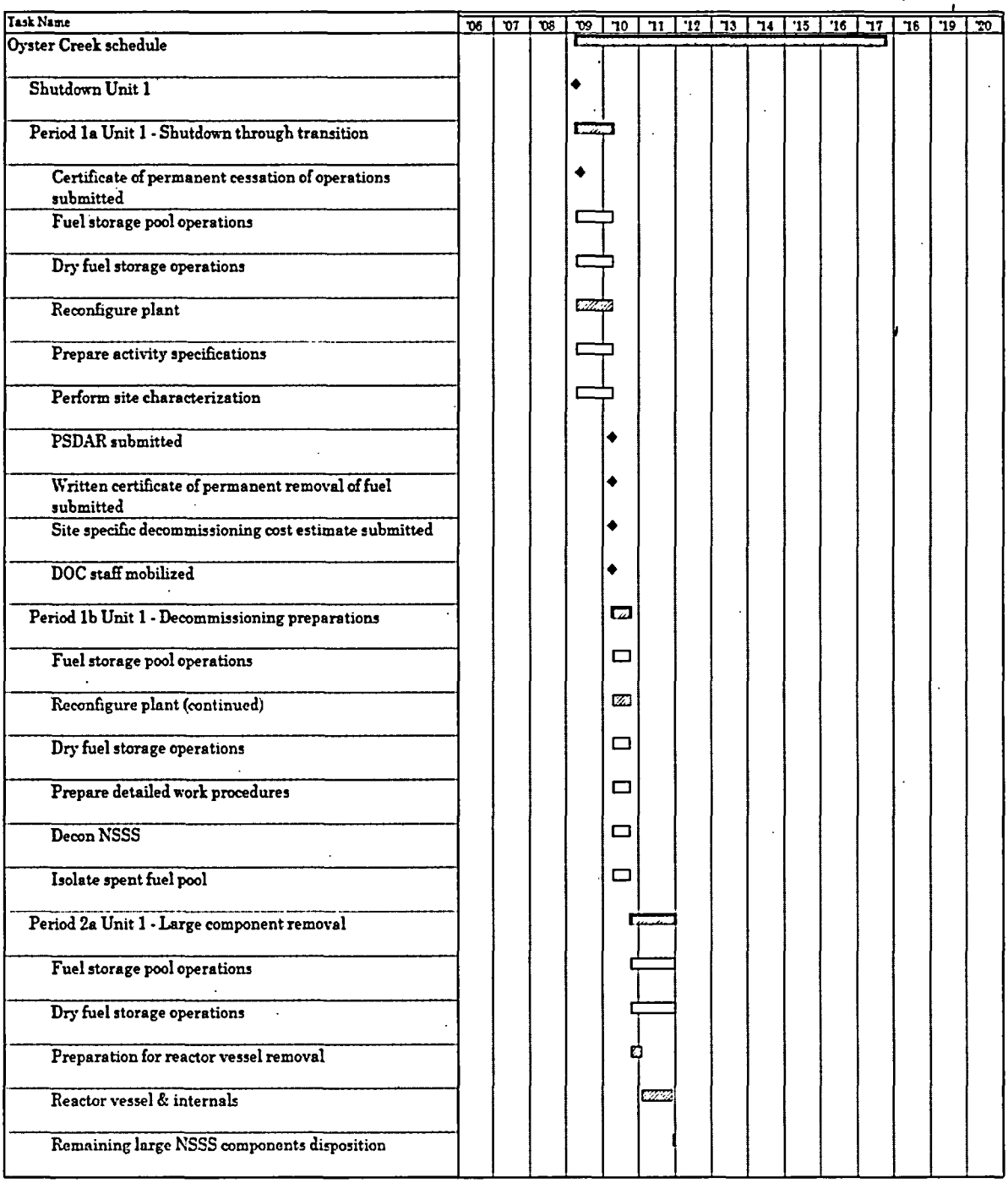


FIGURE 4.1

ACTIVITY SCHEDULE (continued)

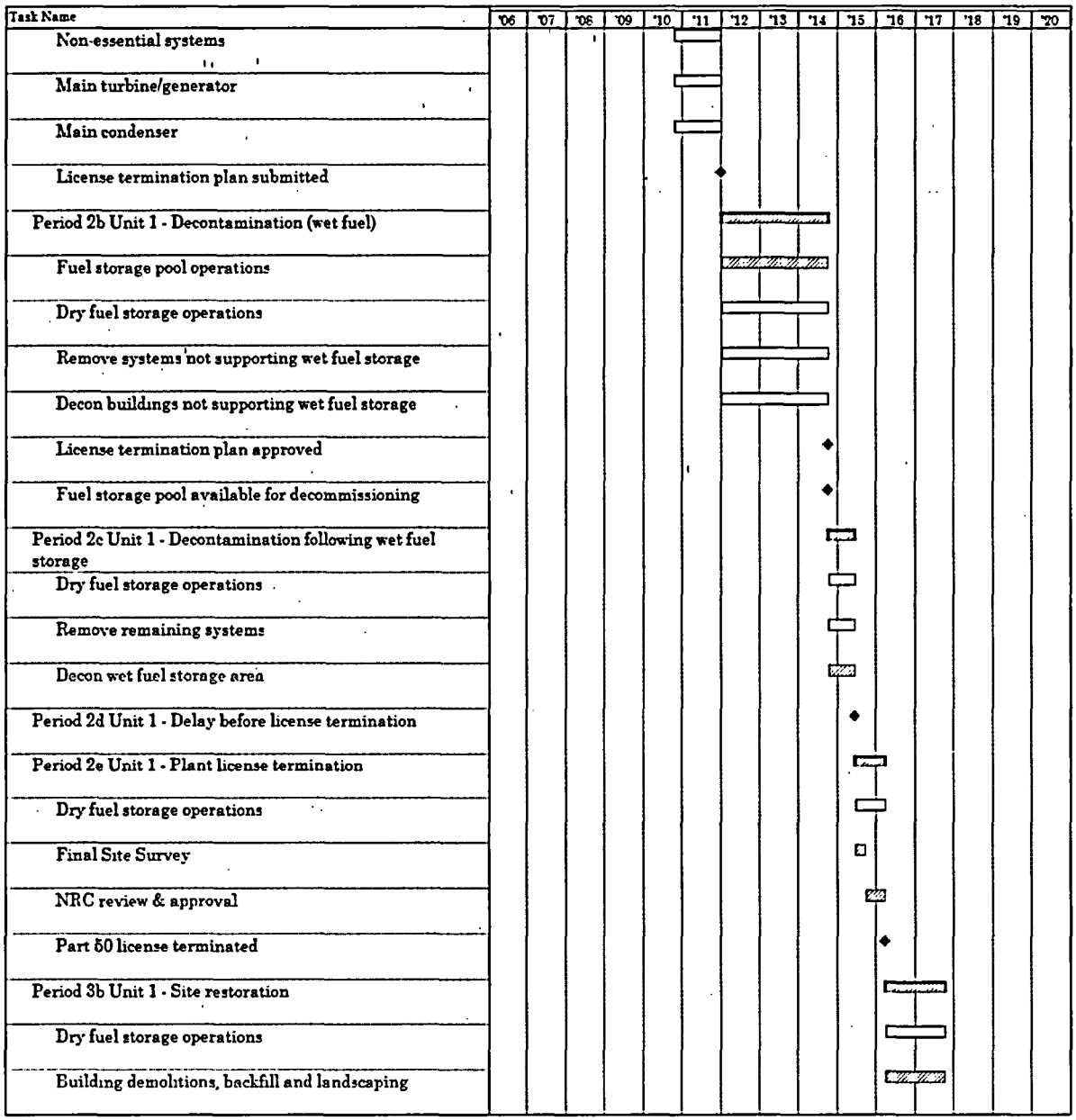


FIGURE 4.2
DECOMMISSIONING TIMELINE
DECON
(not to scale)

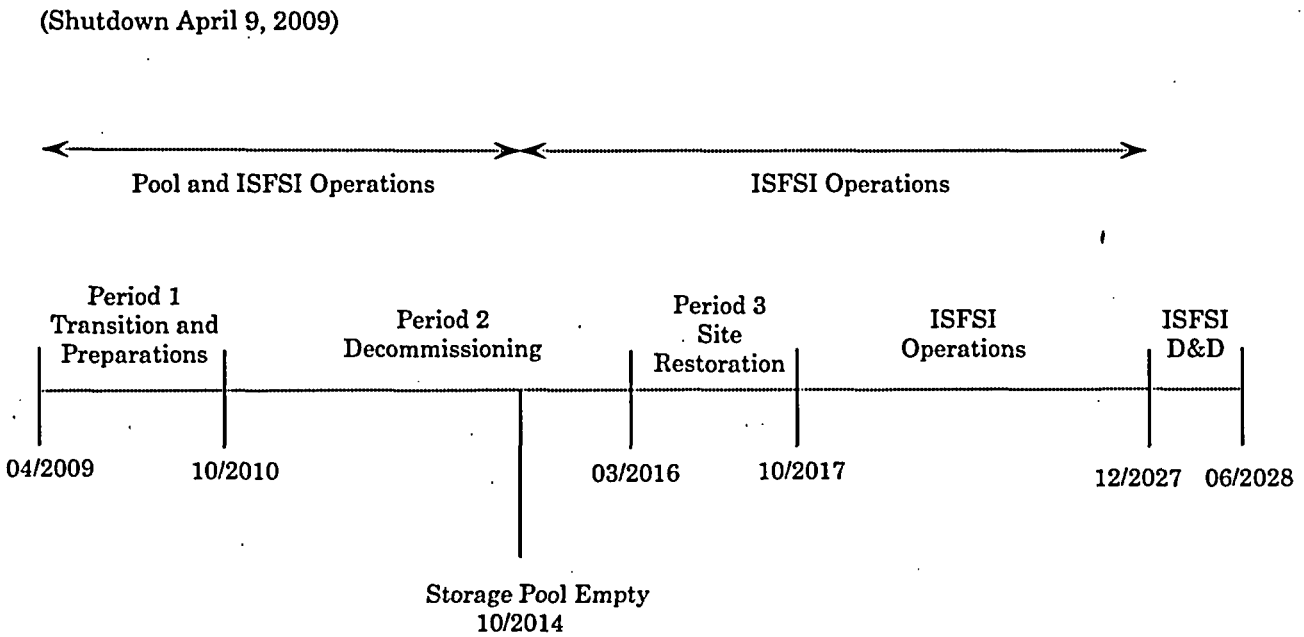


FIGURE 4.3
DECOMMISSIONING TIMELINE
DELAYED DECON
(not to scale)

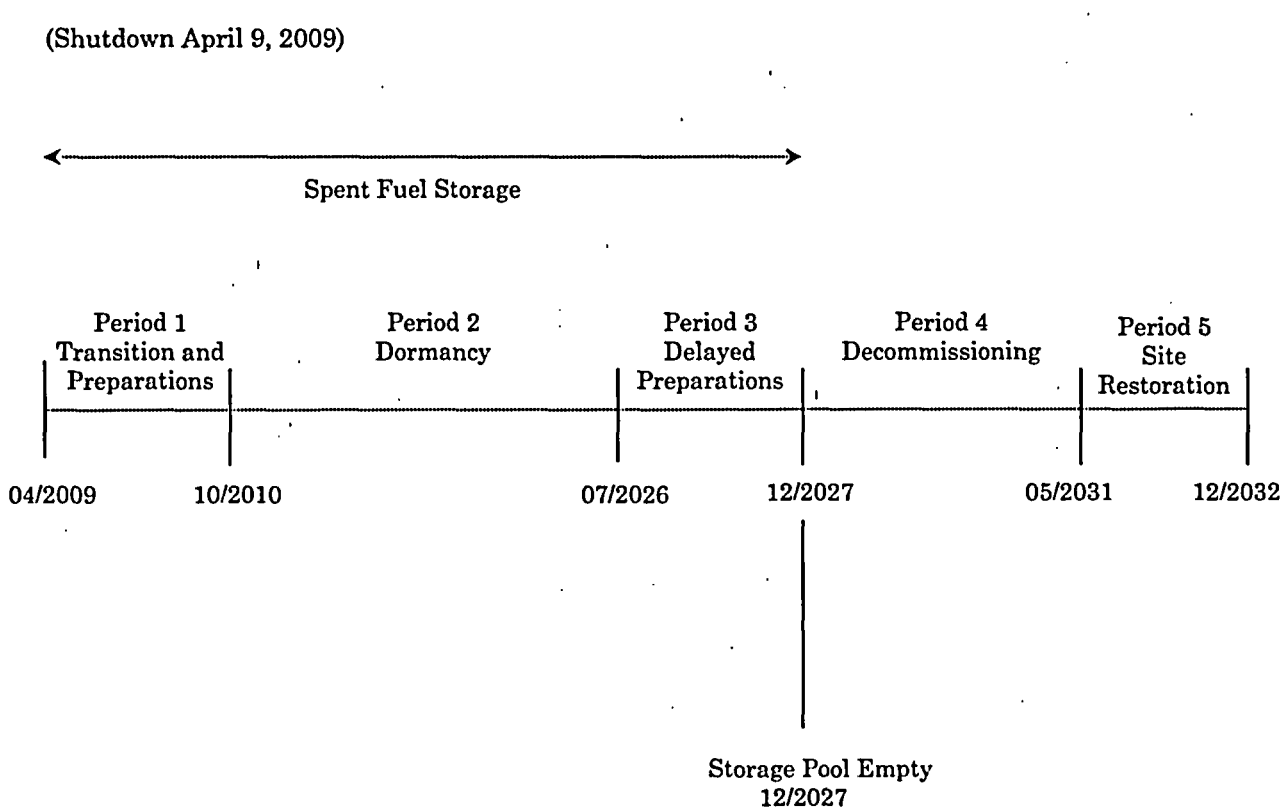
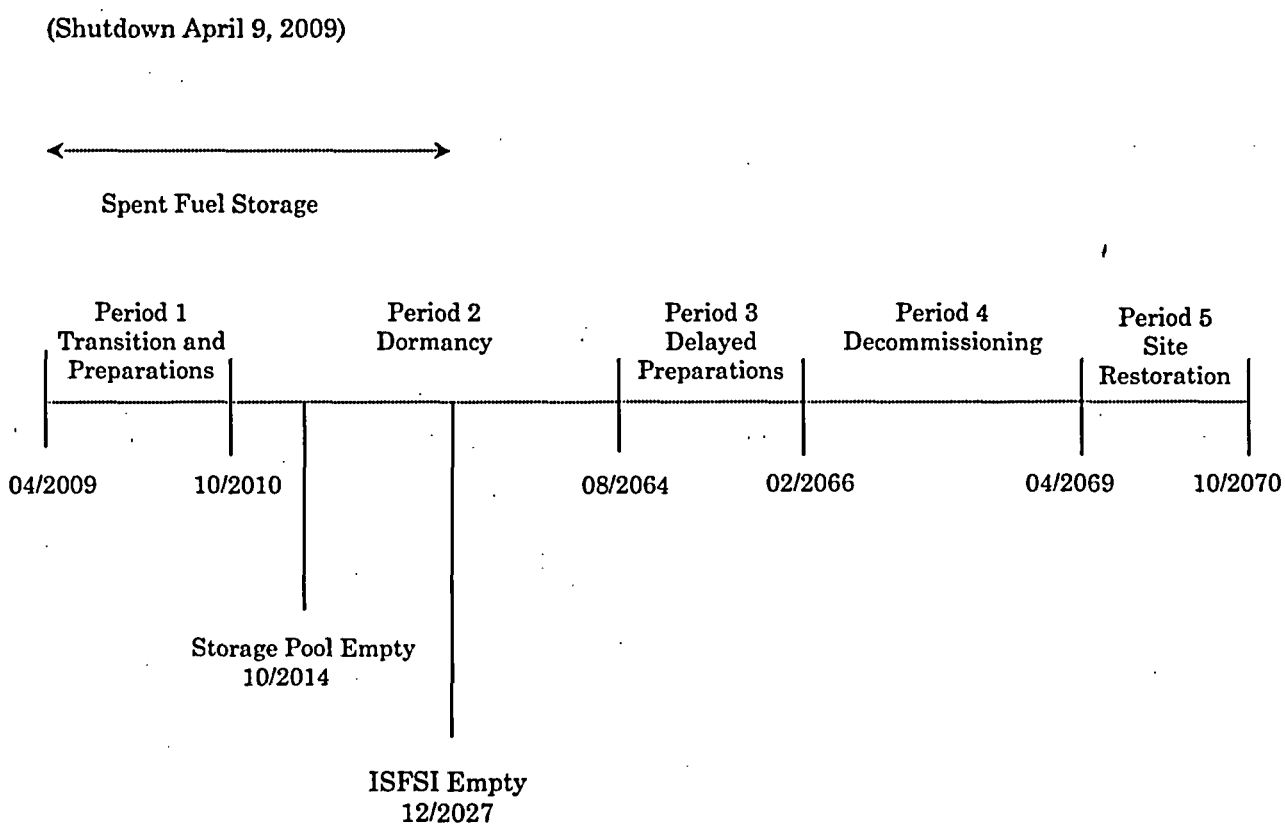


FIGURE 4.4
DECOMMISSIONING TIMELINE
SAFSTOR
(not to scale)



5. RADIOACTIVE WASTES

The objectives of the decommissioning process are the removal of all radioactive material from the site that would restrict its future use and the termination of the NRC license(s). This currently requires the remediation of all radioactive material at the site in excess of applicable legal limits. Under the Atomic Energy Act,[32] the NRC is responsible for protecting the public from sources of ionizing radiation. Title 10 of the Code of Federal Regulations delineates the production, utilization, and disposal of radioactive materials and processes. In particular, §71 defines radioactive material and §61 specifies its disposition.

Most of the materials being transported for controlled burial are categorized as Low Specific Activity (LSA) or Surface Contaminated Object (SCO) materials containing Type A quantities, as defined in 49 CFR §173-178. Shipping containers are required to be Industrial Packages (IP-1, IP-2 or IP-3, as defined in subpart 173.411). For this study, commercially available steel containers are presumed to be used for the disposal of piping, small components, and concrete. Larger components can serve as their own containers, with proper closure of all openings, access ways, and penetrations.

The volumes of radioactive waste generated during the various decommissioning activities at the site is shown on a line-item basis in Appendix C, D, and E and summarized in Tables 5.1 through 5.3. The quantified waste volume summaries shown in these tables are consistent with §61 classifications. The volumes are calculated based on the exterior dimensions for containerized material and on the displaced volume of components serving as their own waste containers.

The reactor vessel and internals are categorized as large quantity shipments and, accordingly, will be shipped in reusable, shielded truck casks with disposable liners. In calculating disposal costs, the burial fees are applied against the liner volume, as well as the special handling requirements of the payload. Packaging efficiencies are lower for the highly activated materials (greater than Type A quantity waste), where high concentrations of gamma-emitting radionuclides limit the capacity of the shipping canisters.

No process system containing/handling radioactive substances at shutdown is presumed to meet material release criteria by decay alone, i.e., systems radioactive at shutdown will still be radioactive over the time period during which the decommissioning is accomplished, due to the presence of long-lived radionuclides. While the dose rates decrease with time, radionuclides such as ^{137}Cs will still control the disposition requirements.

The waste material generated in the decontamination and dismantling of Oyster Creek is primarily generated during Period 2 of the DECON alternative and Period 4 of the deferred alternatives. Material that is considered potentially contaminated when removed from the radiologically controlled area is sent to processing facilities in Tennessee for conditioning and disposal. Heavily contaminated components and activated materials are routed for controlled disposal. The disposal volumes reported in the tables reflect the savings resulting from reprocessing and recycling.

For purposes of constructing the analysis, the rate schedule for the Barnwell facility was used as a proxy for the higher activity waste. This schedule was used to estimate the disposal fees for most plant components and all activated concrete unsuitable for processing or recovery. An average disposal rate of approximately $315 per cubic foot was used, with additional surcharges for activity, dose rate, and/or handling added as appropriate for the particular package.

The remaining volume of contaminated metallic and concrete debris is processed and conditioned at a Duratek facility. The contaminated metallic waste stream includes the lower activity components such as miscellaneous steel, metal siding, scaffolding, and structural steel. Metals are recycled at a unit rate of $1.99 per pound. Concrete, soil, asbestos and other bulk debris are disposed of at a rate of $1.00 per pound or approximately $100 per cubic foot. Dry active wastes, e.g., cloth, paper and plastics, are sent to the Envirocare facility for direct disposal from the site at $2.87 per pound or $57.40 per cubic foot, at an assumed density of 20 pounds per cubic foot.

TABLE 5.1
DECOMMISSIONING WASTE SUMMARY
DECON

	Waste Class[1]	Volume (cubic feet)	Weight (pounds)
Low-Level Radioactive Waste			
Barnwell, South Carolina (contaminated/activated metallic waste and concrete)			
	A	68,944	5,996,132
	B	11,820	1,731,981
	C	631	37,795
Envirocare, Utah (miscellaneous steel, contaminated/activated concrete)			
Containerized	A	19,647	1,706,435
Bulk	A	208,188	17,995,060
Geologic Repository (Greater-than Class C)			
	>C	411	72,900
Total [2]		309,641	27,540,303
Processed Waste (Off-Site)		386,250	
Scrap Metal			45,702,000

1 Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55
2 Columns may not add due to rounding.

TABLE 5.2
DECOMMISSIONING WASTE SUMMARY
DELAYED DECON

	Waste Class[1]	Volume (cubic feet)	Weight (pounds)
Low-Level Radioactive Waste			
Barnwell, South Carolina (contaminated/activated metallic waste and concrete)			
	A	37,887	3,312,336
	B	6,686	909,192
	C	287	32,125
Envirocare, Utah (miscellaneous steel, contaminated/activated concrete)			
Containerized	A	16,858	1,463,684
Bulk	A	186,753	15,512,240
Geologic Repository (Greater-than Class C)			
	>C	411	72,900
Total [2]		248,882	21,302,477
Processed Waste (Off-Site)		462,227	
Scrap Metal			45,702,000

1 Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55
2 Columns may not add due to rounding.

TABLE 5.3
DECOMMISSIONING WASTE SUMMARY
SAFSTOR

	Waste Class[1]	Volume (cubic feet)	Weight (pounds)
Low-Level Radioactive Waste			
Barnwell, South Carolina (contaminated/activated metallic waste and concrete)			
	A	37,456	3,216,877
	B	6,405	873,677
	C	287	32,125
Envirocare, Utah (miscellaneous steel, contaminated/activated concrete)			
Containerized	A	16,591	1,432,314
Bulk	A	205,297	16,215,750
Geologic Repository (Greater-than Class C)			
	>C	411	72,900
Total [2]		266,447	21,843,643
Processed Waste (Off-Site)		456,585	
Scrap Metal			45,702,000

1 Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55
2 Columns may not add due to rounding.

6. RESULTS

The analysis to estimate the costs to decommission Oyster Creek relied upon the site-specific, technical information developed for a previous analysis prepared in 1997-99. While not an engineering study, the estimates provide AmerGen Energy with sufficient information to assess its financial obligations, as they pertain to the eventual decommissioning of the nuclear station.

The estimates described in this report are based on numerous fundamental assumptions, including regulatory requirements, project contingencies, low-level radioactive waste disposal practices, high-level radioactive waste management options, and site restoration requirements. The decommissioning scenarios assume continued operation of the plant's spent fuel pool for a minimum of 5½ years following the cessation of operations for continued cooling of the assemblies. For the DECON and SAFSTOR scenarios, spent fuel will be offloaded to the ISFSI until such time that the DOE can complete the transfer of the assemblies to its repository. The spent fuel remains in the storage pool in the Delayed DECON alternative.

The cost projected to promptly decommission (DECON) Oyster Creek is estimated to be $664.5 million. The majority of this cost (approximately 72.3%) is associated with the physical decontamination and dismantling of the nuclear unit so that the license can be terminated. Another 21.3% is associated with the management, interim storage, and eventual transfer of the spent fuel. The remaining 6.4% is for the demolition of the designated structures and limited restoration of the site.

The primary cost contributors, identified in Tables 6.1 through 6.3, are either labor-related or associated with the management and disposition of the radioactive waste. Program management is the largest single contributor to the overall cost. The magnitude of the expense is a function of both the size of the organization required to manage the decommissioning, as well as the duration of the program. It is assumed, for purposes of this analysis, that AmerGen Energy will oversee the decommissioning program, using a DOC to manage the decommissioning labor force and the associated subcontractors. The size and composition of the management organization varies with the decommissioning phase and associated site activities. However, once the operating license is terminated, the staff is substantially reduced for the conventional demolition and restoration of the site, and the long-term care of the spent fuel (for the DECON alternative).

As described in this report, the spent fuel pool will remain operational for a minimum of 5½ years following the cessation of operations. The pool will be isolated

and an independent spent fuel island created. This will allow decommissioning operations to proceed in and around the pool area. Over the 5½-year period, the spent fuel will be packaged into transportable steel canisters for loading into a DOE-provided transport cask (DECON and SAFSTOR alternatives only). The canisters will be stored in concrete overpacks at the ISFSI until the DOE is able to receive them. Dry storage of the fuel under a separate license provides additional flexibility in the event the DOE is not able to meet the current timetable for completing the transfer of assemblies to an off-site facility and minimizes the associated caretaking expenses.

The cost for waste disposal includes only those costs associated with the controlled disposition of the low-level radioactive waste generated from decontamination and dismantling activities, including plant equipment and components, structural material, filters, resins and dry-active waste. As described in Section 5, disposal of the lower level material, including concrete and structural steel, is at the Envirocare facility. The more highly radioactive material is sent to the Barnwell facility, with the exception of selected reactor vessel components. Highly activated components, requiring additional isolation from the environment, are packaged for geologic disposal. The cost of geologic disposal is based upon a cost equivalent for spent fuel.

A significant portion of the metallic waste is designated for additional processing and treatment at an off-site facility. Processing reduces the volume of material requiring controlled disposal through such techniques and processes as survey and sorting, decontamination, and volume reduction. The material that cannot be unconditionally released is packaged for controlled disposal at one of the currently operating facilities. The cost identified in the summary table for processing is all-inclusive, incorporating the ultimate disposition of the material.

Removal costs reflect the labor-intensive nature of the decommissioning process, as well as the management controls required to ensure a safe and successful program. Decontamination and packaging costs also have a large labor component that is based upon prevailing union wages. Non-radiological demolition is a natural extension of the decommissioning process. The methods employed in decontamination and dismantling are generally destructive and indiscriminate in inflicting collateral damage. With a work force mobilized to support decommissioning operations, non-radiological demolition can be an integrated activity and a logical expansion of the work being performed in the process of terminating the operating license. Prompt demolition reduces future liabilities and can be more cost effective than deferral, due to the deterioration of the facilities (and therefore the working conditions) with time.

The reported cost for transport includes the tariffs and surcharges associated with moving large components and/or overweight shielded casks overland, as well as the general expense, e.g., labor and fuel, of transporting material to the destinations identified in this report. For purposes of this analysis, material is primarily moved overland by truck.

Decontamination is used to reduce the plant's radiation fields and minimize worker exposure. Slightly contaminated material or material located within a contaminated area is sent to an off-site processing center, i.e., this analysis does not assume that contaminated plant components and equipment can be decontaminated for uncontrolled release in-situ. Centralized processing centers have proven to be a more economical means of handling the large volumes of material produced in the dismantling of a nuclear unit.

License termination survey costs are associated with the labor intensive and complex activity of verifying that contamination has been removed from the site to the levels specified by the regulating agency. This process involves a systematic survey of all remaining plant surface areas and surrounding environs, sampling, isotopic analysis, and documentation of the findings. The status of any plant components and materials not removed in the decommissioning process will also require confirmation and will add to the expense of surveying the facilities alone.

The remaining costs include allocations for heavy equipment and temporary services, as well as for other expenses such as regulatory fees and the premiums for nuclear insurance. While site operating costs are greatly reduced following the final cessation of plant operations, certain administrative functions do need to be maintained either at a basic functional or regulatory level.

TABLE 6.1
SUMMARY OF DECOMMISSIONING COST ELEMENTS
DECON
(thousands of 2003 dollars)

Work Category	Cost	%
Decontamination	14,149	2.1
Removal	106,014	16.0
Packaging	12,406	1.9
Transportation	5,561	0.8
Waste Disposal	96,915	14.6
Off-site Waste Processing	36,757	5.5
Program Management [1]	236,572	35.6
Spent Fuel Pool Isolation	9,332	1.4
ISFSI Related (non-operating)	81,723	12.3
Insurance and Regulatory Fees	18,601	2.8
Energy	4,095	0.6
Characterization and Licensing Surveys	10,191	1.5
Property Taxes	20,638	3.1
Miscellaneous Equipment	5,998	0.9
Site O&M	5,526	0.8
Total [2]	664,477	100.0
NRC License Termination	480,331	72.3
Spent Fuel Management	141,648	21.3
Site Restoration	42,498	6.4

[1] Includes engineering and security
[2] Columns may not add due to rounding

TABLE 6.2
SUMMARY OF DECOMMISSIONING COST ELEMENTS
DELAYED DECON
(thousands of 2003 dollars)

Work Category	Cost	%
Decontamination	18,113	2.9
Removal	95,991	15.1
Packaging	8,829	1.4
Transportation	4,258	0.7
Waste Disposal	58,593	9.2
Off-site Waste Processing	43,866	6.9
Program Management [1]	261,672	41.2
Spent Fuel Pool Isolation	9,332	1.5
ISFSI Related (non-operating)	38,655	6.1
Insurance and Regulatory Fees	31,133	4.9
Energy	11,808	1.9
Characterization and Licensing Surveys	11,524	1.8
Property Taxes	25,513	4.0
Miscellaneous Equipment	9,183	1.4
Site O&M	6,798	1.1
Total [2]	635,270	100.0
NRC License Termination	414,583	65.3
Spent Fuel Management	175,539	27.6
Site Restoration	45,148	7.1

[1] Includes engineering and security
[2] Columns may not add due to rounding

TABLE 6.3
SUMMARY OF DECOMMISSIONING COST ELEMENTS
SAFSTOR
(thousands of 2003 dollars)

Work Category	Cost	%
Decontamination	18,035	2.1
Removal	99,217	11.6
Packaging	8,949	1.1
Transportation	4,282	0.5
Waste Disposal	56,405	6.6
Off-site Waste Processing	43,468	5.1
Program Management [1]	343,367	40.3
Spent Fuel Pool Isolation	9,332	1.1
ISFSI Related (non-operating)	77,603	9.1
Insurance and Regulatory Fees	69,823	8.2
Energy	8,933	1.0
Characterization and Licensing Surveys	11,524	1.4
Property Taxes	67,209	7.9
Miscellaneous Equipment	16,269	1.9
Site O&M	17,696	2.1
Total [2]	852,113	100.0
NRC License Termination	610,009	71.6
Spent Fuel Management	196,982	23.1
Site Restoration	45,122	5.3

[1] Includes engineering and security
[2] Columns may not add due to rounding

7. REFERENCES

1. U.S. Code of Federal Regulations, Title 10, Parts 30, 40, 50, 51, 70 and 72, "General Requirements for Decommissioning Nuclear Facilities," Nuclear Regulatory Commission, Federal Register Volume 53, Number 123 (p 24018 et seq.), June 27, 1988.

2. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," October 2003.

3. U.S. Code of Federal Regulations, Title 10, Part 20, Subpart E, "Radiological Criteria for License Termination."

4. U.S. Code of Federal Regulations, Title 10, Parts 20 and 50, "Entombment Options for Power Reactors," Advanced Notice of Proposed Rulemaking, Federal Register Volume 66, Number 200, October 16, 2001.

5. U.S. Code of Federal Regulations, Title 10, Parts 2, 50 and 51, "Decommissioning of Nuclear Power Reactors," Nuclear Regulatory Commission, Federal Register Volume 61 (p 39278 et seq.), July 29, 1996.

6. "Nuclear Waste Policy Act of 1982 and Amendments," U.S. Department of Energy's Office of Civilian Radioactive Management, 1982.

7. Maine Yankee Atomic Power Company, Connecticut Yankee Atomic Power Company, and Yankee Atomic Power Company v. United States, U.S. Court of Appeals for the Federal Circuit decision, Docket No. 99-5138, -5139, -5140, August 31, 2000.

8. U.S. Code of Federal Regulations, Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," Subpart 54 (bb), "Conditions of Licenses."

9. "Low-Level Radioactive Waste Policy Act," Public Law 96-573, 1980.

10. "Low-Level Radioactive Waste Policy Amendments Act of 1985," Public Law 99-240, January 15, 1986.

11. U.S. Code of Federal Regulations, Title 10, Part 20, Subpart E, "Radiological Criteria for License Termination," Federal Register, Volume 62, Number 139 (p 39058 et seq.), July 21, 1997.

7. REFERENCES
(continued)

12. "Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination," EPA Memorandum OSWER No. 9200.4-18, August 22, 1997.

13. U.S. Code of Federal Regulations, Title 40, Part 141.16, "Maximum contaminant levels for beta particle and photon radioactivity from man-made radionuclides in community water systems."

14. "Memorandum of Understanding Between the Environmental Protection Agency and the Nuclear Regulatory Commission: Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites," OSWER 9295.8-06a, October 9, 2002.

15. "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)," NUREG/CR-1575, Rev. 1, EPA 402-R-97-016, Rev. 1, August 2000.

16. "Decommissioning Cost Analysis for the Oyster Creek Nuclear Generating Station," Document No. G01-1271-003, TLG Services, Inc., February 1999.

17. T.S. LaGuardia et al., "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986.

18. W.J. Manion and T.S. LaGuardia, "Decommissioning Handbook," U.S. Department of Energy, DOE/EV/10128-1, November 1980.

19. "Building Construction Cost Data 2003," Robert Snow Means Company, Inc., Kingston, Massachusetts.

20. Project and Cost Engineers' Handbook, Second Edition, p. 239, American Association of Cost Engineers, Marcel Dekker, Inc., New York, New York, 1984.

21. "Technical, Schedule, and Cost Uncertainties of the Yucca Mountain Repository Project," GAO-02-191, December 2001.

22. "Acceptance Priority Ranking & Annual Capacity Report," DOE/RW-0457, March 1995.

7. REFERENCES
(continued)

23. "Civilian Radioactive Waste Management System Total System Description," Revision 02 (TDR-CRW-SE-000002), DOE/RW-0500, September 2001.

24. "Strategy for Management and Disposal of Greater-Than-Class C Low-Level Radioactive Waste," Federal Register Volume 60, Number 48 (p 13424 et seq.), March 1995.

25. U.S. Department of Transportation, Title 49 of the Code of Federal Regulations, "Transportation," Parts 173 through 178, 1996.

26. Tri-State Motor Transit Company, published tariffs, Interstate Commerce Commission (ICC), Docket No. MC-109397 and Supplements, 2000.

27. J.C. Evans et al., "Long-Lived Activation Products in Reactor Materials" NUREG/CR-3474, Pacific Northwest Laboratory for the Nuclear Regulatory Commission. August 1984.

28. R.I. Smith, G.J. Konzek, W.E. Kennedy, Jr., "Technology, Safety and Costs of Decommissioning a Reference Pressurized Water Reactor Power Station," NUREG/CR-0130 and addenda, Pacific Northwest Laboratory for the Nuclear Regulatory Commission. June 1978.

29. H.D. Oak, et al., "Technology, Safety and Costs of Decommissioning a Reference Boiling Water Reactor Power Station," NUREG/CR-0672 and addenda, Pacific Northwest Laboratory for the Nuclear Regulatory Commission. June 1980.

30. "Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors," 10 CFR Parts 50 and 140, Federal Register Notice, Vol. 62, No. 210, October 30, 1997.

31. "Microsoft Project 2002," Microsoft Corporation, Redmond, WA, 2002.

32. "Atomic Energy Act of 1954," (68 Stat. 919).

APPENDIX A

UNIT COST FACTOR DEVELOPMENT

APPENDIX A
UNIT COST FACTOR DEVELOPMENT

Example: Unit Factor for Removal of Contaminated Heat Exchanger < 3,000 lbs.

1. SCOPE

Heat exchangers weighing < 3,000 lbs. will be removed in one piece using a crane or small hoist. They will be disconnected from the inlet and outlet piping. The heat exchanger will be sent to the waste processing area.

2. CALCULATIONS

Act ID	Activity Description	Activity Duration (minutes)	Critical Duration (minutes)*
a	Remove insulation	60	(b)
b	Mount pipe cutters	60	60
c	Install contamination controls	20	(b)
d	Disconnect inlet and outlet lines	60	60
e	Cap openings	20	(d)
f	Rig for removal	30	30
g	Unbolt from mounts	30	30
h	Remove contamination controls	15	15
i	Remove, wrap, send to waste processing area	60	60
	Totals (Activity/Critical)	355	255

Duration adjustment(s):	
+ Respiratory protection adjustment (25% of critical duration)	64
+ Radiation/ALARA adjustment (30% of critical duration)	77
Adjusted work duration	396
+ Protective clothing adjustment (30% of adjusted duration)	119
Productive work duration	515
+ Work break adjustment (8.33 % of productive duration)	43
Total work duration (minutes)	558

***** Total duration = 9.300 hr *****

* alpha designators indicate activities that can be performed in parallel

APPENDIX A
(continued)

3. LABOR REQUIRED

Crew	Number	Duration (hours)	Rate ($/hr)	Cost
Laborers	3.00	9.300	$38.21	$1,066.06
Craftsmen	2.00	9.300	$52.14	$969.80
Foreman	1.00	9.300	$54.76	$509.27
General Foreman	0.25	9.300	$57.72	$134.20
Fire Watch	0.05	9.300	$38.21	$17.77
Health Physics Technician	1.00	9.300	$36.12	$335.92
Total labor cost				$3,033.02

4. EQUIPMENT & CONSUMABLES COSTS

Equipment Costs	none
Consumables/Materials Costs	
-Blotting paper 50 @ $0.42 sq ft {2}	$21.00
-Plastic sheets/bags 50 @ $0.10/sq ft {3}	$5.00
-Gas torch consumables 1 @ $4.16/hr x 1 hr {1}	$4.16
Subtotal cost of equipment and materials	$30.16
Overhead & profit on equipment and materials @ 16.00 %	$4.83
Total costs, equipment & material	$34.99

TOTAL COST:

Removal of contaminated heat exchanger <3000 pounds: $3,068.01

Total labor cost:	$3,033.02
Total equipment/material costs:	$34.99
Total craft labor man-hours required per unit:	67.890

5. NOTES AND REFERENCES

- Work difficulty factors were developed in conjunction with the Atomic Industrial Forum's (now NEI) program to standardize nuclear decommissioning cost estimates and are delineated in Volume 1, Chapter 5 of the "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986.

- References for equipment & consumables costs:

  1. www.mcmaster.com online catalog, item 7193785
  2. R.S. Means (2003) Section 01540-800-0200, page 17
  3. R.S. Means (2003) Section 01590-400-6360, page 25

- Material and consumable costs were adjusted using the regional indices for Camden, New Jersey.

APPENDIX B

UNIT COST FACTOR LISTING
(DECON: Power Block Structures Only)

APPENDIX B

UNIT COST FACTOR LISTING
(Power Block Structures Only)

Unit Cost Factor	Cost/Unit($)
Removal of clean instrument and sampling tubing, $/linear foot	0.43
Removal of clean pipe 0.25 to 2 inches diameter, $/linear foot	4.48
Removal of clean pipe >2 to 4 inches diameter, $/linear foot	6.48
Removal of clean pipe >4 to 8 inches diameter, $/linear foot	12.69
Removal of clean pipe >8 to 14 inches diameter, $/linear foot	24.44
Removal of clean pipe >14 to 20 inches diameter, $/linear foot	31.63
Removal of clean pipe >20 to 36 inches diameter, $/linear foot	46.57
Removal of clean pipe >36 inches diameter, $/linear foot	55.39
Removal of clean valves >2 to 4 inches	83.88
Removal of clean valves >4 to 8 inches	126.92
Removal of clean valves >8 to 14 inches	244.35
Removal of clean valves >14 to 20 inches	316.29
Removal of clean valves >20 to 36 inches	465.69
Removal of clean valves >36 inches	553.90
Removal of clean pipe hangers for small bore piping	26.07
Removal of clean pipe hangers for large bore piping	96.42
Removal of clean pumps, <300 pound	211.14
Removal of clean pumps, 300-1000 pound	593.35
Removal of clean pumps, 1000-10,000 pound	2,356.59
Removal of clean pumps, >10,000 pound	4,547.23
Removal of clean pump motors, 300-1000 pound	251.24
Removal of clean pump motors, 1000-10,000 pound	983.97
Removal of clean pump motors, >10,000 pound	2,213.94
Removal of clean heat exchanger <3000 pound	1,261.46
Removal of clean heat exchanger >3000 pound	3,161.00

APPENDIX B
(continued)

Unit Cost Factor	Cost/Unit($)
Removal of clean tanks, <300 gallons	271.95
Removal of clean tanks, 300-3000 gallon	863.17
Removal of clean tanks, >3000 gallons, $/square foot surface area	7.24
Removal of clean electrical equipment, <300 pound	116.97
Removal of clean electrical equipment, 300-1000 pound	409.06
Removal of clean electrical equipment, 1000-10,000 pound	818.12
Removal of clean electrical equipment, >10,000 pound	1,949.14
Removal of clean electrical transformers < 30 tons	1,353.65
Removal of clean electrical transformers > 30 tons	3,898.29
Removal of clean standby diesel-generator, <100 kW	1,382.64
Removal of clean standby diesel-generator, 100 kW to 1 MW	3,086.15
Removal of clean standby diesel-generator, >1 MW	6,388.94
Removal of clean electrical cable tray, $/linear foot	10.81
Removal of clean electrical conduit, $/linear foot	4.71
Removal of clean mechanical equipment, <300 pound	116.97
Removal of clean mechanical equipment, 300-1000 pound	409.06
Removal of clean mechanical equipment, 1000-10,000 pound	818.12
Removal of clean mechanical equipment, >10,000 pound	1,949.14
Removal of clean HVAC equipment, <300 pound	116.97
Removal of clean HVAC equipment, 300-1000 pound	409.06
Removal of clean HVAC equipment, 1000-10,000 pound	818.12
Removal of clean HVAC equipment, >10,000 pound	1,949.14
Removal of clean HVAC ductwork, $/pound	0.45
Removal of contaminated instrument and sampling tubing, $/linear foot	1.08
Removal of contaminated pipe 0.25 to 2 inches diameter, $/linear foot	14.78

APPENDIX B
(continued)

Unit Cost Factor	Cost/Unit($)
Removal of contaminated pipe >2 to 4 inches diameter, $/linear foot	25.53
Removal of contaminated pipe >4 to 8 inches diameter, $/linear foot	40.90
Removal of contaminated pipe >8 to 14 inches diameter, $/linear foot	80.28
Removal of contaminated pipe >14 to 20 inches diameter, $/linear foot	96.33
Removal of contaminated pipe >20 to 36 inches diameter, $/linear foot	133.86
Removal of contaminated pipe >36 inches diameter, $/linear foot	159.41
Removal of contaminated valves >2 to 4 inches	315.19
Removal of contaminated valves >4 to 8 inches	374.12
Removal of contaminated valves >8 to 14 inches	772.69
Removal of contaminated valves >14 to 20 inches	981.06
Removal of contaminated valves >20 to 36 inches	1,308.47
Removal of contaminated valves >36 inches	1,563.91
Removal of contaminated pipe hangers for small bore piping	83.60
Removal of contaminated pipe hangers for large bore piping	275.50
Removal of contaminated pumps, <300 pound	655.84
Removal of contaminated pumps, 300-1000 pound	1,537.13
Removal of contaminated pumps, 1000-10,000 pound	5,201.62
Removal of contaminated pumps, >10,000 pound	12,630.87
Removal of contaminated pump motors, 300-1000 pound	655.43
Removal of contaminated pump motors, 1000-10,000 pound	2,105.39
Removal of contaminated pump motors, >10,000 pound	4,737.44
Removal of contaminated heat exchanger <3000 pound	3,068.01
Removal of contaminated heat exchanger >3000 pound	8,859.03
Removal of contaminated feedwater heater/deaerator	22,254.36
Removal of contaminated moisture separator/reheater	48,879.96

APPENDIX B
(continued)

Unit Cost Factor	Cost/Unit($)
Removal of contaminated tanks, <300 gallons	1,088.77
Removal of contaminated tanks, >300 gallons, $/square foot	22.32
Removal of contaminated electrical equipment, <300 pound	514.43
Removal of contaminated electrical equipment, 300-1000 pound	1,251.83
Removal of contaminated electrical equipment, 1000-10,000 pound	2,403.35
Removal of contaminated electrical equipment, >10,000 pound	4,820.06
Removal of contaminated electrical cable tray, $/linear foot	25.08
Removal of contaminated electrical conduit, $/linear foot	11.69
Removal of contaminated mechanical equipment, <300 pound	577.41
Removal of contaminated mechanical equipment, 300-1000 pound	1,411.23
Removal of contaminated mechanical equipment, 1000-10,000 pound	2,709.06
Removal of contaminated mechanical equipment, >10,000 pound	4,820.06
Removal of contaminated HVAC equipment, <300 pound	577.41
Removal of contaminated HVAC equipment, 300-1000 pound	1,411.23
Removal of contaminated HVAC equipment, 1000-10,000 pound	2,709.06
Removal of contaminated HVAC equipment, >10,000 pound	4,820.06
Removal of contaminated HVAC ductwork, $/pound	2.32
Removal/plasma arc cut of contaminated thin metal components, $/linear in.	2.84
Additional decontamination of surface by washing, $/square foot	5.71
Additional decontamination of surfaces by hydrolasing, $/square foot	26.02
Decontamination rig hook-up and flush	4,912.13
Chemical flush of components/systems, $/gallon	10.63
Removal of clean standard reinforced concrete, $/cubic yard	67.11
Removal of grade slab concrete, $/cubic yard	175.76
Removal of clean concrete floors, $/cubic yard	288.98

APPENDIX B
(continued)

Unit Cost Factor	Cost/Unit($)
Removal of sections of clean concrete floors, $/cubic yard	872.98
Removal of clean heavily rein concrete w/#9 rebar, $/cubic yard	192.04
Removal of contaminated heavily rein concrete w/#9 rebar, $/cubic yard	1,452.40
Removal of clean heavily rein concrete w/#18 rebar, $/cubic yard	242.90
Removal of contaminated heavily rein concrete w/#18 rebar, $/cubic yard	1,918.52
Removal heavily rein concrete w/#18 rebar & steel embedments, $/cu yd	377.78
Removal of below-grade suspended floors, $/cubic yard	288.98
Removal of clean monolithic concrete structures, $/cubic yard	730.34
Removal of contaminated monolithic concrete structures, $/cubic yard	1,452.56
Removal of clean foundation concrete, $/cubic yard	570.79
Removal of contaminated foundation concrete, $/cubic yard	1,351.06
Explosive demolition of bulk concrete, $/cubic yard	25.86
Removal of clean hollow masonry block wall, $/cubic yard	67.75
Removal of contaminated hollow masonry block wall, $/cubic yard	181.41
Removal of clean solid masonry block wall, $/cubic yard	67.75
Removal of contaminated solid masonry block wall, $/cubic yard	181.41
Backfill of below-grade voids, $/cubic yard	15.19
Removal of subterranean tunnels/voids, $/linear foot	130.08
Placement of concrete for below-grade voids, $/cubic yard	90.96
Excavation of clean material, $/cubic yard	2.45
Excavation of contaminated material, $/cubic yard	27.17
Excavation of submerged concrete rubble, $/cubic yard	11.89
Removal of clean concrete rubble (tipping fee included), $/cubic yard	85.06
Removal of contaminated concrete rubble, $/cubic yard	22.01
Removal of building by volume, $/cubic foot	0.23

APPENDIX B
(continued)

Unit Cost Factor	Cost/Unit($)
Removal of clean building metal siding, $/square foot	1.24
Removal of contaminated building metal siding, $/square foot	3.24
Removal of standard asphalt roofing, $/square foot	2.00
Removal of transite panels, $/square foot	2.02
Scarifying contaminated concrete surfaces (drill & spall)	9.52
Scabbling contaminated concrete floors, $/square foot	5.55
Scabbling contaminated concrete walls, $/square foot	6.21
Scabbling contaminated ceilings, $/square foot	55.86
Scabbling structural steel, $/square foot	4.72
Removal of clean overhead cranes/monorails < 10 ton capacity	575.52
Removal of contaminated overhead cranes/monorails < 10 ton capacity	1,318.24
Removal of clean overhead cranes/monorails >10-50 ton capacity	1,381.26
Removal of contaminated overhead cranes/monorails >10-50 ton capacity	3,151.81
Removal of polar cranes > 50 ton capacity, each	5,778.86
Removal of gantry cranes > 50 ton capacity, each	24,364.28
Removal of clean structural steel, $/pound	0.32
Removal of clean steel floor grating, $/square foot	2.95
Removal of contaminated steel floor grating, $/square foot	7.22
Removal of clean free-standing steel liner, $/square foot	10.85
Removal of contaminated free-standing steel liner, $/square foot	25.84
Removal of clean concrete-anchored steel liner, $/square foot	5.42
Removal of contaminated concrete-anchored steel liner, $/square foot	30.05
Placement of scaffolding in clean areas, $/square foot	12.05
Placement of scaffolding in contaminated areas, $/square foot	17.78
Landscaping with topsoil, $/acre	15,370.28

APPENDIX B
(continued)

Unit Cost Factor	Cost/Unit($)
Cost of CPC B-88 LSA box & preparation for use	1,051.61
Cost of CPC B-25 LSA box & preparation for use	838.58
Cost of CPC B-12V 12 gauge LSA box & preparation for use	720.97
Cost of CPC B-144 LSA box & preparation for use	3,999.47
Cost of LSA drum & preparation for use	115.13
Cost of cask liner for CNSI 14-195 cask	8,226.15
Cost of cask liner for CNSI 8-120A cask (resins)	5,779.18
Cost of cask liner for CNSI 8-120A cask (filters)	5,779.18
Decontamination of surfaces with vacuuming, $/square foot	0.60

APPENDIX C

DETAILED COST ANALYSES

DECON

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	345	52	396	396	-	-	-	-	-	-	-	-	-	4,600
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.10	End product description	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
1a.1.12	Define major work sequence	-	-	-	-	-	-	562	84	646	646	-	-	-	-	-	-	-	-	-	7,500
1a.1.13	Perform SER and EA	-	-	-	-	-	-	232	35	267	267	-	-	-	-	-	-	-	-	-	3,100
1a.1.14	Perform Site-Specific Cost Study	-	-	-	-	-	-	375	56	431	431	-	-	-	-	-	-	-	-	-	5,000
1a.1.15	Prepare/submit License Termination Plan	-	-	-	-	-	-	307	46	353	353	-	-	-	-	-	-	-	-	-	4,096
1a.1.16	Receive NRC approval of termination plan									a											
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	369	55	424	381	-	42	-	-	-	-	-	-	-	4,920
1a.1.17.2	Plant systems	-	-	-	-	-	-	312	47	359	323	-	36	-	-	-	-	-	-	-	4,167
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	37	6	43	43	-	-	-	-	-	-	-	-	-	500
1a.1.17.4	Reactor Internals	-	-	-	-	-	-	532	80	612	612	-	-	-	-	-	-	-	-	-	7,100
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	487	73	560	560	-	-	-	-	-	-	-	-	-	6,500
1a.1.17.6	Sacrificial shield	-	-	-	-	-	-	37	6	43	43	-	-	-	-	-	-	-	-	-	500
1a.1.17.7	Moisture separators/reheaters	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	120	18	138	69	-	69	-	-	-	-	-	-	-	1,600
1a.1.17.9	Turbine & condenser	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
1a.1.17.10	Pressure suppression structure	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.17.11	Drywell	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,600
1a.1.17.12	Plant structures & buildings	-	-	-	-	-	-	234	35	269	134	-	134	-	-	-	-	-	-	-	3,120
1a.1.17.13	Waste management	-	-	-	-	-	-	345	52	396	396	-	-	-	-	-	-	-	-	-	4,600
1a.1.17.14	Facility & site closeout	-	-	-	-	-	-	67	10	78	39	-	39	-	-	-	-	-	-	-	900
1a.1.17	Total	-	-	-	-	-	-	3,196	479	3,676	3,355	-	320	-	-	-	-	-	-	-	42,674
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	2,400
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	2,419	363	2,782	2,782	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	105	16	121	121	-	-	-	-	-	-	-	-	-	1,400
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,048	307	2,355	2,355	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	92	14	106	106	-	-	-	-	-	-	-	-	-	1,230
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	10,354	1,553	11,907	11,587	-	320	-	-	-	-	-	-	-	78,600
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	10,300	1,545	11,845	-	11,845	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,300	1,545	11,845	-	11,845	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,734	173	1,907	1,907	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	221	-	-	-	-	-	55	276	276	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	288	-	-	-	-	-	43	331	331	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	5	1	-	23	-	6	35	35	-	-	-	404	-	-	-	8,103	99	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	625	94	719	719	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	371	37	408	408	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	101	10	111	-	111	-	-	-	-	-	-	-	-	-
1a.4.9	Site O&M Cost	-	-	-	-	-	-	250	37	287	287	-	-	-	-	-	-	-	-	-	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1a Period-Dependent Costs (continued)																					
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	968	145	1,113	-	1,113	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	71	11	82	-	82	-	-	-	-	-	-	-	-	-
1a.4.12	Security Staff Cost	-	-	-	-	-	-	968	145	1,114	1,114	-	-	-	-	-	-	-	-	-	58,921
1a.4.13	Utility Staff Cost	-	-	-	-	-	-	25,908	3,886	29,795	29,795	-	-	-	-	-	-	-	-	-	412,450
1a.4	Subtotal Period 1a Period-Dependent Costs	-	509	5	1	-	23	30,997	4,644	36,179	34,873	1,306	-	-	404	-	-	-	8,103	99	471,371
1a.0	TOTAL PERIOD 1a COST	-	509	5	1	-	23	51,651	7,742	59,931	48,460	13,151	320	-	404	-	-	-	8,103	99	549,971
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	355	53	408	367	-	41	-	-	-	-	-	-	-	4,733
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.3	Reactor internals	-	-	-	-	-	-	300	45	345	345	-	-	-	-	-	-	-	-	-	4,000
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	101	15	116	29	-	87	-	-	-	-	-	-	-	1,350
1b.1.1.5	CRD housings & NIs	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.6	Incore instrumentation	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.7	Removal primary containment	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	272	41	313	313	-	-	-	-	-	-	-	-	-	3,630
1b.1.1.9	Facility closeout	-	-	-	-	-	-	90	13	103	52	-	52	-	-	-	-	-	-	-	1,200
1b.1.1.10	Sacrificial shield	-	-	-	-	-	-	90	13	103	103	-	-	-	-	-	-	-	-	-	1,200
1b.1.1.11	Reinforced concrete	-	-	-	-	-	-	75	11	86	43	-	43	-	-	-	-	-	-	-	1,000
1b.1.1.12	Turbine & condensers	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
1b.1.1.13	Moisture separators & reheaters	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1b.1.1.14	Radwaste building	-	-	-	-	-	-	204	31	235	212	-	24	-	-	-	-	-	-	-	2,730
1b.1.1.15	Reactor building	-	-	-	-	-	-	204	31	235	212	-	24	-	-	-	-	-	-	-	2,730
1b.1.1	Total	-	-	-	-	-	-	2,527	379	2,906	2,636	-	270	-	-	-	-	-	-	-	33,740
1b.1.2	Decon NSSS	625	-	-	-	-	-	-	312	937	937	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	625	-	-	-	-	-	2,527	691	3,843	3,573	-	270	-	-	-	-	-	-	1,067	33,740
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,115	1,217	9,332	9,332	-	-	-	-	-	-	-	-	-	-
1b.2.2	Site Characterization	-	-	-	-	-	-	3,152	946	4,098	4,098	-	-	-	-	-	-	-	-	-	-
1b.2.3	Disposition of Liquid RCRA Waste (not lead)	-	-	-	9	529	-	-	81	618	618	-	-	2,019	-	-	-	-	115,076	-	-
1b.2.4	Disposition of PCB Soil RCRA Waste (not lead)	-	-	-	58	1,620	-	-	252	1,930	1,930	-	-	27,000	-	-	-	-	1,620,000	-	-
1b.2.5	Disposition of Lead Inventory	-	-	-	2	44	-	-	7	53	53	-	-	31	-	-	-	-	22,080	-	-
1b.2.6	Asbestos Remediation	-	9,791	1	43	-	716	-	2,633	13,184	13,184	-	-	-	19,193	-	-	-	249,515	150,230	-
1b.2	Subtotal Period 1b Additional Costs	-	9,791	1	113	2,192	716	11,267	5,136	29,216	29,216	-	-	29,050	19,193	-	-	-	2,006,671	150,230	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	628	-	-	-	-	-	-	94	723	723	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process liquid waste	70	-	267	327	-	2,384	-	707	3,754	3,754	-	-	-	-	3,639	-	-	593,206	170	-
1b.3.4	Small tool allowance	-	127	-	-	-	-	-	19	146	146	-	-	-	-	-	-	-	-	-	-
1b.3.5	Pipe cutting equipment	-	957	-	-	-	-	-	143	1,100	1,100	-	-	-	-	-	-	-	-	-	-
1b.3.6	Spent Fuel Capital and Transfer	-	-	-	-	-	-	5,221	783	6,004	-	6,004	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	698	1,083	267	327	-	2,384	6,317	1,911	12,987	6,984	6,004	-	-	-	3,639	-	-	593,206	170	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	19	-	-	-	-	-	-	5	24	24	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	879	88	967	967	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,045	105	1,150	1,150	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	570	-	-	-	-	-	143	713	713	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	146	-	-	-	-	-	22	168	168	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	3	1	-	13	-	4	19	19	-	-	-	221	-	-	-	4,439	54	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1b Period-Dependent Costs (continued)																					
1b.4.7	Plant energy budget	-	-	-	-	-	-	317	48	364	364	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	188	19	207	207	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	51	5	56	-	56	-	-	-	-	-	-	-	-	-
1b.4.10	Site O&M Cost	-	-	-	-	-	-	127	19	146	146	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	491	74	564	-	564	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	36	5	41	-	41	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	491	74	564	564	-	-	-	-	-	-	-	-	-	29,864
1b.4.14	DOC Staff Cost	-	-	-	-	-	-	3,420	513	3,933	3,933	-	-	-	-	-	-	-	-	-	52,857
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	7,423	1,113	8,536	8,536	-	-	-	-	-	-	-	-	-	115,493
1b.4	Subtotal Period 1b Period-Dependent Costs	19	716	3	1	-	13	14,467	2,235	17,454	16,792	662	-	-	221	-	-	-	4,439	54	198,214
1b.0	TOTAL PERIOD 1b COST	1,342	11,591	270	440	2,192	3,113	34,578	9,973	63,499	56,564	6,666	270	29,050	19,414	3,639	-	-	2,604,316	151,521	231,954
PERIOD 1 TOTALS		1,342	12,100	275	441	2,192	3,136	86,229	17,715	123,431	103,024	19,817	590	29,050	19,819	3,639	-	-	2,612,419	151,621	781,925
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Recirculation Pumps & Motors	36	87	33	35	42	765	-	246	1,244	1,244	-	-	107	1,053	-	-	-	227,150	2,938	-
2a.1.1.2	CRDMs & NIs Removal	140	124	183	44	-	419	-	230	1,140	1,140	-	-	-	5,179	-	-	-	112,850	5,509	-
2a.1.1.3	Reactor Vessel Internals	118	2,077	4,443	859	-	7,508	182	6,724	21,911	21,911	-	-	-	1,127	1,378	631	-	312,375	25,434	1,149
2a.1.1.4	Reactor Vessel	69	4,854	1,251	473	-	6,882	182	7,424	20,935	20,935	-	-	-	10,800	2,254	-	-	1,401,066	25,434	1,149
2a.1.1	Totals	363	6,943	5,910	1,411	42	15,574	364	14,624	45,229	45,229	-	-	107	18,159	3,631	631	-	2,053,461	59,315	2,299
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	267	538	161	5,020	426	-	1,004	7,415	7,415	-	-	56,053	1,653	-	-	-	2,670,672	5,691	-
2a.1.3	Main Condensers	-	804	335	100	3,125	265	-	784	5,413	5,413	-	-	34,899	- 1,029	-	-	-	1,662,788	17,138	-
Disposal of Plant Systems																					
Drywell System Components																					
2a.1.4	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reactor Building System Components																					
2a.1.5.1	RC1/RC3	-	3	-	-	1	0	-	1	5	5	-	-	14	0	-	-	-	581	73	-
2a.1.5.2	RCA	-	35	1	1	6	33	-	18	94	94	-	-	77	100	-	-	-	12,070	792	-
2a.1.5.3	RCB	-	52	1	1	30	27	-	24	136	136	-	-	374	88	-	-	-	22,432	1,169	-
2a.1.5.4	RCD	-	271	7	9	260	129	-	141	817	817	-	-	3,212	388	-	-	-	165,183	6,024	-
2a.1.5.5	RCG	-	52	2	2	62	63	-	39	221	221	-	-	761	190	-	-	-	47,921	1,180	-
2a.1.5.6	RCJ	-	55	1	1	36	25	-	26	146	146	-	-	468	76	-	-	-	25,788	1,225	-
2a.1.5.7	RCM	-	63	3	3	80	63	-	54	307	307	-	-	987	250	-	-	-	62,510	1,874	-
2a.1.5.8	RCN	-	186	5	5	122	101	-	91	510	510	-	-	1,510	304	-	-	-	88,595	4,107	-
2a.1.5.9	RCS	-	66	5	3	28	159	-	61	322	322	-	-	342	479	-	-	-	56,865	1,499	-
2a.1.5.10	RCT	-	42	1	1	25	27	-	21	116	116	-	-	306	80	-	-	-	19,639	923	-
2a.1.5	Totals	-	844	28	26	651	648	-	477	2,674	2,674	-	-	8,050	1,955	-	-	-	501,583	18,867	-
New Radwaste Building System Components																					
2a.1.6.1	7EB	77	123	3	2	17	90	-	95	407	407	-	-	215	272	-	-	-	33,080	4,228	-
2a.1.6.2	N2G	-	9	-	0	3	2	-	3	17	17	-	-	40	5	-	-	-	2,056	202	-
2a.1.6.3	N2P	-	22	0	1	26	3	-	10	63	63	-	-	324	8	-	-	-	13,908	468	-
2a.1.6.4	N3A	-	52	1	1	19	27	-	23	124	124	-	-	237	83	-	-	-	17,032	1,154	-
2a.1.6.5	N3D	-	62	1	1	34	14	-	24	137	137	-	-	419	42	-	-	-	20,803	1,405	-
2a.1.6.6	N3I	-	13	0	-	2	2	-	4	21	21	-	-	19	7	-	-	-	1,409	294	-
2a.1.6.7	N3N	-	76	1	1	23	27	-	29	158	158	-	-	268	81	-	-	-	18,964	1,700	-
2a.1.6.8	N3P	-	19	0	0	10	10	-	9	49	49	-	-	118	31	-	-	-	7,576	429	-
2a.1.6.9	N3Q	-	13	0	0	5	2	-	5	26	26	-	-	67	7	-	-	-	3,331	299	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
New Radwaste Building System Components (continued)																					
2a.1.6.10	N3R	-	13	0	0	5	6	-	6	30	30	-	-	62	18	-	-	-	4,115	293	-
2a.1.6.11	N3S	-	19	0	0	13	5	-	8	46	46	-	-	158	15	-	-	-	7,727	439	-
2a.1.6.12	N3T	-	12	0	0	3	3	-	4	23	23	-	-	42	8	-	-	-	2,442	273	-
2a.1.6.13	N3U	-	85	5	3	26	157	-	65	340	340	-	-	317	479	-	-	-	55,109	1,891	-
2a.1.6.14	N3W	-	68	6	3	27	171	-	70	364	364	-	-	333	520	-	-	-	59,509	1,985	-
2a.1.6.15	N3Y	-	162	7	7	179	142	-	104	601	601	-	-	2,216	432	-	-	-	128,177	3,593	-
2a.1.6.16	N51	16	32	0	1	17	4	-	20	90	90	-	-	213	14	-	-	-	9,838	1,060	-
2a.1.6.17	N52	11	28	1	0	6	17	-	17	80	80	-	-	68	61	-	-	-	7,402	867	-
2a.1.6.18	N53	16	47	1	1	12	32	-	30	138	138	-	-	144	117	-	-	-	14,543	1,416	-
2a.1.6.19	N54	4	13	0	0	2	9	-	8	36	36	-	-	27	30	-	-	-	3,434	366	-
2a.1.6.20	N55	-	56	1	1	27	13	-	22	120	120	-	-	336	40	-	-	-	17,217	1,269	-
2a.1.6.21	N56	-	84	2	2	39	43	-	38	207	207	-	-	481	129	-	-	-	31,135	1,752	-
2a.1.6.22	N5A	27	33	1	1	18	16	-	29	124	124	-	-	226	60	-	-	-	13,435	1,300	-
2a.1.6.23	N5B	20	31	0	1	23	4	-	22	100	100	-	-	286	13	-	-	-	12,588	1,091	-
2a.1.6.24	N5C	-	14	0	0	4	10	-	7	34	34	-	-	49	29	-	-	-	4,585	303	-
2a.1.6.25	N5D	-	22	1	0	6	13	-	10	52	52	-	-	75	40	-	-	-	6,594	482	-
2a.1.6.26	N5E	-	14	0	0	4	10	-	7	36	36	-	-	49	31	-	-	-	4,765	315	-
2a.1.6.27	N5F	-	21	1	0	4	16	-	10	52	52	-	-	51	47	-	-	-	6,306	467	-
2a.1.6.28	N5G	0	11	0	-	2	3	-	4	20	20	-	-	23	9	-	-	-	1,734	242	-
2a.1.6.29	N5H	-	9	0	-	-	6	-	4	18	18	-	-	1	17	-	-	-	1,578	193	-
2a.1.6.30	N5I	7	13	0	0	2	4	-	8	35	35	-	-	26	13	-	-	-	2,226	441	-
2a.1.6.31	N5J	-	9	0	0	8	6	-	5	28	28	-	-	99	17	-	-	-	5,487	211	-
2a.1.6.32	N5K	-	12	0	0	5	3	-	4	24	24	-	-	56	10	-	-	-	3,152	256	-
2a.1.6.33	N5N	-	22	0	0	10	3	-	8	43	43	-	-	125	9	-	-	-	5,888	494	-
2a.1.6.34	N5O	-	56	1	2	47	16	-	25	146	146	-	-	579	49	-	-	-	27,716	1,241	-
2a.1.6.35	N5P	-	22	1	1	10	23	-	13	68	68	-	-	121	90	-	-	-	11,003	486	-
2a.1.6.36	N5Q	-	21	1	1	10	22	-	13	67	67	-	-	121	89	-	-	-	10,904	479	-
2a.1.6.37	N5S	-	50	3	5	163	31	-	46	297	297	-	-	2,012	94	-	-	-	90,095	1,128	-
2a.1.6.38	N5T	46	58	2	1	39	29	-	51	224	224	-	-	482	111	-	-	-	27,292	2,230	-
2a.1.6.39	N5U	46	58	2	1	39	29	-	51	225	225	-	-	483	112	-	-	-	27,353	2,245	-
2a.1.6.40	N5Y	11	28	0	0	10	9	-	16	75	75	-	-	124	29	-	-	-	7,366	880	-
2a.1.6.41	N5Z	11	28	0	0	10	9	-	16	75	75	-	-	124	29	-	-	-	7,366	880	-
2a.1.6.42	PPA	-	58	1	1	38	16	-	25	141	141	-	-	468	53	-	-	-	23,775	1,291	-
2a.1.6	Totals	290	1,616	48	39	946	1,056	-	966	4,962	4,962	-	-	11,707	3,350	-	-	-	760,018	42,016	-
Old Radwaste Building System Components																					
2a.1.7.1	7BA	-	63	1	1	26	27	-	27	145	145	-	-	317	82	-	-	-	20,262	1,413	-
2a.1.7.2	7DA	-	37	2	1	5	52	-	23	118	118	-	-	56	155	-	-	-	16,148	813	-
2a.1.7.3	7FA	1	18	1	1	12	18	-	11	61	61	-	-	148	55	-	-	-	10,917	407	-
2a.1.7.4	PBA	79	116	6	3	44	135	-	110	492	492	-	-	544	464	-	-	-	58,387	4,188	-
2a.1.7.5	PDA	8	41	1	1	22	16	-	22	112	112	-	-	277	49	-	-	-	15,613	1,098	-
2a.1.7.6	PMA	-	10	0	0	3	4	-	4	20	20	-	-	32	11	-	-	-	2,277	216	-
2a.1.7.7	PRA	-	65	1	2	62	15	-	30	175	175	-	-	763	50	-	-	-	35,144	1,457	-
2a.1.7.8	PTK / PTP	-	10	-	-	2	0	-	3	16	16	-	-	28	1	-	-	-	1,206	232	-
2a.1.7	Totals	88	360	11	8	175	267	-	229	1,139	1,139	-	-	2,166	865	-	-	-	159,956	9,824	-
Turbine Building System Components																					
2a.1.8.1	7CA	118	214	9	5	94	230	-	186	856	856	-	-	1,163	691	-	-	-	109,196	6,401	-
2a.1.8.2	TB2	-	731	25	26	721	505	-	424	2,432	2,432	-	-	8,921	1,525	-	-	-	498,344	16,321	-
2a.1.8.3	TB23	-	4	-	-	3	0	-	2	9	9	-	-	40	1	-	-	-	1,706	85	-
2a.1.8.4	TB38	-	11	0	0	6	8	-	6	31	31	-	-	75	25	-	-	-	5,267	229	-
2a.1.8.5	TC2	-	1,210	122	106	2,445	3,097	-	1,471	8,450	8,450	-	-	30,249	9,311	-	-	-	2,063,116	27,185	-
2a.1.8.6	TE2	-	131	6	8	242	84	-	92	562	562	-	-	3,000	253	-	-	-	144,438	2,865	-
2a.1.8.7	TEE	-	252	5	9	307	54	-	124	752	752	-	-	3,794	163	-	-	-	168,687	5,622	-
2a.1.8.8	TEG	-	18	0	0	7	8	-	8	42	42	-	-	89	25	-	-	-	5,898	383	-
2a.1.8.9	TP2	-	132	5	6	169	96	-	84	491	491	-	-	2,092	288	-	-	-	110,812	2,957	-
2a.1.8.10	TP3	-	87	5	3	44	110	-	57	305	305	-	-	548	404	-	-	-	51,772	1,962	-
2a.1.8.11	TPE	-	77	5	2	33	106	-	52	275	275	-	-	408	373	-	-	-	45,101	1,733	-
2a.1.8	Totals	118	2,866	182	166	4,071	4,298	-	2,504	14,205	14,205	-	-	50,378	13,058	-	-	-	3,204,338	65,744	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Augmented Offgas System Components																					
2a.1.9	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous System Components																					
2a.1.10	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2a.1.11	Scaffolding in support of decommissioning	-	668	10	3	95	17	-	187	981	981	-	-	1,057	66	-	-	-	53,469	16,705	-
2a.1	Subtotal Period 2a Activity Costs	859	14,367	7,063	1,915	14,124	22,550	364	20,776	82,018	82,018	-	-	164,418	40,134	3,831	631	-	11,066,280	235,299	2,299
Period 2a Additional Costs																					
2a.2.1	Curie Surcharge (Excluding RPV)	-	-	-	-	-	8,250	-	2,063	10,313	10,313	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	8,250	-	2,063	10,313	10,313	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Process liquid waste	150	-	82	170	-	851	-	321	1,574	1,574	-	-	-	-	1,453	-	-	200,574	215	-
2a.3.2	Small tool allowance	-	171	-	-	-	-	-	26	197	177	-	20	-	-	-	-	-	-	-	-
2a.3.3	Spent Fuel Capital and Transfer	-	-	-	-	-	-	12,755	1,913	14,668	-	14,668	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	150	171	82	170	-	851	12,755	2,260	16,439	1,751	14,668	20	-	-	1,453	-	-	200,574	215	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	48	-	-	-	-	-	-	12	60	60	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	1,040	104	1,144	1,144	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	1,238	124	1,361	1,225	-	136	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	966	-	-	-	-	-	247	1,233	1,233	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	1,930	-	-	-	-	-	290	2,220	2,220	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	55	12	-	269	-	75	411	411	-	-	-	4,684	-	-	-	93,870	1,150	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	736	110	846	846	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	537	54	591	591	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	125	12	137	-	137	-	-	-	-	-	-	-	-	-
2a.4.10	Site O&M Cost	-	-	-	-	-	-	309	46	356	356	-	-	-	-	-	-	-	-	-	-
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	1,199	180	1,379	-	1,379	-	-	-	-	-	-	-	-	-
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	88	13	101	-	101	-	-	-	-	-	-	-	-	-
2a.4.13	Security Staff Cost	-	-	-	-	-	-	1,496	224	1,721	1,721	-	-	-	-	-	-	-	-	-	91,046
2a.4.14	DOC Staff Cost	-	-	-	-	-	-	9,983	1,497	11,480	11,480	-	-	-	-	-	-	-	-	-	156,263
2a.4.15	Utility Staff Cost	-	-	-	-	-	-	18,136	2,720	20,856	20,856	-	-	-	-	-	-	-	-	-	282,177
2a.4	Subtotal Period 2a Period-Dependent Costs	48	2,916	55	12	-	269	34,886	5,708	43,895	42,141	1,617	136	-	4,684	-	-	-	93,870	1,150	529,486
2a.0	TOTAL PERIOD 2a COST	1,057	17,454	7,201	2,097	14,124	31,920	48,005	30,807	152,664	136,223	16,286	156	164,418	44,819	5,064	631	-	11,360,730	236,665	531,784
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
Drywell System Components																					
2b.1.1.1	IAA/IAC	277	265	74	33	334	2,004	-	768	3,756	3,756	-	-	4,134	6,028	-	-	-	708,144	7,030	-
2b.1.1.2	IBA	73	130	7	4	35	218	-	130	597	597	-	-	438	655	-	-	-	78,545	3,917	-
2b.1.1.3	ICA	108	218	13	7	89	350	-	211	994	994	-	-	1,098	1,052	-	-	-	138,928	8,468	-
2b.1.1.4	IEA	-	52	4	3	40	135	-	54	288	288	-	-	498	404	-	-	-	56,511	1,224	-
2b.1.1.5	RC8	-	49	1	1	30	11	-	20	112	112	-	-	373	34	-	-	-	18,223	1,107	-
2b.1.1	Totals	459	712	98	47	529	2,718	-	1,183	5,746	5,746	-	-	6,541	8,174	-	-	-	998,351	19,745	-

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Oyster Creek Nuclear Generating Station
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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Reactor Building System Components																					
2b.1.2.1	RB1	-	151	4	6	162	82	-	84	489	489	-	-	2,009	248	-	-	-	103,688	3,365	-
2b.1.2.2	RBB	-	81	2	3	86	41	-	44	257	257	-	-	1,062	124	-	-	-	54,229	1,795	-
2b.1.2.3	RBC	-	83	3	3	97	48	-	48	282	282	-	-	1,203	143	-	-	-	61,684	1,839	-
2b.1.2.4	RBE	-	109	3	3	88	49	-	54	306	306	-	-	1,094	146	-	-	-	57,562	2,436	-
2b.1.2.5	RBF	-	93	6	3	36	151	-	68	356	356	-	-	441	478	-	-	-	58,751	2,105	-
2b.1.2.6	RBO	-	400	16	25	784	257	-	287	1,769	1,769	-	-	9,702	772	-	-	-	463,253	9,083	-
2b.1.2.7	RBS	-	187	10	8	155	283	-	143	786	786	-	-	1,923	850	-	-	-	154,330	4,263	-
2b.1.2.8	RBSW	-	93	2	3	102	14	-	43	256	256	-	-	1,258	43	-	-	-	54,969	2,082	-
2b.1.2.9	RC7	-	62	2	2	64	52	-	39	223	223	-	-	797	159	-	-	-	46,428	1,315	-
2b.1.2.10	RD8	-	69	19	10	101	643	-	197	1,040	1,040	-	-	1,250	1,933	-	-	-	224,172	1,620	-
2b.1.2.11	RDM	-	36	1	1	15	14	-	15	81	81	-	-	186	42	-	-	-	11,309	794	-
2b.1.2.12	REC	-	163	4	4	127	65	-	77	439	439	-	-	1,571	194	-	-	-	81,234	3,619	-
2b.1.2.13	REF	-	77	7	3	34	213	-	79	413	413	-	-	422	639	-	-	-	74,427	1,728	-
2b.1.2.14	REH/REI	-	95	2	3	87	42	-	48	277	277	-	-	1,078	125	-	-	-	54,961	2,118	-
2b.1.2.15	REL	-	163	7	7	184	169	-	112	643	643	-	-	2,281	509	-	-	-	138,330	3,641	-
2b.1.2.16	REM	-	42	1	1	36	17	-	20	117	117	-	-	439	50	-	-	-	22,330	950	-
2b.1.2.17	REO	-	95	7	4	62	219	-	89	478	478	-	-	773	659	-	-	-	90,534	2,154	-
2b.1.2.18	REQ	-	127	5	3	63	140	-	77	416	416	-	-	774	422	-	-	-	69,283	2,884	-
2b.1.2.19	RER	19	43	2	1	8	47	-	33	151	151	-	-	94	140	-	-	-	16,399	1,302	-
2b.1.2.20	RET	13	35	1	0	12	10	-	20	91	91	-	-	147	32	-	-	-	6,626	1,102	-
2b.1.2.21	REW	-	21	0	0	10	3	-	8	43	43	-	-	129	9	-	-	-	6,029	487	-
2b.1.2.22	REX	-	24	0	0	12	3	-	9	48	48	-	-	147	9	-	-	-	6,807	538	-
2b.1.2.23	REY	-	26	0	0	9	14	-	12	61	61	-	-	107	43	-	-	-	8,182	587	-
2b.1.2.24	RFB	-	124	3	4	105	55	-	61	352	352	-	-	1,295	167	-	-	-	67,524	2,775	-
2b.1.2.25	RFC	27	80	4	2	15	95	-	60	281	281	-	-	185	284	-	-	-	32,985	2,317	-
2b.1.2.26	RFF	-	87	2	2	59	33	-	39	222	222	-	-	728	100	-	-	-	38,452	1,945	-
2b.1.2.27	RFH	-	116	8	4	31	226	-	92	477	477	-	-	386	680	-	-	-	78,689	2,598	-
2b.1.2.28	RFJ	-	100	7	3	31	221	-	86	449	449	-	-	386	664	-	-	-	75,186	2,254	-
2b.1.2.29	RFL	-	65	1	2	57	9	-	27	160	160	-	-	702	27	-	-	-	30,897	1,474	-
2b.1.2.30	RFN	-	88	2	3	76	30	-	41	240	240	-	-	942	90	-	-	-	46,329	1,968	-
2b.1.2.31	RFQ	-	123	2	2	63	28	-	48	265	265	-	-	777	83	-	-	-	39,045	2,762	-
2b.1.2.32	RGC	-	68	1	2	47	15	-	26	161	161	-	-	580	45	-	-	-	27,550	1,544	-
2b.1.2.33	RGD	-	195	27	22	435	787	-	317	1,782	1,782	-	-	5,362	2,364	-	-	-	430,893	4,466	-
2b.1.2.34	RGI	-	40	1	1	31	5	-	16	93	93	-	-	388	14	-	-	-	16,960	915	-
2b.1.2.35	RGL	-	46	1	1	38	14	-	21	122	122	-	-	474	42	-	-	-	22,967	1,054	-
2b.1.2.36	RGP	-	22	0	1	18	3	-	9	53	53	-	-	221	10	-	-	-	9,741	495	-
2b.1.2.37	RGR	-	146	3	4	103	60	-	68	383	383	-	-	1,278	182	-	-	-	68,054	3,243	-
2b.1.2.38	RGU	-	63	1	1	38	12	-	25	141	141	-	-	473	37	-	-	-	22,555	1,440	-
2b.1.2.39	RH2	-	32	1	1	36	18	-	16	106	106	-	-	441	55	-	-	-	22,857	707	-
2b.1.2	Totals	58	3,671	168	149	3,518	4,186	-	2,560	14,311	14,311	-	-	43,528	12,611	-	-	-	2,896,020	83,762	-
New Radwaste Building System Components																					
2b.1.3.1	N38	-	133	4	3	81	66	-	63	349	349	-	-	1,005	199	-	-	-	58,559	2,922	-
2b.1.3.2	N48	-	67	1	1	33	21	-	27	151	151	-	-	406	63	-	-	-	22,150	1,492	-
2b.1.3.3	N4A	10	23	1	1	9	25	-	18	87	87	-	-	109	84	-	-	-	11,115	683	-
2b.1.3.4	N4B	8	22	1	0	8	21	-	16	77	77	-	-	98	74	-	-	-	9,702	651	-
2b.1.3.5	N4D	-	67	2	1	17	42	-	30	159	159	-	-	210	127	-	-	-	19,928	1,480	-
2b.1.3.6	N4E	-	5	-	-	1	1	-	2	9	9	-	-	11	3	-	-	-	715	120	-
2b.1.3.7	N4F	-	15	0	0	4	8	-	6	34	34	-	-	51	24	-	-	-	4,239	324	-
2b.1.3.8	N4H	-	17	1	1	15	10	-	9	51	51	-	-	187	29	-	-	-	10,184	382	-
2b.1.3.9	N4K	-	18	0	0	10	8	-	8	45	45	-	-	129	24	-	-	-	7,389	400	-
2b.1.3.10	N4L	-	26	0	0	11	7	-	10	55	55	-	-	135	22	-	-	-	7,412	597	-
2b.1.3.11	N5R	-	61	1	2	78	10	-	30	163	163	-	-	967	31	-	-	-	42,077	1,363	-
2b.1.3.12	N5V	46	58	3	1	25	58	-	56	246	246	-	-	309	227	-	-	-	28,107	2,234	-
2b.1.3.13	N5W	-	7	-	-	1	-	-	2	10	10	-	-	9	0	-	-	-	404	169	-
2b.1.3.14	N5X	59	69	1	2	64	9	-	59	264	264	-	-	786	35	-	-	-	34,450	2,763	-
2b.1.3	Totals	123	588	15	14	357	287	-	337	1,720	1,720	-	-	4,412	942	-	-	-	256,431	15,580	-

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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Old Radwaste Building System Components																					
2b.1.4.1	ORW Pre D&D Desludge and Decon	-	160	-	-	-	-	-	24	185	185	-	-	-	-	-	-	-	-	3,197	-
2b.1.4.2	PRD	-	12	0	0	12	1	-	5	31	31	-	-	143	5	-	-	-	6,148	274	-
2b.1.4.3	PSB	-	107	2	3	77	42	-	49	280	280	-	-	950	127	-	-	-	49,852	2,398	-
2b.1.4.4	PTA	-	30	1	1	22	16	-	15	85	85	-	-	276	48	-	-	-	15,552	687	-
2b.1.4.5	PUA	-	159	4	3	70	90	-	74	399	399	-	-	860	270	-	-	-	59,137	3,521	-
2b.1.4.6	PUU	-	112	5	4	116	81	-	67	385	385	-	-	1,441	331	-	-	-	80,278	2,500	-
2b.1.4.7	PVA	-	6	-	-	1	0	-	2	9	9	-	-	12	0	-	-	-	522	148	-
2b.1.4.8	UAB	-	240	3	5	174	37	-	98	556	556	-	-	2,148	131	-	-	-	97,159	5,222	-
2b.1.4.9	UAS	-	165	3	5	172	25	-	74	444	444	-	-	2,128	95	-	-	-	93,177	3,619	-
2b.1.4	Totals	-	992	19	22	643	292	-	407	2,374	2,374	-	-	7,959	1,006	-	-	-	401,823	21,567	-
Turbine Building System Components																					
2b.1.5.1	TD2	-	45	1	1	19	25	-	21	112	112	-	-	241	77	-	-	-	16,631	977	-
2b.1.5.2	TF2	-	251	17	22	650	271	-	233	1,443	1,443	-	-	8,047	814	-	-	-	399,788	5,558	-
2b.1.5.3	TFG	-	20	0	0	11	3	-	8	42	42	-	-	134	8	-	-	-	6,191	457	-
2b.1.5.4	TG2	-	186	13	17	481	271	-	190	1,159	1,159	-	-	5,957	814	-	-	-	314,895	4,208	-
2b.1.5.5	TH2	-	351	20	17	390	520	-	281	1,579	1,579	-	-	4,827	1,584	-	-	-	336,185	7,836	-
2b.1.5.6	TKA	-	16	0	0	4	5	-	6	30	30	-	-	47	14	-	-	-	3,147	349	-
2b.1.5.7	TL2	-	75	3	2	29	67	-	40	216	216	-	-	358	206	-	-	-	32,660	1,648	-
2b.1.5.8	TMA	-	47	2	2	56	35	-	29	170	170	-	-	690	105	-	-	-	37,402	1,034	-
2b.1.5.9	TN2	-	244	9	10	263	200	-	153	880	880	-	-	3,260	806	-	-	-	186,391	5,426	-
2b.1.5.10	TO2	-	136	-	-	-	-	-	20	157	-	-	157	-	-	-	-	-	-	3,169	-
2b.1.5.11	TOA	-	68	1	2	74	16	-	33	195	195	-	-	917	49	-	-	-	41,669	1,496	-
2b.1.5.12	TOCR	-	49	2	4	129	17	-	37	237	237	-	-	1,590	51	-	-	-	89,191	1,060	-
2b.1.5.13	TOR	-	49	2	2	58	36	-	30	177	177	-	-	717	109	-	-	-	38,865	1,098	-
2b.1.5.14	TOV	-	13	0	0	7	1	-	5	27	27	-	-	90	4	-	-	-	4,016	295	-
2b.1.5.15	TOW	-	86	3	8	190	36	-	60	380	380	-	-	2,346	107	-	-	-	104,864	1,854	-
2b.1.5.16	TOX / TOY	-	22	0	0	9	3	-	8	42	42	-	-	106	9	-	-	-	5,148	488	-
2b.1.5.17	TS2	-	154	9	9	219	198	-	123	710	710	-	-	2,704	594	-	-	-	163,051	3,389	-
2b.1.5.18	TTA	-	46	2	2	55	38	-	30	171	171	-	-	675	114	-	-	-	37,615	1,042	-
2b.1.5.19	TU2	-	145	3	5	148	46	-	71	416	416	-	-	1,825	137	-	-	-	86,451	3,237	-
2b.1.5	Totals	-	2,000	88	100	2,791	1,788	-	1,376	8,143	7,986	-	157	34,531	5,384	-	-	-	1,884,160	44,622	-
Augmented Offgas System Components																					
2b.1.6.1	AYB	-	109	4	3	84	93	-	64	359	359	-	-	1,044	280	-	-	-	67,503	2,447	-
2b.1.6.2	AYA	-	24	1	1	31	21	-	16	95	95	-	-	384	64	-	-	-	21,388	529	-
2b.1.6.3	AYB	-	22	1	1	17	10	-	11	60	60	-	-	208	30	-	-	-	11,152	493	-
2b.1.6.4	AYC	-	57	1	2	73	19	-	30	183	183	-	-	899	63	-	-	-	41,612	1,278	-
2b.1.6.5	AYE	-	20	0	0	4	10	-	8	42	42	-	-	43	31	-	-	-	4,526	427	-
2b.1.6.6	AZB	-	43	1	1	40	20	-	22	128	128	-	-	492	60	-	-	-	25,405	949	-
2b.1.6.7	AZA	-	10	0	-	2	3	-	3	18	18	-	-	24	9	-	-	-	1,731	216	-
2b.1.6.8	AZC	-	80	2	3	84	17	-	37	223	223	-	-	1,046	51	-	-	-	47,000	1,782	-
2b.1.6.9	AZD	-	14	0	0	3	6	-	5	29	29	-	-	40	18	-	-	-	3,262	307	-
2b.1.6.10	AZE	-	13	0	0	3	5	-	5	27	27	-	-	39	16	-	-	-	3,029	294	-
2b.1.6.11	AZF	-	12	0	0	5	4	-	5	27	27	-	-	65	13	-	-	-	3,815	267	-
2b.1.6.12	AZI	-	24	0	1	26	4	-	11	68	68	-	-	322	11	-	-	-	14,041	541	-
2b.1.6	Totals	-	428	11	13	372	213	-	219	1,256	1,256	-	-	4,607	646	-	-	-	244,464	9,530	-
Miscellaneous System Components																					
2b.1.7.1	BAA	-	195	5	7	191	91	-	102	591	591	-	-	2,367	277	-	-	-	120,746	4,319	-
2b.1.7.2	BBA	-	72	3	5	165	24	-	50	319	319	-	-	2,039	73	-	-	-	89,359	1,599	-
2b.1.7.3	BDA	-	8	-	-	2	1	-	3	14	14	-	-	21	3	-	-	-	1,112	190	-
2b.1.7.4	CAA	-	384	10	18	596	75	-	208	1,292	1,292	-	-	7,361	295	-	-	-	320,031	8,514	-
2b.1.7.5	DAA	-	50	1	1	22	17	-	20	112	112	-	-	277	51	-	-	-	15,772	1,143	-
2b.1.7.6	DAC	-	117	2	3	88	23	-	49	282	282	-	-	1,094	69	-	-	-	50,602	2,648	-
2b.1.7.7	DGB	-	56	-	-	-	-	-	8	65	-	-	65	-	-	-	-	-	-	1,277	-
2b.1.7.8	DOT	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	223	-
2b.1.7.9	DPH	-	67	-	-	-	-	-	10	77	-	-	77	-	-	-	-	-	-	1,501	-
2b.1.7.10	DWF	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	359	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Miscellaneous System Components (continued)																					
2b.1.7.11	FWP	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	2,013	-
2b.1.7.12	INTAKE STRUCTURE	-	142	-	-	-	-	-	21	163	-	-	163	-	-	-	-	-	-	3,206	-
2b.1.7.13	MAA	-	98	3	3	82	77	-	57	320	320	-	-	1,013	231	-	-	-	61,838	2,185	-
2b.1.7.14	MBA	-	35	1	1	23	21	-	18	98	98	-	-	290	63	-	-	-	17,386	762	-
2b.1.7.15	MBS / MBT	-	26	0	0	6	6	-	9	47	47	-	-	71	19	-	-	-	4,565	577	-
2b.1.7.16	MS	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	635	-
2b.1.7.17	NMB ROOF	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	294	-
2b.1.7.18	OB	-	213	-	-	-	-	-	32	245	-	-	245	-	-	-	-	-	-	4,918	-
2b.1.7.19	PTB	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	687	-
2b.1.7.20	RSF ROOF	-	21	0	0	13	1	-	8	44	44	-	-	166	4	-	-	-	7,138	463	-
2b.1.7.21	UYARD	-	1,324	16	14	343	322	-	467	2,486	2,486	-	-	4,250	1,177	-	-	-	259,386	21,772	-
2b.1.7.22	WAA	-	113	3	3	71	54	-	53	296	296	-	-	878	162	-	-	-	50,170	2,498	-
2b.1.7.23	WHS	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	300	-
2b.1.7.24	YARD AREAS	-	243	-	-	-	-	-	36	279	-	-	279	-	-	-	-	-	-	5,499	-
2b.1.7.25	YDA / YFA / YLA	-	1	-	-	1	0	-	1	4	4	-	-	18	1	-	-	-	791	30	-
2b.1.7	Totals	-	3,365	44	54	1,605	713	-	1,181	6,962	5,905	-	1,058	19,865	2,424	-	-	-	998,898	67,610	-
2b.1.8	Scaffolding in support of decommissioning	-	835	13	4	118	21	-	234	1,226	1,226	-	-	1,321	82	-	-	-	66,836	20,881	-
Decontamination of Site Buildings																					
2b.1.9.1	New Radwaste Building - Systems Removal	-	96	37	24	1	382	-	127	668	668	-	-	6	3,819	-	-	-	382,184	2,127	-
2b.1.9.2	Old Radwaste Building - Systems Removal	-	2	4	3	1	41	-	12	61	61	-	-	6	405	-	-	-	40,784	58	-
2b.1.9.3	Reactor Building - Systems Removal	-	3	6	4	-	65	-	18	96	96	-	-	-	648	-	-	-	64,800	87	-
2b.1.9.4	Turbine Building - Systems Removal	-	317	90	57	-	919	-	327	1,710	1,710	-	-	-	9,194	-	-	-	919,350	6,061	-
2b.1.9.5	Augmented Off Gas - Decon	28	111	11	7	4	111	-	72	344	344	-	-	45	1,105	-	-	-	112,336	2,691	-
2b.1.9.6	Drywell - Decon	3	546	131	120	-	2,574	-	813	4,186	4,186	-	-	-	13,793	-	-	-	1,301,337	10,409	-
2b.1.9.7	Drywell - Liner Removal	1,629	947	30	50	1,787	154	-	1,368	5,966	5,966	-	-	22,108	601	-	-	-	951,625	53,718	-
2b.1.9.8	LLRW Storage - Decon	16	62	7	4	-	67	-	41	196	196	-	-	-	667	-	-	-	66,660	1,486	-
2b.1.9.9	Miscellaneous Buildings - Decon	16	62	6	4	-	66	-	41	195	195	-	-	-	656	-	-	-	65,556	1,490	-
2b.1.9.10	New Radwaste Building - Decon	73	426	42	27	19	426	-	260	1,273	1,273	-	-	235	4,249	-	-	-	434,114	9,354	-
2b.1.9.11	Old Radwaste Building - Decon	-	700	172	110	12	1,754	-	649	3,396	3,396	-	-	152	17,532	-	-	-	1,759,162	10,766	-
2b.1.9.12	RB0 - Torus Removal	2,184	1,085	45	75	2,649	229	-	1,833	8,099	8,099	-	-	32,774	891	-	-	-	1,410,755	67,925	-
2b.1.9.13	Reactor Building -19ft - Decon	45	232	19	15	166	181	-	155	814	814	-	-	2,052	1,747	-	-	-	255,515	5,584	-
2b.1.9.14	Reactor Building 23ft - Decon	33	136	14	9	-	140	-	88	420	420	-	-	-	1,400	-	-	-	140,034	3,239	-
2b.1.9.15	Reactor Building 51ft - Decon	37	150	15	10	-	156	-	98	467	467	-	-	-	1,562	-	-	-	156,192	3,593	-
2b.1.9.16	Reactor Building 75ft - Decon	12	53	5	3	-	52	-	34	160	160	-	-	-	523	-	-	-	52,272	1,264	-
2b.1.9.17	Reactor Building 91ft - Decon	27	109	11	7	-	112	-	71	336	336	-	-	-	1,115	-	-	-	111,534	2,602	-
2b.1.9.18	Stack/Exhaust Tunnels - Remove & Decon	119	360	26	17	-	268	-	221	1,011	1,011	-	-	-	2,678	-	-	-	267,758	9,417	-
2b.1.9.19	Turbine Building 0ft - Decon	104	447	41	28	92	413	-	289	1,415	1,415	-	-	1,144	4,096	-	-	-	454,730	10,736	-
2b.1.9.20	Turbine Building 23ft - Decon	73	336	31	22	90	314	-	219	1,083	1,083	-	-	1,109	3,100	-	-	-	353,651	7,967	-
2b.1.9.21	Turbine Building 46ft - Decon	45	177	18	12	-	189	-	117	558	558	-	-	-	1,888	-	-	-	188,826	4,251	-
2b.1.9.22	Contaminated Soil	-	76	1,039	663	-	10,620	-	2,877	15,275	15,275	-	-	-	106,200	-	-	-	10,619,990	6,020	-
2b.1.9	Totals	4,444	6,431	1,801	1,269	4,819	19,232	-	9,731	47,727	47,727	-	-	59,632	177,869	-	-	-	20,109,160	220,846	-
2b.1	Subtotal Period 2b Activity Costs	5,084	19,023	2,258	1,672	14,752	29,449	-	17,228	89,467	88,252	-	1,214	182,395	209,139	-	-	-	27,856,150	504,142	-
Period 2b Collateral Costs																					
2b.3.1	Process liquid waste	118	-	182	263	-	1,690	-	539	2,793	2,793	-	-	-	-	2,677	-	-	415,275	211	-
2b.3.2	Disposal of additional debris from decontamination	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	29	0	-
2b.3.3	Small tool allowance	-	350	-	-	-	-	-	53	403	403	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	23,224	3,484	26,708	-	26,708	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	118	350	182	263	-	1,690	23,224	4,075	29,904	3,196	26,708	-	-	1	2,677	-	-	415,304	211	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	1,286	-	-	-	-	-	-	321	1,607	1,607	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	2,317	232	2,548	2,548	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	2,757	276	3,033	3,033	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,136	-	-	-	-	-	534	2,670	2,670	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	4,326	-	-	-	-	-	649	4,975	4,975	-	-	-	-	-	-	-	-	-	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2b Period-Dependent Costs (continued)																					
2b.4.6	Disposal of DAW generated	-	-	102	23	-	497	-	138	759	759	-	-	-	8,651	-	-	-	173,356	2,124	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,294	194	1,488	1,488	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	1,196	120	1,316	1,316	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	278	28	306	-	306	-	-	-	-	-	-	-	-	-
2b.4.10	Site O&M Cost	-	-	-	-	-	-	689	103	793	793	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	2,671	401	3,072	-	3,072	-	-	-	-	-	-	-	-	-
2b.4.12	Radwaste Processing Equipment/Services	-	-	-	-	-	-	496	74	571	571	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	196	29	225	-	225	-	-	-	-	-	-	-	-	-
2b.4.14	Security Staff Cost	-	-	-	-	-	-	2,671	401	3,072	3,072	-	-	-	-	-	-	-	-	-	162,559
2b.4.15	DOC Staff Cost	-	-	-	-	-	-	21,802	3,270	25,072	25,072	-	-	-	-	-	-	-	-	-	342,380
2b.4.16	Utility Staff Cost	-	-	-	-	-	-	38,863	5,829	44,693	44,693	-	-	-	-	-	-	-	-	-	611,393
2b.4	Subtotal Period 2b Period-Dependent Costs	1,286	6,462	102	23	-	497	75,230	12,599	96,198	92,594	3,603	-	-	8,651	-	-	-	173,356	2,124	1,116,331
2b.0	TOTAL PERIOD 2b COST	8,488	25,835	2,543	1,958	14,752	31,636	98,454	33,902	215,568	184,042	30,311	1,214	182,395	217,791	2,877	-	-	28,444,810	506,476	1,116,331
PERIOD 2c - Decontamination Following Wet Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Remove spent fuel racks	423	46	57	68	-	1,645	-	650	2,889	2,889	-	-	-	6,387	-	-	-	573,110	1,071	-
Disposal of Plant Systems																					
Drywell System Components																					
2c.1.2	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reactor Building System Components																					
2c.1.3.1	RH1	-	37	1	1	23	10	-	15	87	87	-	-	280	30	-	-	-	14,041	847	-
2c.1.3.2	RH3 / RH4 / RH6	-	91	2	1	36	25	-	35	190	190	-	-	444	77	-	-	-	24,889	2,053	-
2c.1.3.3	RHA	9	22	1	0	3	18	-	15	69	69	-	-	41	55	-	-	-	6,571	686	-
2c.1.3.4	RHJ	-	33	0	1	19	7	-	13	73	73	-	-	239	22	-	-	-	11,651	744	-
2c.1.3.5	RHL	-	22	0	0	7	5	-	8	42	42	-	-	92	15	-	-	-	5,068	483	-
2c.1.3.6	RHX	-	40	1	1	28	15	-	18	104	104	-	-	349	47	-	-	-	18,332	900	-
2c.1.3.7	RHY	-	36	1	1	28	5	-	15	85	85	-	-	343	14	-	-	-	15,144	828	-
2c.1.3.8	RMCC	-	66	2	2	62	37	-	36	205	205	-	-	771	110	-	-	-	41,218	1,472	-
2c.1.3	Totals	9	348	7	7	207	122	-	155	855	855	-	-	2,560	368	-	-	-	136,913	8,015	-
New Radwaste Building System Components																					
2c.1.4	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Old Radwaste Building System Components																					
2c.1.5	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbine Building System Components																					
2c.1.6	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Augmented Offgas System Components																					
2c.1.7	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous System Components																					
2c.1.8.1	GAA / GCA	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	350	-
2c.1.8	Totals	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	350	-
Decontamination of Site Buildings																					
2c.1.9.1	Reactor Building 119ft - Decon	360	467	10	9	126	91	-	341	1,403	1,403	-	-	1,563	842	-	-	-	147,208	17,344	-
2c.1.9	Totals	360	467	10	9	126	91	-	341	1,403	1,403	-	-	1,563	842	-	-	-	147,208	17,344	-
2c.1.10	Scaffolding in support of decommissioning	-	167	3	1	24	4	-	47	245	245	-	-	264	16	-	-	-	13,367	4,176	-
2c.1	Subtotal Period 2c Activity Costs	792	1,043	78	85	357	1,862	-	1,195	5,411	5,393	-	18	4,387	7,614	-	-	-	870,597	30,956	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2c Collateral Costs																					
2c.3.1	Process liquid waste	57	-	21	54	-	268	-	106	506	506	-	-	-	-	421	-	-	53,274	82	-
2c.3.2	Small tool allowance	-	28	-	-	-	-	-	4	33	33	-	-	-	-	-	-	-	-	-	-
2c.3.3	Decommissioning Equipment Disposition	-	-	60	23	537	96	-	114	830	830	-	-	6,000	373	-	-	-	303,507	739	-
2c.3	Subtotal Period 2c Collateral Costs	57	28	80	77	537	364	-	224	1,368	1,368	-	-	6,000	373	421	-	-	356,781	821	-
Period 2c Period-Dependent Costs																					
2c.4.1	Decon supplies	83	-	-	-	-	-	-	21	103	103	-	-	-	-	-	-	-	-	-	-
2c.4.2	Insurance	-	-	-	-	-	-	503	50	554	554	-	-	-	-	-	-	-	-	-	-
2c.4.3	Property taxes	-	-	-	-	-	-	701	70	771	771	-	-	-	-	-	-	-	-	-	-
2c.4.4	Health physics supplies	-	251	-	-	-	-	-	63	314	314	-	-	-	-	-	-	-	-	-	-
2c.4.5	Heavy equipment rental	-	1,100	-	-	-	-	-	165	1,265	1,265	-	-	-	-	-	-	-	-	-	-
2c.4.6	Disposal of DAW generated	-	-	16	3	-	77	-	21	117	117	-	-	-	1,335	-	-	-	26,750	328	-
2c.4.7	Plant energy budget	-	-	-	-	-	-	175	26	202	202	-	-	-	-	-	-	-	-	-	-
2c.4.8	NRC Fees	-	-	-	-	-	-	304	30	334	334	-	-	-	-	-	-	-	-	-	-
2c.4.9	Emergency Planning Fees	-	-	-	-	-	-	71	7	78	-	78	-	-	-	-	-	-	-	-	-
2c.4.10	Site O&M Cost	-	-	-	-	-	-	175	26	202	202	-	-	-	-	-	-	-	-	-	-
2c.4.11	Radwaste Processing Equipment/Services	-	-	-	-	-	-	252	38	290	290	-	-	-	-	-	-	-	-	-	-
2c.4.12	ISFSI Operating Costs	-	-	-	-	-	-	50	7	57	-	57	-	-	-	-	-	-	-	-	-
2c.4.13	Security Staff Cost	-	-	-	-	-	-	679	102	781	781	-	-	-	-	-	-	-	-	-	41,326
2c.4.14	DOC Staff Cost	-	-	-	-	-	-	3,807	571	4,379	4,379	-	-	-	-	-	-	-	-	-	58,514
2c.4.15	Utility Staff Cost	-	-	-	-	-	-	9,880	1,482	11,362	11,362	-	-	-	-	-	-	-	-	-	155,429
2c.4	Subtotal Period 2c Period-Dependent Costs	83	1,351	16	3	-	77	16,598	2,680	20,808	20,873	135	-	-	1,335	-	-	-	26,750	328	255,269
2c.0	TOTAL PERIOD 2c COST	932	2,423	172	165	894	2,303	16,598	4,099	27,587	27,434	135	18	10,387	9,322	421	-	-	1,254,128	32,105	255,269
PERIOD 2e - License Termination																					
Period 2e Direct Decommissioning Activities																					
2e.1.1	ORISE confirmatory survey	-	-	-	-	-	-	116	35	150	150	-	-	-	-	-	-	-	-	-	-
2e.1.2	Terminate license									a											
2e.1	Subtotal Period 2e Activity Costs	-	-	-	-	-	-	116	35	150	150	-	-	-	-	-	-	-	-	-	-
Period 2e Additional Costs																					
2e.2.1	Final Site Survey	-	-	-	-	-	-	4,572	1,371	5,943	5,943	-	-	-	-	-	-	-	-	98,444	-
2e.2	Subtotal Period 2e Additional Costs	-	-	-	-	-	-	4,572	1,371	5,943	5,943	-	-	-	-	-	-	-	-	98,444	-
Period 2e Collateral Costs																					
2e.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
2e.3	Subtotal Period 2e Collateral Costs	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
Period 2e Period-Dependent Costs																					
2e.4.1	Insurance	-	-	-	-	-	-	541	54	595	595	-	-	-	-	-	-	-	-	-	-
2e.4.2	Property taxes	-	-	-	-	-	-	753	75	828	828	-	-	-	-	-	-	-	-	-	-
2e.4.3	Health physics supplies	-	464	-	-	-	-	-	116	580	580	-	-	-	-	-	-	-	-	-	-
2e.4.4	Disposal of DAW generated	-	-	4	1	-	17	-	5	27	27	-	-	-	305	-	-	-	6,105	75	-
2e.4.5	Plant energy budget	-	-	-	-	-	-	94	14	108	108	-	-	-	-	-	-	-	-	-	-
2e.4.6	NRC Fees	-	-	-	-	-	-	327	33	359	359	-	-	-	-	-	-	-	-	-	-
2e.4.7	Emergency Planning Fees	-	-	-	-	-	-	76	8	84	-	84	-	-	-	-	-	-	-	-	-
2e.4.8	Site O&M Cost	-	-	-	-	-	-	188	28	216	216	-	-	-	-	-	-	-	-	-	-
2e.4.9	ISFSI Operating Costs	-	-	-	-	-	-	53	8	61	-	61	-	-	-	-	-	-	-	-	-
2e.4.10	Security Staff Cost	-	-	-	-	-	-	400	60	460	460	-	-	-	-	-	-	-	-	-	24,357
2e.4.11	DOC Staff Cost	-	-	-	-	-	-	4,090	614	4,704	4,704	-	-	-	-	-	-	-	-	-	62,857
2e.4.12	Utility Staff Cost	-	-	-	-	-	-	5,756	863	6,619	6,619	-	-	-	-	-	-	-	-	-	82,107
2e.4	Subtotal Period 2e Period-Dependent Costs	-	464	4	1	-	17	12,278	1,878	14,643	14,497	145	-	-	305	-	-	-	6,105	-75	169,321
2e.0	TOTAL PERIOD 2e COST	-	464	4	1	-	17	18,062	3,449	21,997	21,852	145	-	-	305	-	-	-	6,105	98,519	169,321
PERIOD 2 TOTALS		8,476	46,178	9,919	4,221	29,770	65,876	181,119	72,257	417,816	369,551	48,877	1,388	357,200	272,236	8,181	631	-	41,065,770	873,765	2,072,706

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Stack/Exhaust Tunnels - Remove & Decon	-	840	-	-	-	-	-	126	966	966	-	-	-	-	-	-	-	-	2,779	-
3b.1.1.2	Administration Building	-	441	-	-	-	-	-	66	507	-	-	507	-	-	-	-	-	-	8,313	-
3b.1.1.3	Augmented Off Gas Building	-	241	-	-	-	-	-	36	277	-	-	277	-	-	-	-	-	-	3,466	-
3b.1.1.4	Chlorination Building	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	434	-
3b.1.1.5	Diesel Generator Building	-	91	-	-	-	-	-	14	105	-	-	105	-	-	-	-	-	-	1,197	-
3b.1.1.6	Dilution Structure	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,723	-
3b.1.1.7	Domestic Water Facility	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	176	-
3b.1.1.8	Fire Pump House	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	64	-
3b.1.1.9	Fresh Water Pump House	-	18	-	-	-	-	-	3	21	-	-	21	-	-	-	-	-	-	330	-
3b.1.1.10	Heating Boiler House	-	32	-	-	-	-	-	5	37	-	-	37	-	-	-	-	-	-	578	-
3b.1.1.11	Intake Structure	-	383	-	-	-	-	-	57	440	-	-	440	-	-	-	-	-	-	9,858	-
3b.1.1.12	Low Level Radwaste Storage	-	304	-	-	-	-	-	46	350	-	-	350	-	-	-	-	-	-	4,918	-
3b.1.1.13	Machine Shop	-	177	-	-	-	-	-	27	203	-	-	203	-	-	-	-	-	-	3,021	-
3b.1.1.14	Main Gate Security	-	82	-	-	-	-	-	12	95	-	-	95	-	-	-	-	-	-	1,257	-
3b.1.1.15	Maintenance Building	-	275	-	-	-	-	-	41	316	-	-	316	-	-	-	-	-	-	4,943	-
3b.1.1.16	Materials Warehouse	-	692	-	-	-	-	-	104	796	-	-	796	-	-	-	-	-	-	10,317	-
3b.1.1.17	Miscellaneous Structures	-	304	-	-	-	-	-	46	349	-	-	349	-	-	-	-	-	-	4,607	-
3b.1.1.18	New Radwaste Building	-	480	-	-	-	-	-	72	552	-	-	552	-	-	-	-	-	-	7,334	-
3b.1.1.19	New Sample Pump House	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	148	-
3b.1.1.20	Office Building	-	214	-	-	-	-	-	32	246	-	-	246	-	-	-	-	-	-	3,675	-
3b.1.1.21	Old Radwaste Building	-	361	-	-	-	-	-	54	415	-	-	415	-	-	-	-	-	-	5,456	-
3b.1.1.22	Plant Engineering	-	139	-	-	-	-	-	21	160	-	-	160	-	-	-	-	-	-	2,120	-
3b.1.1.23	Pretreatment Building	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	495	-
3b.1.1.24	Reactor Building	-	4,157	-	-	-	-	-	624	4,781	-	-	4,781	-	-	-	-	-	-	63,446	-
3b.1.1.25	Sample Pool	-	12	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	201	-
3b.1.1.26	Site Emergency Building	-	250	-	-	-	-	-	38	288	-	-	288	-	-	-	-	-	-	3,940	-
3b.1.1.27	Tank Pads & Misc. Yard	-	698	-	-	-	-	-	105	803	-	-	803	-	-	-	-	-	-	9,514	-
3b.1.1.28	Turbine Building	-	3,436	-	-	-	-	-	518	3,954	-	-	3,954	-	-	-	-	-	-	51,425	-
3b.1.1.29	Turbine Pedestal	-	407	-	-	-	-	-	61	468	-	-	468	-	-	-	-	-	-	5,050	-
3b.1.1	Totals	-	14,227	-	-	-	-	-	2,134	16,361	966	-	15,396	-	-	-	-	-	-	208,785	-
Site Closeout Activities																					
3b.1.2	Remove Rubble	-	6,680	-	-	-	-	-	1,002	7,682	-	-	7,682	-	-	-	-	-	-	10,759	-
3b.1.3	Grade & landscape site	-	345	-	-	-	-	-	52	397	-	-	397	-	-	-	-	-	-	1,483	-
3b.1.4	Final report to NRC	-	-	-	-	-	-	117	18	134	134	-	-	-	-	-	-	-	-	-	1,560
3b.1	Subtotal Period 3b Activity Costs	-	21,252	-	-	-	-	117	3,205	24,574	1,100	-	23,474	-	-	-	-	-	-	219,026	1,560
Period 3b Additional Costs																					
3b 2.1	Concrete Crushing	-	430	-	5	-	-	-	65	499	-	-	499	-	-	-	-	-	-	2,857	-
3b 2	Subtotal Period 3b Additional Costs	-	430	-	5	-	-	-	65	499	-	-	499	-	-	-	-	-	-	2,857	-
Period 3b Collateral Costs																					
3b 3.1	Small tool allowance	-	162	-	-	-	-	-	24	186	-	-	186	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	162	-	-	-	-	-	24	186	-	-	186	-	-	-	-	-	-	-	-

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	1,115	111	1,226	-	1,103	123	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	1,552	155	1,708	-	-	1,708	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	3,327	-	-	-	-	-	499	3,826	-	-	3,826	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	97	15	112	-	56	56	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	480	48	528	-	528	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	172	-	172	-	-	-	-	-	-	-	-	-
3b.4.7	ISFSI Operating Costs	-	-	-	-	-	-	110	17	127	-	127	-	-	-	-	-	-	-	-	-
3b.4.8	Site O&M Cost	-	-	-	-	-	-	388	58	446	-	-	446	-	-	-	-	-	-	-	-
3b.4.9	Security Staff Cost	-	-	-	-	-	-	825	124	949	-	636	313	-	-	-	-	-	-	-	50,220
3b.4.10	DOC Staff Cost	-	-	-	-	-	-	6,510	977	7,487	-	-	7,487	-	-	-	-	-	-	-	98,820
3b.4.11	Utility Staff Cost	-	-	-	-	-	-	4,177	627	4,804	-	2,402	2,402	-	-	-	-	-	-	-	56,700
3b.4	Subtotal Period 3b Period-Dependent Costs	-	3,327	-	-	-	-	15,412	2,646	21,384	-	5,024	16,360	-	-	-	-	-	-	-	205,740
3b.0	TOTAL PERIOD 3b COST	-	25,171	-	5	-	-	15,528	5,940	46,644	1,100	5,024	40,520	-	-	-	-	-	-	221,883	207,300
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Direct Decommissioning Activities																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	6,200	930	7,130	-	7,130	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	6,200	930	7,130	-	7,130	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	5,785	579	6,364	-	6,364	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	10,177	1,018	11,194	-	11,194	-	-	-	-	-	-	-	-	-
3c.4.3	Plant energy budget	-	-	-	-	-	-	191	29	220	-	220	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	3,145	314	3,459	-	3,459	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	1,028	103	1,131	-	1,131	-	-	-	-	-	-	-	-	-
3c.4.6	Site O&M Cost	-	-	-	-	-	-	2,544	382	2,926	-	2,926	-	-	-	-	-	-	-	-	-
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	723	108	831	-	831	-	-	-	-	-	-	-	-	-
3c.4.8	Security Staff Cost	-	-	-	-	-	-	3,665	550	4,215	-	4,215	-	-	-	-	-	-	-	-	223,020
3c.4.9	Utility Staff Cost	-	-	-	-	-	-	22,811	3,422	26,233	-	26,233	-	-	-	-	-	-	-	-	350,460
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	50,068	6,504	56,572	-	56,572	-	-	-	-	-	-	-	-	573,480
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	56,268	7,434	63,702	-	63,702	-	-	-	-	-	-	-	-	573,480
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	300	-	-	5,501	-	855	6,657	6,657	-	-	-	-	-	-	411	72,900	-	-
3d.1.1	Totals	-	-	300	-	-	5,501	-	855	6,657	6,657	-	-	-	-	-	-	411	72,900	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	300	-	-	5,501	-	855	6,657	6,657	-	-	-	-	-	-	411	72,900	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	25	2	27	-	27	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	44	4	48	-	48	-	-	-	-	-	-	-	-	-
3d.4.3	Plant energy budget	-	-	-	-	-	-	1	0	1	-	1	-	-	-	-	-	-	-	-	-
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	14	1	15	-	15	-	-	-	-	-	-	-	-	-
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	4	0	5	-	5	-	-	-	-	-	-	-	-	-
3d.4.6	Site O&M Cost	-	-	-	-	-	-	11	2	13	-	13	-	-	-	-	-	-	-	-	-
3d.4.7	ISFSI Operating Costs	-	-	-	-	-	-	3	0	4	-	4	-	-	-	-	-	-	-	-	-
3d.4.8	Security Staff Cost	-	-	-	-	-	-	16	2	18	-	18	-	-	-	-	-	-	-	-	960
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	98	15	113	-	113	-	-	-	-	-	-	-	-	1,509
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	216	26	244	-	244	-	-	-	-	-	-	-	-	2,469
3d.0	TOTAL PERIOD 3d COST	-	-	300	-	-	5,501	216	883	6,900	6,657	244	-	-	-	-	-	411	72,900	-	2,469

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	ISFSI License Termination	-	649	7	53	-	580	1,282	508	3,080	-	3,080	-	-	4,724	-	-	-	506,171	10,885	2,560
3e.2	Subtotal Period 3e Additional Costs	-	649	7	53	-	580	1,282	508	3,080	-	3,080	-	-	4,724	-	-	-	506,171	10,885	2,560
Period 3e Collateral Costs																					
3e.3.1	Small tool allowance	-	6	-	-	-	-	-	1	7	-	7	-	-	-	-	-	-	-	-	-
3e.3	Subtotal Period 3e Collateral Costs	-	6	-	-	-	-	-	1	7	-	7	-	-	-	-	-	-	-	-	-
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	33	3	37	-	37	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	334	33	367	-	367	-	-	-	-	-	-	-	-	-
3e.4.3	Heavy equipment rental	-	210	-	-	-	-	-	32	242	-	242	-	-	-	-	-	-	-	-	-
3e.4.4	Plant energy budget	-	-	-	-	-	-	21	3	24	-	24	-	-	-	-	-	-	-	-	-
3e.4.5	NRC ISFSI Fees	-	-	-	-	-	-	103	10	114	-	114	-	-	-	-	-	-	-	-	-
3e.4.6	Site O&M Cost	-	-	-	-	-	-	84	13	96	-	96	-	-	-	-	-	-	-	-	-
3e.4.7	Security Staff Cost	-	-	-	-	-	-	80	9	89	-	89	-	-	-	-	-	-	-	-	3,660
3e.4.8	DOC Staff Cost	-	-	-	-	-	-	242	36	279	-	279	-	-	-	-	-	-	-	-	3,486
3e.4.9	Utility Staff Cost	-	-	-	-	-	-	203	30	234	-	234	-	-	-	-	-	-	-	-	2,440
3e.4	Subtotal Period 3e Period-Dependent Costs	-	210	-	-	-	-	1,081	170	1,461	-	1,461	-	-	-	-	-	-	-	-	9,586
3e.0	TOTAL PERIOD 3e COST	-	866	7	53	-	580	2,362	679	4,548	-	4,548	-	-	4,724	-	-	-	506,171	10,885	12,146
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	ISFSI Site Restoration	-	679	-	-	-	-	36	107	822	-	822	-	-	-	-	-	-	-	3,147	160
3f.2	Subtotal Period 3f Additional Costs	-	679	-	-	-	-	36	107	822	-	822	-	-	-	-	-	-	-	3,147	160
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	2	-	-	-	-	-	0	2	-	2	-	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	2	-	-	-	-	-	0	2	-	2	-	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.1	Insurance	-	-	-	-	-	-	16	2	18	-	18	-	-	-	-	-	-	-	-	-
3f.4.2	Property taxes	-	-	-	-	-	-	162	16	178	-	178	-	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	68	-	-	-	-	-	10	78	-	78	-	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	10	2	12	-	12	-	-	-	-	-	-	-	-	-
3f.4.5	Site O&M Cost	-	-	-	-	-	-	40	6	46	-	46	-	-	-	-	-	-	-	-	-
3f.4.6	Security Staff Cost	-	-	-	-	-	-	29	4	33	-	33	-	-	-	-	-	-	-	-	1,770
3f.4.7	DOC Staff Cost	-	-	-	-	-	-	117	18	135	-	135	-	-	-	-	-	-	-	-	1,686
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	98	15	113	-	113	-	-	-	-	-	-	-	-	1,180
3f.4	Subtotal Period 3f Period-Dependent Costs	-	68	-	-	-	-	473	72	613	-	613	-	-	-	-	-	-	-	-	4,636
3f.0	TOTAL PERIOD 3f COST	-	749	-	-	-	-	509	180	1,437	-	1,437	-	-	-	-	-	-	-	3,147	4,796
PERIOD 3 TOTALS		-	26,785	307	58	-	6,061	74,883	15,116	123,231	7,757	74,955	40,520	-	4,724	-	-	411	579,071	235,915	800,190

Table C
Oyster Creek Nuclear Generating Station
DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
TOTAL COST TO DECOMMISSION		9,818	85,062	10,501	4,720	31,962	75,094	342,231	105,068	664,477	480,331	141,648	42,498	386,250	296,779	11,820	631	411	44,257,260	1,261,301	3,654,821

TOTAL COST TO DECOMMISSION WITH 18.79% CONTINGENCY:	$664,477	thousands of 2003 dollars
TOTAL NRC LICENSE TERMINATION COST IS 72.29% OR	$480,331	thousands of 2003 dollars
SPENT FUEL MANAGEMENT COST IS 21.32% OR:	$141,648	thousands of 2003 dollars
NON-NUCLEAR DEMOLITION COST IS 6.4% OR:	$42,498	thousands of 2003 dollars
TOTAL PRIMARY SITE RADWASTE VOLUME BURIED	81,396	cubic Feet
TOTAL SECONDARY SITE RADWASTE VOLUME BURIED	227,835	cubic Feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED	411	cubic Feet
TOTAL SCRAP METAL REMOVED:	22,851	tons
TOTAL CRAFT LABOR REQUIREMENTS:	1,261,301	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.
a - indicates that this activity performed by decommissioning staff.
0 - indicates that this value is less than 0.5 but is non-zero.
a cell containing " - " indicates a zero value

APPENDIX D

DETAILED COST ANALYSES

DELAYED DECON

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	292	88	380	380	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	112	17	129	129	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	232	35	267	267	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	375	56	431	431	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	369	55	424	424	-	-	-	-	-	-	-	-	-	4,920
1a.1.16.2	Plant systems	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	234	35	269	269	-	-	-	-	-	-	-	-	-	3,120
1a.1.16.4	Waste management	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.16	Total	-	-	-	-	-	-	1,214	182	1,396	1,396	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	89	13	102	102	-	-	-	-	-	-	-	-	-	1,183
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	90	13	103	103	-	-	-	-	-	-	-	-	-	1,200
1a.1.17	Total	-	-	-	-	-	-	179	27	205	205	-	-	-	-	-	-	-	-	-	2,383
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	7	1	9	9	-	-	-	-	-	-	-	-	-	100
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,980	491	3,471	3,471	-	-	-	-	-	-	-	-	-	35,890
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,734	173	1,907	1,907	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	221	-	-	-	-	-	55	276	276	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	288	-	-	-	-	-	43	331	331	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	5	1	-	23	-	6	35	35	-	-	-	404	-	-	-	8,103	99	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	625	94	719	719	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	371	37	408	408	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	101	10	111	-	111	-	-	-	-	-	-	-	-	-
1a.4.9	Site O&M Cost	-	-	-	-	-	-	250	37	287	287	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	968	145	1,113	-	1,113	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	71	11	82	-	82	-	-	-	-	-	-	-	-	-
1a.4.12	Security Staff Cost	-	-	-	-	-	-	968	145	1,114	1,114	-	-	-	-	-	-	-	-	-	58,921
1a.4.13	Utility Staff Cost	-	-	-	-	-	-	24,422	3,663	28,085	28,085	-	-	-	-	-	-	-	-	-	387,421
1a.4	Subtotal Period 1a Period-Dependent Costs	-	509	5	1	-	23	29,510	4,421	34,470	33,164	1,306	-	-	404	-	-	-	8,103	99	446,343
1a.0	TOTAL PERIOD 1a COST	-	509	5	1	-	23	32,491	4,912	37,941	36,635	1,306	-	-	404	-	-	-	8,103	99	482,233
PERIOD 1b - SAFSTOR Limited DECON Activities																					

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	New Radwaste Building - Systems Removal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
1b.1.1.2	Old Radwaste Building - Systems Removal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
1b.1.1.3	Augmented Off Gas - Decon	2	-	-	-	-	-	-	1	3	3	-	-	-	-	-	-	-	-	37	-
1b.1.1.4	Drywell - Liner Removal	1,629	-	-	-	-	-	-	814	2,443	2,443	-	-	-	-	-	-	-	-	32,453	-
1b.1.1.5	RB0 - Torus Removal	2,184	-	-	-	-	-	-	1,092	3,275	3,275	-	-	-	-	-	-	-	-	43,506	-
1b.1.1.6	Reactor Building -19ft - Decon	5	-	-	-	-	-	-	3	8	8	-	-	-	-	-	-	-	-	109	-
1b.1.1.7	Stack/Exhaust Tunnels - Remove & Decon	42	-	-	-	-	-	-	21	63	63	-	-	-	-	-	-	-	-	952	-
1b.1.1.8	Turbine Building 0ft - Decon	8	-	-	-	-	-	-	4	12	12	-	-	-	-	-	-	-	-	155	-
1b.1.1.9	Reactor Building 119ft - Decon	341	-	-	-	-	-	-	170	511	511	-	-	-	-	-	-	-	-	6,782	-
1b.1.1	Totals	4,210	-	-	-	-	-	-	2,105	6,315	6,315	-	-	-	-	-	-	-	-	83,995	-
1b.1	Subtotal Period 1b Activity Costs	4,210	-	-	-	-	-	-	2,105	6,315	6,315	-	-	-	-	-	-	-	-	83,995	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,115	1,217	9,332	9,332	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	8,115	1,217	9,332	9,332	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	628	-	-	-	-	-	-	94	723	723	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process liquid waste	196	-	65	175	-	734	-	314	1,485	1,485	-	-	-	-	1,348	-	-	189,933	265	-
1b.3.3	Small tool allowance	-	68	-	-	-	-	-	10	78	78	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	824	68	65	175	-	734	-	419	2,285	2,285	-	-	-	-	1,348	-	-	189,933	265	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	735	-	-	-	-	-	-	184	919	919	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	437	44	481	481	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	527	53	579	579	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	311	-	-	-	-	-	78	388	388	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	73	-	-	-	-	-	11	84	84	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	1	0	-	7	-	2	10	10	-	-	-	117	-	-	-	2,339	29	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	158	24	181	181	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	94	9	103	103	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	25	3	28	-	28	-	-	-	-	-	-	-	-	-
1b.4.10	Site O&M Cost	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	244	37	281	-	281	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	18	3	21	-	21	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	244	37	281	281	-	-	-	-	-	-	-	-	-	14,851
1b.4.14	Utility Staff Cost	-	-	-	-	-	-	4,536	680	5,216	5,216	-	-	-	-	-	-	-	-	-	72,417
1b.4	Subtotal Period 1b Period-Dependent Costs	735	383	1	0	-	7	6,345	1,172	8,644	8,315	329	-	-	117	-	-	-	2,339	29	87,269
1b.0	TOTAL PERIOD 1b COST	5,770	451	67	176	-	740	14,460	4,913	26,576	26,247	329	-	-	117	1,348	-	-	172,272	84,289	87,269
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	409	-	-	-	-	-	61	470	470	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equil. lines	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	19,098	-
1c.1.4	Secure building accesses									8											
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	44	7	50	50	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	446	-	-	-	-	777	293	1,515	1,515	-	-	-	-	-	-	-	-	22,798	583
Period 1c Collateral Costs																					
1c.3.1	Process liquid waste	219	-	73	196	-	813	-	349	1,650	1,650	-	-	-	-	1,506	-	-	189,882	296	-
1c.3.2	Small tool allowance	-	3	-	-	-	-	-	0	4	4	-	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	219	3	73	196	-	813	-	350	1,654	1,654	-	-	-	-	1,506	-	-	189,882	296	-

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	432	43	475	475	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	521	52	573	573	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	125	-	-	-	-	-	31	156	156	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	72	-	-	-	-	-	11	83	83	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	1	0	-	8	-	2	9	9	-	-	-	101	-	-	-	2,020	25	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	93	9	102	102	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	25	3	28	-	28	-	-	-	-	-	-	-	-	-
1c.4.9	Site O&M Cost	-	-	-	-	-	-	62	9	72	72	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	241	36	278	-	278	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	18	3	20	-	20	-	-	-	-	-	-	-	-	-
1c.4.12	Security Staff Cost	-	-	-	-	-	-	241	36	278	278	-	-	-	-	-	-	-	-	-	14,690
1c.4.13	Utility Staff Cost	-	-	-	-	-	-	4,431	665	5,096	5,096	-	-	-	-	-	-	-	-	-	71,630
1c.4	Subtotal Period 1c Period-Dependent Costs	-	197	1	0	-	8	6,221	923	7,348	7,023	326	-	-	101	-	-	-	2,020	25	86,320
1c.0	TOTAL PERIOD 1c COST	219	648	74	196	-	819	6,997	1,566	10,517	10,192	326	-	-	101	1,506	-	-	191,902	23,119	86,903
PERIOD 1 TOTALS		5,968	1,606	146	373	-	1,582	53,948	11,391	75,035	73,074	1,961	-	-	622	2,855	-	-	372,277	107,508	656,405
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	599	90	689	-	689	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	1,978	297	2,275	-	2,275	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	2,577	387	2,963	-	2,963	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,000	600	4,600	-	4,600	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	4,000	600	4,600	-	4,600	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	13,214	1,321	14,535	-	14,535	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	15,726	1,573	17,299	-	17,299	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	869	-	-	-	-	-	217	1,086	-	1,086	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	75	17	-	365	-	101	558	-	558	-	-	6,363	-	-	-	127,517	1,562	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	7,379	1,107	8,486	-	8,486	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	5,350	535	5,885	-	5,885	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,588	159	1,747	-	1,747	-	-	-	-	-	-	-	-	-
2a.4.8	Site O&M Cost	-	-	-	-	-	-	3,932	590	4,521	-	4,521	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	15,235	2,285	17,520	-	17,520	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	1,117	168	1,285	-	1,285	-	-	-	-	-	-	-	-	-
2a.4.11	Security Staff Cost	-	-	-	-	-	-	8,361	1,254	9,615	-	9,615	-	-	-	-	-	-	-	-	508,754
2a.4.12	Utility Staff Cost	-	-	-	-	-	-	61,880	9,282	71,162	-	71,162	-	-	-	-	-	-	-	-	951,863
2a.4	Subtotal Period 2a Period-Dependent Costs	-	869	75	17	-	365	133,782	18,592	153,700	-	153,700	-	-	6,363	-	-	-	127,517	1,562	1,460,617
2a.0	TOTAL PERIOD 2a COST	-	869	75	17	-	365	140,359	19,578	161,263	-	161,263	-	-	6,363	-	-	-	127,517	1,562	1,460,617
PERIOD 2 TOTALS		-	869	75	17	-	365	140,359	19,578	161,263	-	161,263	-	-	6,363	-	-	-	127,517	1,562	1,460,617
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	345	52	396	396	-	-	-	-	-	-	-	-	-	4,600
3a.1.3	Perform detailed rad survey									a											
3a.1.4	End product description	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 3a Direct Decommissioning Activities (continued)																					
3a.1.6	Define major work sequence	-	-	-	-	-	-	562	84	646	646	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	232	35	267	267	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	375	56	431	431	-	-	-	-	-	-	-	-	-	5,000
3a.1.9	Prepare/submit License Termination Plan	-	-	-	-	-	-	307	46	353	353	-	-	-	-	-	-	-	-	-	4,096
3a.1.10	Receive NRC approval of termination plan									a											
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	552	83	635	571	-	63	-	-	-	-	-	-	-	7,370
3a.1.11.2	Plant systems	-	-	-	-	-	-	312	47	359	323	-	36	-	-	-	-	-	-	-	4,167
3a.1.11.3	Reactor internals	-	-	-	-	-	-	532	80	612	612	-	-	-	-	-	-	-	-	-	7,100
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	487	73	560	560	-	-	-	-	-	-	-	-	-	6,500
3a.1.11.5	Sacrificial shield	-	-	-	-	-	-	37	6	43	43	-	-	-	-	-	-	-	-	-	500
3a.1.11.6	Moisture separators/reheaters	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	120	18	138	69	-	69	-	-	-	-	-	-	-	1,600
3a.1.11.8	Turbine & condenser	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
3a.1.11.9	Pressure suppression structure	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
3a.1.11.10	Drywell	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,600
3a.1.11.11	Plant structures & buildings	-	-	-	-	-	-	234	35	269	134	-	134	-	-	-	-	-	-	-	3,120
3a.1.11.12	Waste management	-	-	-	-	-	-	345	52	396	396	-	-	-	-	-	-	-	-	-	4,600
3a.1.11.13	Facility & site closeout	-	-	-	-	-	-	67	10	78	39	-	39	-	-	-	-	-	-	-	900
3a.1.11	Total	-	-	-	-	-	-	3,342	501	3,844	3,502	-	341	-	-	-	-	-	-	-	44,624
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	2,400
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	2,419	363	2,782	2,782	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	105	16	121	121	-	-	-	-	-	-	-	-	-	1,400
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,048	307	2,355	2,355	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	92	14	106	106	-	-	-	-	-	-	-	-	-	1,230
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	10,275	1,541	11,817	11,475	-	341	-	-	-	-	-	-	-	77,550
Period 3a Collateral Costs																					
3a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	4,800	720	5,520	-	5,520	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	-	-	-	-	-	4,800	720	5,520	-	5,520	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	840	84	924	924	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	999	100	1,099	1,099	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	221	-	-	-	-	-	55	276	276	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	288	-	-	-	-	-	43	331	331	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	5	1	-	23	-	6	35	35	-	-	-	404	-	-	-	8,103	99	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	469	70	539	539	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	371	37	408	408	-	-	-	-	-	-	-	-	-	-
3a.4.8	Emergency Planning Fees	-	-	-	-	-	-	101	10	111	-	111	-	-	-	-	-	-	-	-	-
3a.4.9	Site O&M Cost	-	-	-	-	-	-	250	37	287	287	-	-	-	-	-	-	-	-	-	-
3a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	968	145	1,113	-	1,113	-	-	-	-	-	-	-	-	-
3a.4.11	Security Staff Cost	-	-	-	-	-	-	531	80	611	611	-	-	-	-	-	-	-	-	-	32,329
3a.4.12	Utility Staff Cost	-	-	-	-	-	-	16,378	2,456	18,833	18,833	-	-	-	-	-	-	-	-	-	261,236
3a.4	Subtotal Period 3a Period-Dependent Costs	-	509	5	1	-	23	20,906	3,125	24,569	23,345	1,224	-	-	404	-	-	-	8,103	99	293,564
3a.0	TOTAL PERIOD 3a COST	-	509	5	1	-	23	35,981	5,386	41,906	34,820	6,744	341	-	404	-	-	-	8,103	99	371,114
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	355	53	408	367	-	41	-	-	-	-	-	-	-	4,733
3b.1.1.2	Reactor internals	-	-	-	-	-	-	300	45	345	345	-	-	-	-	-	-	-	-	-	4,000
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	101	15	116	29	-	87	-	-	-	-	-	-	-	1,350

Table D
Oyster Creek Nuclear Generating Station
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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Detailed Work Procedures (continued)																					
3b.1.1.4	CRD housings & NIs	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.5	Incore instrumentation	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.6	Removal primary containment	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	272	41	313	313	-	-	-	-	-	-	-	-	-	3,630
3b.1.1.8	Facility closeout	-	-	-	-	-	-	90	13	103	52	-	52	-	-	-	-	-	-	-	1,200
3b.1.1.9	Sacrificial shield	-	-	-	-	-	-	90	13	103	103	-	-	-	-	-	-	-	-	-	1,200
3b.1.1.10	Reinforced concrete	-	-	-	-	-	-	75	11	86	43	-	43	-	-	-	-	-	-	-	1,000
3b.1.1.11	Turbine & condensers	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
3b.1.1.12	Moisture separators & reheaters	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
3b.1.1.13	Radwaste building	-	-	-	-	-	-	204	31	235	212	-	24	-	-	-	-	-	-	-	2,730
3b.1.1.14	Reactor building	-	-	-	-	-	-	204	31	235	212	-	24	-	-	-	-	-	-	-	2,730
3b.1.1	Total	-	-	-	-	-	-	2,452	368	2,820	2,550	-	270	-	-	-	-	-	-	-	32,740
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	2,452	368	2,820	2,550	-	270	-	-	-	-	-	-	-	32,740
Period 3b Additional Costs																					
3b.2.1	Site Characterization	-	-	-	-	-	-	3,152	946	4,098	4,098	-	-	-	-	-	-	-	-	-	-
3b.2.2	Disposition of Liquid RCRA Waste (not lead)	-	-	-	9	529	-	-	81	618	618	-	-	2,019	-	-	-	-	115,076	-	-
3b.2.3	Disposition of PCB Soil RCRA Waste (not lead)	-	-	-	58	1,620	-	-	252	1,930	1,930	-	-	27,000	-	-	-	-	1,620,000	-	-
3b.2.4	Disposition of Lead Inventory	-	-	-	2	44	-	-	7	53	53	-	-	31	-	-	-	-	22,080	-	-
3b.2.5	Asbestos Remediation	-	9,791	1	43	-	716	-	2,633	13,184	13,184	-	-	-	19,193	-	-	-	249,515	150,230	-
3b.2	Subtotal Period 3b Additional Costs	-	9,791	1	113	2,192	716	3,152	3,916	19,883	19,883	-	-	29,050	19,193	-	-	-	2,006,671	150,230	-
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	628	-	-	-	-	-	-	94	723	723	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
3b.3.3	Small tool allowance	-	126	-	-	-	-	-	19	145	145	-	-	-	-	-	-	-	-	-	-
3b.3.4	Pipe cutting equipment	-	957	-	-	-	-	-	143	1,100	1,100	-	-	-	-	-	-	-	-	-	-
3b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	2,400	360	2,760	-	2,760	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	628	1,082	-	-	-	-	3,497	781	5,988	3,228	2,760	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	19	-	-	-	-	-	-	5	24	24	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	421	42	463	463	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	501	50	551	551	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	565	-	-	-	-	-	141	707	707	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	145	-	-	-	-	-	22	166	166	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	2	1	-	12	-	3	18	18	-	-	-	203	-	-	-	4,063	50	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	235	35	270	270	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	186	19	205	205	-	-	-	-	-	-	-	-	-	-
3b.4.9	Emergency Planning Fees	-	-	-	-	-	-	51	5	56	-	56	-	-	-	-	-	-	-	-	-
3b.4.10	Site O&M Cost	-	-	-	-	-	-	125	19	144	144	-	-	-	-	-	-	-	-	-	-
3b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	485	73	558	-	558	-	-	-	-	-	-	-	-	-
3b.4.12	Security Staff Cost	-	-	-	-	-	-	266	40	306	306	-	-	-	-	-	-	-	-	-	16,209
3b.4.13	DOC Staff Cost	-	-	-	-	-	-	3,383	507	3,890	3,890	-	-	-	-	-	-	-	-	-	52,286
3b.4.14	Utility Staff Cost	-	-	-	-	-	-	8,376	1,256	9,632	9,632	-	-	-	-	-	-	-	-	-	134,113
3b.4	Subtotal Period 3b Period-Dependent Costs	19	710	2	1	-	12	14,029	2,217	16,990	16,376	614	-	-	203	-	-	-	4,063	50	202,607
3b.0	TOTAL PERIOD 3b COST	648	11,584	3	113	2,192	728	23,130	7,285	45,682	42,039	3,374	270	29,050	19,396	-	-	-	2,010,734	150,280	235,347
PERIOD 3 TOTALS		648	12,093	8	114	2,192	751	59,111	12,671	87,588	78,858	10,118	611	29,050	19,800	-	-	-	2,018,837	150,379	606,461

Table D
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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Recirculation Pumps & Motors	7	77	33	17	42	765	-	226	1,167	1,167	-	-	107	1,053	-	-	-	227,150	2,156	-
4a.1.1.2	CRDMs & Nts Removal	27	124	183	17	-	419	-	170	940	940	-	-	-	5,179	-	-	-	112,850	3,338	-
4a.1.1.3	Reactor Vessel Internals	84	1,741	2,685	462	-	3,315	132	3,812	12,230	12,230	-	-	-	1,502	1,377	287	-	300,825	17,509	832
4a.1.1.4	Vessel & Internals GTCC Disposal	-	-	300	-	-	5,501	-	855	6,657	6,657	-	-	-	-	-	-	411	72,900	-	-
4a.1.1.5	Reactor Vessel	-	4,318	778	209	-	5,169	132	6,069	16,694	16,694	-	-	-	16,203	-	-	-	1,654,750	17,509	832
4a.1.1	Totals	119	6,261	3,978	704	42	15,169	263	11,153	37,688	37,688	-	-	107	23,938	1,377	287	411	2,368,475	40,512	1,665
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	232	549	151	5,284	-	-	928	7,144	7,144	-	-	59,003	-	-	-	-	2,655,154	4,957	-
4a.1.3	Main Condensers	-	714	342	94	3,290	-	-	720	5,159	5,159	-	-	36,736	-	-	-	-	1,653,126	15,180	-
Disposal of Plant Systems																					
Drywell System Components																					
4a.1.4	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reactor Building System Components																					
4a.1.5.1	RC1/RC3	-	3	-	-	1	-	-	1	5	5	-	-	14	-	-	-	-	577	63	-
4a.1.5.2	RCA	-	30	1	1	12	21	-	15	80	80	-	-	147	64	-	-	-	-11,731	889	-
4a.1.5.3	RCB	-	45	1	1	41	5	-	19	112	112	-	-	501	18	-	-	-	21,819	1,009	-
4a.1.5.4	RCD	-	240	4	9	321	-	-	110	683	683	-	-	3,974	-	-	-	-	161,384	5,273	-
4a.1.5.5	RCG	-	48	1	3	92	-	-	26	167	167	-	-	1,136	-	-	-	-	48,136	1,020	-
4a.1.5.6	RCJ	-	48	1	1	50	-	-	20	120	120	-	-	617	-	-	-	-	25,044	1,068	-
4a.1.5.7	RCM	-	73	1	3	120	-	-	37	235	235	-	-	1,481	-	-	-	-	60,136	1,636	-
4a.1.5.8	RCN	-	165	2	5	170	-	-	68	410	410	-	-	2,107	-	-	-	-	85,581	3,610	-
4a.1.5.9	RCS	-	58	4	3	51	110	-	51	277	277	-	-	636	330	-	-	-	55,442	1,313	-
4a.1.5.10	RCT	-	37	0	1	38	-	-	15	91	91	-	-	464	-	-	-	-	18,858	807	-
4a.1.5	Totals	-	745	15	27	895	137	-	360	2,179	2,179	-	-	11,078	412	-	-	-	486,706	18,488	-
New Radwaste Building System Components																					
4a.1.6.1	7EB	-	108	2	2	29	65	-	48	253	253	-	-	362	196	-	-	-	32,343	2,373	-
4a.1.6.2	N2G	-	8	-	0	4	-	-	3	15	15	-	-	49	-	-	-	-	2,007	178	-
4a.1.6.3	N2P	-	19	0	1	28	-	-	9	57	57	-	-	341	-	-	-	-	13,830	406	-
4a.1.6.4	N3A	-	46	0	1	32	-	-	16	96	96	-	-	398	-	-	-	-	16,151	999	-
4a.1.6.5	N3D	-	55	0	1	41	-	-	20	117	117	-	-	501	-	-	-	-	20,362	1,237	-
4a.1.6.6	N3I	-	11	-	-	2	1	-	3	18	18	-	-	27	3	-	-	-	1,368	259	-
4a.1.6.7	N3N	-	67	0	1	36	-	-	22	127	127	-	-	447	-	-	-	-	16,140	1,492	-
4a.1.6.8	N3P	-	17	0	0	14	-	-	7	39	39	-	-	179	-	-	-	-	7,267	374	-
4a.1.6.9	N3Q	-	12	-	0	6	-	-	4	22	22	-	-	80	-	-	-	-	3,260	261	-
4a.1.6.10	N3R	-	12	-	0	8	-	-	4	24	24	-	-	97	-	-	-	-	3,934	256	-
4a.1.6.11	N3S	-	17	0	0	15	-	-	7	40	40	-	-	187	-	-	-	-	7,583	387	-
4a.1.6.12	N3T	-	11	-	0	5	-	-	3	19	19	-	-	58	-	-	-	-	2,357	240	-
4a.1.6.13	N3U	-	78	4	3	49	107	-	54	293	293	-	-	610	326	-	-	-	53,705	1,673	-
4a.1.6.14	N3W	-	79	4	3	52	118	-	58	315	315	-	-	643	359	-	-	-	58,024	1,740	-
4a.1.6.15	N3Y	-	143	3	7	247	-	-	74	474	474	-	-	3,054	-	-	-	-	124,028	3,141	-
4a.1.6.16	N51	-	27	0	1	19	-	-	10	57	57	-	-	239	-	-	-	-	9,707	621	-
4a.1.6.17	N52	-	23	0	0	10	8	-	10	52	52	-	-	121	28	-	-	-	7,154	539	-
4a.1.6.18	N53	-	40	1	1	20	15	-	17	93	93	-	-	248	52	-	-	-	14,050	915	-
4a.1.6.19	N54	-	12	0	0	4	6	-	5	26	26	-	-	46	19	-	-	-	3,347	259	-
4a.1.6.20	N55	-	50	0	1	33	-	-	18	102	102	-	-	414	-	-	-	-	16,809	1,114	-
4a.1.6.21	N56	-	74	1	2	59	-	-	28	164	164	-	-	734	-	-	-	-	29,828	1,527	-
4a.1.6.22	N5A	-	28	0	1	23	5	-	12	70	70	-	-	290	18	-	-	-	13,130	642	-
4a.1.6.23	N5B	-	27	0	1	25	-	-	10	63	63	-	-	307	-	-	-	-	12,485	603	-
4a.1.6.24	N5C	-	12	-	0	9	-	-	4	26	26	-	-	106	-	-	-	-	4,294	267	-
4a.1.6.25	N5D	-	19	0	0	12	-	-	7	39	39	-	-	152	-	-	-	-	6,190	426	-

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
New Radwaste Building System Components (continued)																					
4a.1.6.26	N5E	-	13	0	0	9	-	-	5	27	27	-	-	110	-	-	-	-	4,453	278	-
4a.1.6.27	N5F	-	19	0	0	7	9	-	8	44	44	-	-	91	27	-	-	-	6,103	411	-
4a.1.6.28	N5G	-	9	-	-	3	-	-	3	15	15	-	-	40	-	-	-	-	1,645	205	-
4a.1.6.29	N5H	-	8	0	-	0	5	-	3	17	17	-	-	5	15	-	-	-	1,556	172	-
4a.1.6.30	N5I	-	11	-	0	4	-	-	3	18	18	-	-	51	-	-	-	-	2,090	238	-
4a.1.6.31	N5J	-	8	0	0	11	-	-	4	23	23	-	-	131	-	-	-	-	5,328	187	-
4a.1.6.32	N5K	-	10	-	0	6	-	-	4	20	20	-	-	75	-	-	-	-	3,050	224	-
4a.1.6.33	N5N	-	19	0	0	12	-	-	7	38	38	-	-	143	-	-	-	-	5,803	433	-
4a.1.6.34	N5O	-	49	1	2	54	-	-	21	127	127	-	-	670	-	-	-	-	27,221	1,083	-
4a.1.6.35	N5P	-	19	1	1	15	12	-	10	57	57	-	-	183	48	-	-	-	10,712	419	-
4a.1.6.36	N5Q	-	18	1	1	15	12	-	10	56	56	-	-	182	47	-	-	-	10,615	413	-
4a.1.6.37	N5S	-	44	2	5	177	-	-	39	267	267	-	-	2,195	-	-	-	-	89,151	989	-
4a.1.6.38	N5T	-	49	1	1	49	8	-	22	131	131	-	-	606	28	-	-	-	26,708	1,116	-
4a.1.6.39	N5U	-	50	1	1	49	8	-	22	131	131	-	-	607	28	-	-	-	26,767	1,128	-
4a.1.6.40	N5Y	-	24	0	0	12	4	-	9	49	49	-	-	153	12	-	-	-	7,230	545	-
4a.1.6.41	N5Z	-	24	0	0	12	4	-	9	49	49	-	-	153	12	-	-	-	7,230	545	-
4a.1.6.42	PPA	-	51	1	1	46	-	-	20	119	119	-	-	572	-	-	-	-	23,240	1,124	-
4a.1.6	Totals	-	1,417	28	41	1,266	387	-	650	3,788	3,788	-	-	15,660	1,219	-	-	-	740,255	31,438	-
Old Radwaste Building System Components																					
4a.1.7.1	7BA	-	56	0	1	39	-	-	20	117	117	-	-	480	-	-	-	-	19,481	1,246	-
4a.1.7.2	7DA	-	33	1	1	10	40	-	20	105	105	-	-	122	121	-	-	-	15,829	718	-
4a.1.7.3	7FA	-	15	0	1	17	8	-	9	50	50	-	-	206	25	-	-	-	10,642	349	-
4a.1.7.4	PBA	-	100	4	3	72	76	-	56	310	310	-	-	893	258	-	-	-	56,723	2,238	-
4a.1.7.5	PDA	-	36	0	1	30	-	-	14	81	81	-	-	373	-	-	-	-	15,150	800	-
4a.1.7.6	PMA	-	8	-	0	4	-	-	3	16	16	-	-	54	-	-	-	-	2,174	190	-
4a.1.7.7	PRA	-	58	1	2	69	-	-	25	155	155	-	-	855	-	-	-	-	34,703	1,294	-
4a.1.7.8	PTK / PTP	-	9	-	-	2	-	-	3	14	14	-	-	30	-	-	-	-	1,199	202	-
4a.1.7	Totals	-	315	7	8	243	125	-	148	847	847	-	-	3,011	404	-	-	-	155,901	7,038	-
Turbine Building System Components																					
4a.1.8.1	7CA	-	185	6	8	142	130	-	101	570	570	-	-	1,755	390	-	-	-	106,219	4,066	-
4a.1.8.2	TB2	-	645	11	27	962	-	-	311	1,957	1,957	-	-	11,906	-	-	-	-	483,529	14,232	-
4a.1.8.3	TB23	-	4	-	-	3	-	-	1	9	9	-	-	42	-	-	-	-	1,699	85	-
4a.1.8.4	TB38	-	11	0	0	10	-	-	4	25	25	-	-	124	-	-	-	-	5,034	229	-
4a.1.8.5	TC2	-	1,073	45	112	3,926	-	-	879	6,038	6,038	-	-	48,609	-	-	-	-	1,974,054	23,615	-
4a.1.8.6	TE2	-	131	3	8	282	-	-	77	501	501	-	-	3,495	-	-	-	-	141,941	2,853	-
4a.1.8.7	TEE	-	220	4	9	333	-	-	107	673	673	-	-	4,115	-	-	-	-	167,126	4,883	-
4a.1.8.8	TEG	-	18	0	0	11	-	-	6	35	35	-	-	139	-	-	-	-	5,640	381	-
4a.1.8.9	TP2	-	116	2	6	215	-	-	62	402	402	-	-	2,859	-	-	-	-	107,977	2,578	-
4a.1.8.10	TP3	-	77	3	3	69	57	-	45	254	254	-	-	859	209	-	-	-	50,293	1,738	-
4a.1.8.11	TPE	-	69	3	2	52	66	-	42	234	234	-	-	647	225	-	-	-	43,953	1,519	-
4a.1.8	Totals	-	2,548	79	174	6,009	253	-	1,636	10,698	10,698	-	-	74,350	824	-	-	-	3,087,463	56,199	-
Augmented Offgas System Components																					
4a.1.9	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous System Components																					
4a.1.10	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4a.1.11	Scaffolding in support of decommissioning	-	583	10	3	95	17	-	166	874	874	-	-	1,057	66	-	-	-	53,469	14,559	-
4a.1	Subtotal Period 4a Activity Costs	119	12,816	5,006	1,202	17,122	16,087	263	15,761	68,378	68,378	-	-	201,002	26,862	1,377	287	411	11,200,550	186,371	1,665
Period 4a Additional Costs																					
4a.2.1	Curie Surcharge (Excluding RPV)	-	-	-	-	-	1,711	-	428	2,139	2,139	-	-	-	-	-	-	-	-	-	-
4a.2	Subtotal Period 4a Additional Costs	-	-	-	-	-	1,711	-	428	2,139	2,139	-	-	-	-	-	-	-	-	-	-

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4a Collateral Costs																					
4a.3.1	Process liquid waste	21	-	10	26	-	158	-	55	270	270	-	-	-	-	202	-	-	25,507	40	-
4a.3.2	Small tool allowance	-	135	-	-	-	-	-	20	156	140	-	16	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	21	135	10	26	-	158	-	75	425	410	-	16	-	-	202	-	-	25,507	40	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	45	-	-	-	-	-	-	11	56	56	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	837	84	921	921	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	1,166	117	1,283	1,155	-	128	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	822	-	-	-	-	-	205	1,027	1,027	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	1,819	-	-	-	-	-	273	2,092	2,092	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	45	10	-	220	-	61	337	337	-	-	-	3,839	-	-	-	76,938	943	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	547	82	629	629	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	506	51	557	557	-	-	-	-	-	-	-	-	-	-
4a.4.9	Site O&M Cost	-	-	-	-	-	-	292	44	335	335	-	-	-	-	-	-	-	-	-	-
4a.4.10	Radwaste Processing Equipment/Services	-	-	-	-	-	-	420	63	483	483	-	-	-	-	-	-	-	-	-	-
4a.4.11	Security Staff Cost	-	-	-	-	-	-	1,200	180	1,380	1,380	-	-	-	-	-	-	-	-	-	73,029
4a.4.12	DOC Staff Cost	-	-	-	-	-	-	9,409	1,411	10,820	10,820	-	-	-	-	-	-	-	-	-	147,274
4a.4.13	Utility Staff Cost	-	-	-	-	-	-	16,720	2,508	19,228	19,228	-	-	-	-	-	-	-	-	-	263,511
4a.4	Subtotal Period 4a Period-Dependent Costs	45	2,641	45	10	-	220	31,097	5,090	39,149	39,020	-	128	-	3,839	-	-	-	76,938	943	483,814
4a.0	TOTAL PERIOD 4a COST	185	15,592	5,063	1,238	17,122	18,176	31,361	21,353	110,091	109,947	-	144	201,002	30,701	1,580	287	411	11,302,990	187,354	485,479
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	378	46	57	68	-	1,645	-	627	2,821	2,821	-	-	-	6,387	-	-	-	573,110	1,071	-
Disposal of Plant Systems																					
Drywell System Components																					
4b.1.2.1	IAA/IAC	273	228	58	34	575	1,499	-	665	3,332	3,332	-	-	7,111	4,507	-	-	-	692,839	6,005	-
4b.1.2.2	IBA	68	112	5	4	71	144	-	109	513	513	-	-	880	432	-	-	-	74,439	3,362	-
4b.1.2.3	ICA	98	186	10	7	149	225	-	176	851	851	-	-	1,841	675	-	-	-	135,304	5,537	-
4b.1.2.4	IEA	-	46	3	3	75	63	-	39	229	229	-	-	928	188	-	-	-	54,479	1,061	-
4b.1.2.5	RC6	-	43	0	1	36	-	-	16	96	96	-	-	440	-	-	-	-	17,889	962	-
4b.1.2	Totals	439	616	76	48	905	1,930	-	1,007	5,021	5,021	-	-	11,199	5,802	-	-	-	974,949	16,947	-
Reactor Building System Components																					
4b.1.3.1	RB1	-	132	2	6	202	-	-	64	406	406	-	-	2,495	-	-	-	-	101,308	2,913	-
4b.1.3.2	RBB	-	72	1	3	106	-	-	34	216	216	-	-	1,306	-	-	-	-	53,019	1,569	-
4b.1.3.3	RBC	-	73	1	3	120	-	-	37	235	235	-	-	1,485	-	-	-	-	60,294	1,609	-
4b.1.3.4	RBE	-	96	1	3	112	-	-	41	254	254	-	-	1,381	-	-	-	-	56,063	2,122	-
4b.1.3.5	RBF	-	83	4	3	60	101	-	56	307	307	-	-	740	315	-	-	-	57,301	1,863	-
4b.1.3.6	RBO	-	356	11	26	907	-	-	230	1,530	1,530	-	-	11,229	-	-	-	-	456,005	8,051	-
4b.1.3.7	RBS	-	167	7	8	223	142	-	113	660	660	-	-	2,757	428	-	-	-	150,334	3,774	-
4b.1.3.8	RBSW	-	93	1	3	109	-	-	40	246	246	-	-	1,343	-	-	-	-	54,558	2,061	-
4b.1.3.9	RC7	-	62	1	3	69	-	-	29	165	165	-	-	1,106	-	-	-	-	44,917	1,308	-
4b.1.3.10	RD6	-	62	17	11	150	541	-	176	957	957	-	-	1,861	1,624	-	-	-	221,264	1,434	-
4b.1.3.11	RDM	-	32	0	1	22	-	-	11	65	65	-	-	268	-	-	-	-	10,870	690	-
4b.1.3.12	REC	-	142	2	5	158	-	-	60	367	367	-	-	1,953	-	-	-	-	79,329	3,132	-
4b.1.3.13	REF	-	68	6	4	54	171	-	69	371	371	-	-	667	515	-	-	-	73,233	1,504	-
4b.1.3.14	REH/REI	-	84	1	3	107	-	-	38	233	233	-	-	1,325	-	-	-	-	53,806	1,851	-
4b.1.3.15	REL	-	144	3	8	266	-	-	77	497	497	-	-	3,266	-	-	-	-	133,445	3,177	-
4b.1.3.16	REM	-	37	1	1	43	-	-	16	96	96	-	-	538	-	-	-	-	21,846	626	-
4b.1.3.17	REO	-	84	6	4	90	162	-	78	422	422	-	-	1,115	486	-	-	-	88,889	1,886	-
4b.1.3.18	REQ	-	112	3	4	106	50	-	57	331	331	-	-	1,311	150	-	-	-	66,646	2,510	-
4b.1.3.19	RER	17	37	1	1	14	33	-	28	131	131	-	-	177	98	-	-	-	15,995	1,116	-
4b.1.3.20	RET	8	23	0	0	15	3	-	13	63	63	-	-	185	11	-	-	-	8,443	697	-
4b.1.3.21	REW	-	19	0	0	12	-	-	7	38	38	-	-	146	-	-	-	-	5,936	422	-
4b.1.3.22	REX	-	21	0	0	13	-	-	7	42	42	-	-	165	-	-	-	-	6,710	466	-

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Reactor Building System Components (continued)																					
4b.1.3.23	REY	-	23	0	0	15	-	-	8	47	47	-	-	192	-	-	-	-	7,781	512	-
4b.1.3.24	RFB	-	109	2	4	131	-	-	48	293	293	-	-	1,622	-	-	-	-	65,859	2,414	-
4b.1.3.25	RFC	24	68	3	2	27	69	-	51	244	244	-	-	337	207	-	-	-	32,210	1,978	-
4b.1.3.26	RFF	-	76	1	2	75	-	-	31	185	185	-	-	923	-	-	-	-	37,469	1,694	-
4b.1.3.27	RFH	-	102	7	4	56	175	-	79	422	422	-	-	692	525	-	-	-	75,175	2,271	-
4b.1.3.28	RFJ	-	89	6	4	56	170	-	74	397	397	-	-	690	510	-	-	-	73,713	1,971	-
4b.1.3.29	RFL	-	57	1	2	61	-	-	24	144	144	-	-	754	-	-	-	-	30,625	1,282	-
4b.1.3.30	RFN	-	77	1	3	90	-	-	33	205	205	-	-	1,118	-	-	-	-	45,418	1,712	-
4b.1.3.31	RFQ	-	107	1	2	76	-	-	39	225	225	-	-	942	-	-	-	-	38,243	2,379	-
4b.1.3.32	RGC	-	60	1	2	54	-	-	23	139	139	-	-	667	-	-	-	-	27,107	1,343	-
4b.1.3.33	RGD	-	173	9	23	813	-	-	170	1,188	1,188	-	-	10,058	-	-	-	-	408,453	3,861	-
4b.1.3.34	RGI	-	35	0	1	33	-	-	14	84	84	-	-	414	-	-	-	-	16,826	794	-
4b.1.3.35	RGL	-	41	1	1	45	-	-	17	105	105	-	-	555	-	-	-	-	22,545	917	-
4b.1.3.36	RGP	-	20	0	1	19	-	-	8	48	48	-	-	238	-	-	-	-	9,661	437	-
4b.1.3.37	RGR	-	128	2	4	132	-	-	53	318	318	-	-	1,633	-	-	-	-	66,314	2,623	-
4b.1.3.38	RGU	-	55	1	1	44	-	-	21	122	122	-	-	547	-	-	-	-	22,199	1,249	-
4b.1.3.39	RH1	-	33	0	1	27	-	-	12	74	74	-	-	339	-	-	-	-	13,754	733	-
4b.1.3.40	RH2	-	28	1	1	44	-	-	14	88	88	-	-	550	-	-	-	-	22,340	615	-
4b.1.3.41	RH3 / RH4 / RH6	-	80	1	1	48	-	-	28	158	158	-	-	592	-	-	-	-	24,061	1,785	-
4b.1.3.42	RHA	6	14	0	0	7	11	-	11	50	50	-	-	83	34	-	-	-	6,374	440	-
4b.1.3.43	RHJ	-	29	0	1	23	-	-	11	63	63	-	-	262	-	-	-	-	11,443	644	-
4b.1.3.44	RHL	-	19	0	0	10	-	-	6	35	35	-	-	121	-	-	-	-	4,913	418	-
4b.1.3.45	RHX	-	35	0	1	36	-	-	14	87	87	-	-	440	-	-	-	-	17,877	782	-
4b.1.3.46	RHY	-	32	0	1	30	-	-	13	75	75	-	-	369	-	-	-	-	14,998	716	-
4b.1.3.47	RMCC	-	66	1	2	80	-	-	29	178	178	-	-	989	-	-	-	-	40,165	1,468	-
4b.1.3	Totals	55	3,555	108	162	5,009	1,627	-	2,110	12,626	12,626	-	-	61,963	4,901	-	-	-	2,955,733	80,238	-
New Radwaste Building System Components																					
4b.1.4.1	N38	-	118	1	3	113	-	-	47	281	281	-	-	1,392	-	-	-	-	56,538	2,547	-
4b.1.4.2	N48	-	59	0	1	43	-	-	21	125	125	-	-	530	-	-	-	-	21,506	1,295	-
4b.1.4.3	N4A	9	20	1	1	15	12	-	15	72	72	-	-	183	42	-	-	-	10,761	587	-
4b.1.4.4	N4B	7	19	1	0	13	10	-	13	64	64	-	-	162	36	-	-	-	9,398	559	-
4b.1.4.5	N4D	-	60	0	1	37	-	-	21	119	119	-	-	459	-	-	-	-	18,650	1,300	-
4b.1.4.6	N4E	-	5	-	-	1	-	-	1	7	7	-	-	17	-	-	-	-	687	106	-
4b.1.4.7	N4F	-	13	-	0	8	-	-	5	26	26	-	-	98	-	-	-	-	3,966	265	-
4b.1.4.8	N4H	-	15	0	1	18	5	-	8	45	45	-	-	217	14	-	-	-	10,038	337	-
4b.1.4.9	N4K	-	16	0	0	14	-	-	6	37	37	-	-	176	-	-	-	-	7,138	352	-
4b.1.4.10	N4L	-	23	0	0	14	-	-	8	46	46	-	-	177	-	-	-	-	7,195	525	-
4b.1.4.11	N5R	-	53	1	2	83	-	-	26	166	166	-	-	1,029	-	-	-	-	41,782	1,188	-
4b.1.4.12	N5V	39	49	2	1	39	29	-	45	205	205	-	-	482	111	-	-	-	27,292	1,918	-
4b.1.4.13	N5W	-	6	-	-	1	-	-	2	9	9	-	-	10	-	-	-	-	401	148	-
4b.1.4.14	N5X	51	60	1	2	68	-	-	51	233	233	-	-	842	-	-	-	-	34,176	2,378	-
4b.1.4	Totals	107	516	8	14	467	56	-	269	1,436	1,436	-	-	5,774	203	-	-	-	249,545	13,525	-
Old Radwaste Building System Components																					
4b.1.5.1	ORW Pre D&D Desludge and Decon	-	143	-	-	-	-	-	21	164	164	-	-	-	-	-	-	-	-	2,839	-
4b.1.5.2	PRD	-	11	0	0	12	-	-	5	28	28	-	-	151	-	-	-	-	6,112	245	-
4b.1.5.3	PSB	-	94	1	3	97	-	-	39	234	234	-	-	1,196	-	-	-	-	48,634	2,096	-
4b.1.5.4	PTA	-	27	0	1	30	-	-	11	69	69	-	-	371	-	-	-	-	15,084	603	-
4b.1.5.5	PUA	-	142	1	3	112	-	-	53	311	311	-	-	1,389	-	-	-	-	56,392	3,096	-
4b.1.5.6	PUU	-	100	2	4	147	16	-	52	322	322	-	-	1,825	66	-	-	-	78,471	2,224	-
4b.1.5.7	PVA	-	6	-	-	1	-	-	2	9	9	-	-	13	-	-	-	-	519	148	-
4b.1.5.8	UAB	-	216	2	5	191	-	-	84	498	498	-	-	2,367	-	-	-	-	96,117	4,648	-
4b.1.5.9	UAS	-	147	2	5	164	-	-	65	404	404	-	-	2,277	-	-	-	-	92,465	3,221	-
4b.1.5	Totals	-	886	10	22	775	16	-	332	2,041	2,041	-	-	9,590	66	-	-	-	393,793	19,120	-

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Turbine Building System Components																					
4b.1.6.1	TD2	-	40	0	1	32	-	-	15	87	87	-	-	390	-	-	-	-	15,850	851	-
4b.1.6.2	TF2	-	222	9	22	780	-	-	177	1,209	1,209	-	-	9,648	-	-	-	-	391,743	4,842	-
4b.1.6.3	TFG	-	18	0	0	12	-	-	6	37	37	-	-	150	-	-	-	-	6,106	399	-
4b.1.6.4	TG2	-	165	7	17	811	-	-	136	937	937	-	-	7,564	-	-	-	-	307,179	3,678	-
4b.1.6.5	TH2	-	311	7	18	640	-	-	177	1,154	1,154	-	-	7,914	-	-	-	-	321,383	6,838	-
4b.1.6.6	TKA	-	16	-	0	6	-	-	5	27	27	-	-	74	-	-	-	-	2,996	348	-
4b.1.6.7	TL2	-	66	2	2	42	39	-	33	185	185	-	-	523	119	-	-	-	31,828	1,440	-
4b.1.6.8	TMA	-	42	1	2	72	-	-	22	138	138	-	-	895	-	-	-	-	36,367	906	-
4b.1.6.9	TN2	-	216	4	10	359	-	-	110	700	700	-	-	4,447	-	-	-	-	180,585	4,743	-
4b.1.6.10	TO2	-	119	-	-	-	-	-	18	137	-	-	137	-	-	-	-	-	-	2,773	-
4b.1.6.11	TOA	-	59	1	2	82	-	-	28	172	172	-	-	1,014	-	-	-	-	41,172	1,302	-
4b.1.6.12	TOCR	-	49	2	4	137	-	-	33	224	224	-	-	1,692	-	-	-	-	68,697	1,058	-
4b.1.6.13	TOR	-	43	1	2	75	-	-	22	144	144	-	-	931	-	-	-	-	37,795	957	-
4b.1.6.14	TOV	-	13	-	0	8	-	-	5	26	26	-	-	98	-	-	-	-	3,978	295	-
4b.1.6.15	TOW	-	76	2	6	207	-	-	51	342	342	-	-	2,557	-	-	-	-	103,857	1,626	-
4b.1.6.16	TOX / TOY	-	19	0	0	10	-	-	6	36	36	-	-	124	-	-	-	-	5,052	423	-
4b.1.6.17	TS2	-	137	4	9	313	-	-	83	545	545	-	-	3,875	-	-	-	-	157,362	2,964	-
4b.1.6.18	TTA	-	41	1	2	73	-	-	21	138	138	-	-	899	-	-	-	-	36,508	921	-
4b.1.6.19	TU2	-	127	2	5	169	-	-	58	361	361	-	-	2,096	-	-	-	-	85,139	2,827	-
4b.1.6	*Totals*	-	1,778	44	104	3,628	39	-	1,007	6,600	6,462	-	137	44,890	119	-	-	-	1,833,597	39,193	-
Augmented Offgas System Components																					
4b.1.7.1	AY8	-	96	1	4	129	-	-	44	274	274	-	-	1,598	-	-	-	-	64,813	2,125	-
4b.1.7.2	AYA	-	21	0	1	41	-	-	12	76	76	-	-	512	-	-	-	-	20,775	463	-
4b.1.7.3	AYB	-	19	0	1	22	-	-	8	50	50	-	-	267	-	-	-	-	10,862	430	-
4b.1.7.4	AYC	-	51	1	2	82	-	-	25	161	161	-	-	1,012	-	-	-	-	41,078	1,126	-
4b.1.7.5	AYE	-	17	-	0	8	-	-	6	32	32	-	-	103	-	-	-	-	4,199	375	-
4b.1.7.6	AZ8	-	38	1	1	49	-	-	17	107	107	-	-	611	-	-	-	-	24,796	829	-
4b.1.7.7	AZA	-	9	-	-	3	-	-	3	15	15	-	-	40	-	-	-	-	1,638	190	-
4b.1.7.8	AZC	-	70	1	3	93	-	-	32	196	196	-	-	1,145	-	-	-	-	46,509	1,547	-
4b.1.7.9	AZD	-	12	-	0	6	-	-	4	22	22	-	-	75	-	-	-	-	3,063	267	-
4b.1.7.10	AZE	-	11	-	0	6	-	-	4	21	21	-	-	70	-	-	-	-	2,856	256	-
4b.1.7.11	AZF	-	10	-	0	7	-	-	4	22	22	-	-	90	-	-	-	-	3,672	233	-
4b.1.7.12	AZI	-	21	0	1	28	-	-	10	60	60	-	-	343	-	-	-	-	13,938	473	-
4b.1.7	Totals	-	377	5	14	474	-	-	168	1,037	1,037	-	-	5,865	-	-	-	-	238,196	8,315	-
Miscellaneous System Components																					
4b.1.8.1	BAA	-	172	3	7	235	-	-	79	496	496	-	-	2,908	-	-	-	-	118,031	3,779	-
4b.1.8.2	BBA	-	64	2	5	176	-	-	43	291	291	-	-	2,183	-	-	-	-	88,856	1,403	-
4b.1.8.3	BDA	-	7	-	-	2	-	-	2	12	12	-	-	27	-	-	-	-	1,083	167	-
4b.1.8.4	CAA	-	341	7	18	633	-	-	184	1,182	1,182	-	-	7,828	-	-	-	-	317,896	7,508	-
4b.1.8.5	DAA	-	45	0	1	30	-	-	16	92	92	-	-	378	-	-	-	-	15,277	1,004	-
4b.1.8.6	DAC	-	103	1	3	99	-	-	41	247	247	-	-	1,230	-	-	-	-	49,940	2,302	-
4b.1.8.7	DGB	-	56	-	-	-	-	-	8	65	-	-	65	-	-	-	-	-	-	1,277	-
4b.1.8.8	DOT	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	223	-
4b.1.8.9	DPH	-	67	-	-	-	-	-	10	77	-	-	77	-	-	-	-	-	-	1,501	-
4b.1.8.10	DWF	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	359	-
4b.1.8.11	FWP	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	2,013	-
4b.1.8.12	GAA / GCA	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	350	-
4b.1.8.13	INTAKE STRUCTURE	-	142	-	-	-	-	-	21	163	-	-	163	-	-	-	-	-	-	3,206	-
4b.1.8.14	MAA	-	87	1	3	119	-	-	40	251	251	-	-	1,489	-	-	-	-	59,650	1,918	-
4b.1.8.15	MBA	-	35	0	1	33	-	-	14	83	83	-	-	413	-	-	-	-	16,778	759	-
4b.1.8.16	MBS / MBT	-	26	0	0	9	-	-	8	42	42	-	-	108	-	-	-	-	4,371	575	-
4b.1.8.17	MS	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	635	-
4b.1.8.18	NMB ROOF	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	294	-
4b.1.8.19	OB	-	213	-	-	-	-	-	32	245	-	-	245	-	-	-	-	-	-	4,916	-
4b.1.8.20	PTB	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	687	-
4b.1.8.21	RSF ROOF	-	21	0	0	14	-	-	7	43	43	-	-	175	-	-	-	-	7,097	463	-
4b.1.8.22	UYARD	-	1,324	6	14	498	-	-	408	2,250	2,250	-	-	6,162	-	-	-	-	250,262	21,728	-
4b.1.8.23	WAA	-	113	1	3	97	-	-	43	257	257	-	-	1,197	-	-	-	-	48,603	2,491	-

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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Miscellaneous System Components (continued)																					
4b.1.8.24	WHS	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	300	-
4b.1.8.25	YARD AREAS	-	243	-	-	-	-	-	36	279	-	-	279	-	-	-	-	-	-	5,499	-
4b.1.8.26	YDA / YFA / YLA	-	1	-	-	2	-	-	1	4	4	-	-	19	-	-	-	-	783	30	-
4b.1.8	Totals	-	3,273	23	56	1,947	-	-	1,027	6,325	5,249	-	1,076	24,093	-	-	-	-	978,424	65,387	-
4b.1.9	Scaffolding in support of decommissioning	-	875	16	5	142	25	-	249	1,312	1,312	-	-	1,586	99	-	-	-	80,203	21,839	-
Decontamination of Site Buildings																					
4b.1.10.1	New Radwaste Building - Systems Removal	-	83	37	24	1	382	-	124	651	651	-	-	6	3,819	-	-	-	382,184	1,875	-
4b.1.10.2	Old Radwaste Building - Systems Removal	-	2	4	3	1	41	-	11	61	61	-	-	6	405	-	-	-	40,784	53	-
4b.1.10.3	Reactor Building - Systems Removal	-	3	6	4	-	65	-	18	96	96	-	-	-	648	-	-	-	64,800	80	-
4b.1.10.4	Turbine Building - Systems Removal	-	283	90	57	-	919	-	318	1,668	1,668	-	-	-	9,194	-	-	-	919,350	5,447	-
4b.1.10.5	Augmented Off Gas - Decon	13	51	5	4	4	56	-	35	167	167	-	-	45	553	-	-	-	57,145	1,236	-
4b.1.10.6	Drywell - Decon	1	481	130	119	-	2,569	-	794	4,095	4,095	-	-	-	13,738	-	-	-	1,295,817	9,202	-
4b.1.10.7	Drywell - Liner Removal	1,449	848	30	50	1,787	154	-	1,254	5,573	5,573	-	-	22,108	601	-	-	-	951,625	47,881	-
4b.1.10.8	LLRW Storage - Decon	7	27	3	2	-	33	-	19	92	92	-	-	-	333	-	-	-	33,330	651	-
4b.1.10.9	Miscellaneous Buildings - Decon	7	27	3	2	-	33	-	19	92	92	-	-	-	328	-	-	-	32,778	655	-
4b.1.10.10	New Radwaste Building - Decon	33	193	21	14	19	214	-	125	818	818	-	-	235	2,129	-	-	-	222,101	4,207	-
4b.1.10.11	Old Radwaste Building - Decon	-	315	86	55	12	877	-	317	1,662	1,662	-	-	152	8,769	-	-	-	882,850	4,768	-
4b.1.10.12	RB0 - Torus Removal	1,942	975	45	75	2,649	229	-	1,685	7,599	7,599	-	-	32,774	891	-	-	-	1,410,755	60,582	-
4b.1.10.13	Reactor Building -19ft - Decon	23	132	11	10	166	98	-	96	536	536	-	-	2,052	911	-	-	-	171,878	3,192	-
4b.1.10.14	Reactor Building 23ft - Decon	15	60	7	4	-	70	-	41	197	197	-	-	-	700	-	-	-	70,017	1,427	-
4b.1.10.15	Reactor Building 51ft - Decon	17	66	8	5	-	78	-	46	219	219	-	-	-	781	-	-	-	-78,096	1,582	-
4b.1.10.16	Reactor Building 75ft - Decon	6	24	3	2	-	26	-	16	75	75	-	-	-	261	-	-	-	26,136	560	-
4b.1.10.17	Reactor Building 91ft - Decon	12	48	5	3	-	56	-	33	158	158	-	-	-	558	-	-	-	55,767	1,148	-
4b.1.10.18	Stack/Exhaust Tunnels - Remove & Decon	72	161	13	8	-	134	-	112	501	501	-	-	-	1,339	-	-	-	133,878	4,626	-
4b.1.10.19	Turbine Building 0ft - Decon	50	217	21	15	92	211	-	150	757	757	-	-	1,144	2,069	-	-	-	251,969	5,240	-
4b.1.10.20	Turbine Building 23ft - Decon	33	163	16	12	90	161	-	114	589	589	-	-	1,109	1,570	-	-	-	200,663	3,855	-
4b.1.10.21	Turbine Building 46ft - Decon	20	78	9	6	-	94	-	55	262	262	-	-	-	944	-	-	-	94,413	1,866	-
4b.1.10.22	Contaminated Soil	-	78	1,039	663	-	10,820	-	2,877	15,275	15,275	-	-	-	106,200	-	-	-	10,619,990	6,020	-
4b.1.10.23	Reactor Building 119ft - Decon	310	382	6	6	126	51	-	284	1,164	1,164	-	-	1,563	442	-	-	-	107,248	14,576	-
4b.1.10	Totals	4,008	4,695	1,600	1,144	4,946	17,170	-	8,544	42,106	42,106	-	-	61,196	157,182	-	-	-	18,103,570	180,725	-
4b.1	Subtotal Period 4b Activity Costs	4,987	16,816	1,946	1,636	18,292	22,508	-	15,339	81,325	80,112	-	1,213	226,175	174,759	-	-	-	26,381,130	446,360	-
Period 4b Additional Costs																					
4b.2.1	ISFSI License Termination	-	188	6	12	-	233	1,203	288	1,929	-	1,929	-	-	1,409	-	-	-	107,859	2,964	2,560
4b.2	Subtotal Period 4b Additional Costs	-	188	6	12	-	233	1,203	288	1,929	-	1,929	-	-	1,409	-	-	-	107,859	2,964	2,560
Period 4b Collateral Costs																					
4b.3.1	Process liquid waste	43	-	162	208	-	1,478	-	438	2,328	2,328	-	-	-	-	2,252	-	-	362,070	126	-
4b.3.2	Disposal of additional debris from decontamination	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	29	0	-
4b.3.3	Small tool allowance	-	319	-	-	-	-	-	48	367	367	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	60	23	537	96	-	114	830	830	-	-	6,000	373	-	-	-	303,507	739	-
4b.3	Subtotal Period 4b Collateral Costs	43	319	221	230	537	1,574	-	600	3,525	3,525	-	-	6,000	374	2,252	-	-	665,606	866	-

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	781	-	-	-	-	-	-	195	977	977	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	1,040	104	1,144	1,144	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	1,448	145	1,593	1,593	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	1,682	-	-	-	-	-	421	2,103	2,103	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	2,272	-	-	-	-	-	341	2,613	2,613	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	84	19	-	411	-	114	628	628	-	-	-	7,164	-	-	-	143,563	1,759	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	507	76	584	584	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	628	63	691	691	-	-	-	-	-	-	-	-	-	-
4b.4.9	Site O&M Cost	-	-	-	-	-	-	362	54	416	416	-	-	-	-	-	-	-	-	-	-
4b.4.10	Radwaste Processing Equipment/Services	-	-	-	-	-	-	521	78	600	600	-	-	-	-	-	-	-	-	-	-
4b.4.11	Security Staff Cost	-	-	-	-	-	-	1,490	224	1,714	1,714	-	-	-	-	-	-	-	-	-	90,686
4b.4.12	DOC Staff Cost	-	-	-	-	-	-	11,453	1,718	13,171	13,171	-	-	-	-	-	-	-	-	-	179,860
4b.4.13	Utility Staff Cost	-	-	-	-	-	-	19,948	2,992	22,940	22,940	-	-	-	-	-	-	-	-	-	315,133
4b.4	Subtotal Period 4b Period-Dependent Costs	781	3,955	84	19	-	411	37,398	6,525	49,173	49,173	-	-	-	7,164	-	-	-	143,563	1,759	585,679
4b.0	TOTAL PERIOD 4b COST	5,811	21,078	2,258	1,697	18,829	24,726	38,601	22,752	135,953	132,811	1,929	1,213	232,175	183,707	2,252	-	-	27,298,150	451,949	588,239
PERIOD 4e - License Termination																					
Period 4e Direct Decommissioning Activities																					
4e.1.1	DRSIE confirmatory survey	-	-	-	-	-	-	116	35	150	150	-	-	-	-	-	-	-	-	-	-
4e.1.2	Terminate license									a											
4e.1	Subtotal Period 4e Activity Costs	-	-	-	-	-	-	116	35	150	150	-	-	-	-	-	-	-	-	-	-
Period 4e Additional Costs																					
4e.2.1	Final Site Survey	-	-	-	-	-	-	4,572	1,371	5,943	5,943	-	-	-	-	-	-	-	-	98,444	-
4e.2	Subtotal Period 4e Additional Costs	-	-	-	-	-	-	4,572	1,371	5,943	5,943	-	-	-	-	-	-	-	-	98,444	-
Period 4e Collateral Costs																					
4e.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
4e.3	*Subtotal Period 4e Collateral Costs*	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
Period 4e Period-Dependent Costs																					
4e.4.1	Insurance	-	-	-	-	-	-	541	54	595	595	-	-	-	-	-	-	-	-	-	-
4e.4.2	Property taxes	-	-	-	-	-	-	753	75	828	828	-	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	464	-	-	-	-	-	116	580	580	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	4	1	-	17	-	5	27	27	-	-	-	305	-	-	-	6,105	75	-
4e.4.5	Plant energy budget	-	-	-	-	-	-	94	14	108	108	-	-	-	-	-	-	-	-	-	-
4e.4.6	NRC Fees	-	-	-	-	-	-	327	33	359	359	-	-	-	-	-	-	-	-	-	-
4e.4.7	Site O&M Cost	-	-	-	-	-	-	188	28	216	216	-	-	-	-	-	-	-	-	-	-
4e.4.8	Security Staff Cost	-	-	-	-	-	-	232	35	267	267	-	-	-	-	-	-	-	-	-	14,143
4e.4.9	DOC Staff Cost	-	-	-	-	-	-	4,090	614	4,704	4,704	-	-	-	-	-	-	-	-	-	62,857
4e.4.10	Utility Staff Cost	-	-	-	-	-	-	5,019	753	5,772	5,772	-	-	-	-	-	-	-	-	-	69,536
4e.4	Subtotal Period 4e Period-Dependent Costs	-	464	4	1	-	17	11,244	1,726	13,457	13,457	-	-	-	305	-	-	-	6,105	75	146,536
4e.0	TOTAL PERIOD 4e COST	-	464	4	1	-	17	17,028	3,297	20,811	20,811	-	-	-	305	-	-	-	6,105	98,519	146,536
PERIOD 4 TOTALS		5,996	37,134	7,325	3,136	35,952	42,919	86,989	47,402	266,855	263,569	1,929	1,357	433,177	214,712	3,832	287	411	38,607,250	737,821	1,220,253

Table D
Oyster Creek Nuclear Generating Station
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(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Stack/Exhaust Tunnels - Remove & Decon	-	824	-	-	-	-	-	124	947	947	-	-	-	-	-	-	-	-	2,421	-
5b.1.1.2	Administration Building	-	441	-	-	-	-	-	66	507	-	-	507	-	-	-	-	-	-	8,313	-
5b.1.1.3	Augmented Off Gas Building	-	241	-	-	-	-	-	36	277	-	-	277	-	-	-	-	-	-	3,466	-
5b.1.1.4	Chlorination Building	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	434	-
5b.1.1.5	Diesel Generator Building	-	91	-	-	-	-	-	14	105	-	-	105	-	-	-	-	-	-	1,197	-
5b.1.1.6	Dilution Structure	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,723	-
5b.1.1.7	Domestic Water Facility	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	176	-
5b.1.1.8	Fire Pump House	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	64	-
5b.1.1.9	Fresh Water Pump House	-	18	-	-	-	-	-	3	21	-	-	21	-	-	-	-	-	-	330	-
5b.1.1.10	Heating Boiler House	-	32	-	-	-	-	-	5	37	-	-	37	-	-	-	-	-	-	578	-
5b.1.1.11	Intake Structure	-	383	-	-	-	-	-	57	440	-	-	440	-	-	-	-	-	-	5,856	-
5b.1.1.12	Low Level Radwaste Storage	-	304	-	-	-	-	-	46	350	-	-	350	-	-	-	-	-	-	4,918	-
5b.1.1.13	Machine Shop	-	177	-	-	-	-	-	27	203	-	-	203	-	-	-	-	-	-	3,021	-
5b.1.1.14	Main Gate Security	-	82	-	-	-	-	-	12	95	-	-	95	-	-	-	-	-	-	1,257	-
5b.1.1.15	Maintenance Building	-	275	-	-	-	-	-	41	316	-	-	316	-	-	-	-	-	-	4,943	-
5b.1.1.16	Materials Warehouse	-	692	-	-	-	-	-	104	796	-	-	796	-	-	-	-	-	-	10,317	-
5b.1.1.17	Miscellaneous Structures	-	304	-	-	-	-	-	46	349	-	-	349	-	-	-	-	-	-	4,607	-
5b.1.1.18	New Radwaste Building	-	480	-	-	-	-	-	72	552	-	-	552	-	-	-	-	-	-	7,334	-
5b.1.1.19	New Sample Pump House	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	148	-
5b.1.1.20	Office Building	-	214	-	-	-	-	-	32	246	-	-	246	-	-	-	-	-	-	3,675	-
5b.1.1.21	Old Radwaste Building	-	361	-	-	-	-	-	54	415	-	-	415	-	-	-	-	-	-	5,458	-
5b.1.1.22	Plant Engineering	-	139	-	-	-	-	-	21	160	-	-	160	-	-	-	-	-	-	2,120	-
5b.1.1.23	Pretreatment Building	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	495	-
5b.1.1.24	Reactor Building	-	4,157	-	-	-	-	-	624	4,781	-	-	4,781	-	-	-	-	-	-	83,446	-
5b.1.1.25	Sample Pool	-	12	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	201	-
5b.1.1.26	Site Emergency Building	-	250	-	-	-	-	-	38	288	-	-	288	-	-	-	-	-	-	3,940	-
5b.1.1.27	Tank Pads & Misc. Yard	-	698	-	-	-	-	-	105	803	-	-	803	-	-	-	-	-	-	9,514	-
5b.1.1.28	Turbine Building	-	3,438	-	-	-	-	-	516	3,954	-	-	3,954	-	-	-	-	-	-	51,425	-
5b.1.1.29	Turbine Pedestal	-	407	-	-	-	-	-	61	468	-	-	468	-	-	-	-	-	-	5,050	-
5b.1.1	Totals	-	14,211	-	-	-	-	-	2,132	16,343	947	-	15,396	-	-	-	-	-	-	206,426	-
Site Closeout Activities																					
5b.1.2	Remove Rubble	-	6,680	-	-	-	-	-	1,002	7,682	-	-	7,682	-	-	-	-	-	-	10,759	-
5b.1.3	Grade & landscape site	-	345	-	-	-	-	-	52	397	-	-	397	-	-	-	-	-	-	1,483	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	117	18	134	134	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	21,236	-	-	-	-	117	3,203	24,556	1,082	-	23,474	-	-	-	-	-	-	218,668	1,560
Period 5b Additional Costs																					
5b.2.1	Concrete Crushing	-	430	-	5	-	-	-	65	499	-	-	499	-	-	-	-	-	-	2,857	-
5b.2.2	ISFSI Site Restoration	-	197	-	-	-	-	36	35	268	-	268	-	-	-	-	-	-	-	1,439	160
5b.2	Subtotal Period 5b Additional Costs	-	627	-	5	-	-	36	100	768	-	268	499	-	-	-	-	-	-	4,296	160
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	162	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	162	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	-	-

Table D
Oyster Creek Nuclear Generating Station
Delayed DECON Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	882	88	971	-	-	971	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	1,552	155	1,706	-	-	1,706	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	3,327	-	-	-	-	-	499	3,826	-	-	3,826	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	97	15	112	-	-	112	-	-	-	-	-	-	-	-
5b.4.5	Site O&M Cost	-	-	-	-	-	-	388	58	446	-	-	446	-	-	-	-	-	-	-	-
5b.4.6	Security Staff Cost	-	-	-	-	-	-	479	72	551	-	-	551	-	-	-	-	-	-	-	29,160
5b.4.7	DOC Staff Cost	-	-	-	-	-	-	6,510	977	7,487	-	-	7,487	-	-	-	-	-	-	-	98,820
5b.4.8	Utility Staff Cost	-	-	-	-	-	-	3,409	511	3,920	-	-	3,920	-	-	-	-	-	-	-	48,600
5b.4	*Subtotal Period 5b Period-Dependent Costs*	-	3,327	-	-	-	-	13,318	2,375	19,020	-	-	19,020	-	-	-	-	-	-	-	176,580
5b.0	TOTAL PERIOD 5b COST	-	25,352	-	5	-	-	13,471	5,702	44,530	1,082	268	43,181	-	-	-	-	-	-	222,964	178,300
PERIOD 5 TOTALS		-	25,352	-	5	-	-	13,471	5,702	44,530	1,082	268	43,181	-	-	-	-	-	-	222,964	178,300
TOTAL COST TO DECOMMISSION		12,632	77,054	7,554	3,645	38,144	45,618	353,877	96,745	635,270	414,583	175,539	45,148	462,227	241,496	6,686	267	411	41,125,880	1,220,234	4,122,036

TOTAL COST TO DECOMMISSION WITH 17.96% CONTINGENCY:	$635,270	thousands of 2003 dollars
TOTAL NRC LICENSE TERMINATION COST IS 65.26% OR	$414,583	thousands of 2003 dollars
SPENT FUEL MANAGEMENT COST IS 27.63% OR:	$175,539	thousands of 2003 dollars
NON-NUCLEAR DEMOLITION COST IS 7.11% OR:	$45,148	thousands of 2003 dollars
TOTAL PRIMARY SITE RADWASTE VOLUME BURIED	44,881	cubic Feet
TOTAL SECONDARY SITE RADWASTE VOLUME BURIED	203,610	cubic Feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED	411	cubic Feet
TOTAL SCRAP METAL REMOVED:	22,651	tons
TOTAL CRAFT LABOR REQUIREMENTS:	1,220,234	man-hours

End Notes:
n/a - Indicates that this activity not charged as decommissioning expense.
a - Indicates that this activity performed by decommissioning staff.
0 - Indicates that this value is less than 0.5 but is non-zero.
a cell containing " - " indicates a zero value

APPENDIX E

DETAILED COST ANALYSES

SAFSTOR

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	292	88	380	380	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	112	17	129	129	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	232	35	267	267	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	375	56	431	431	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	369	55	424	424	-	-	-	-	-	-	-	-	-	4,920
1a.1.16.2	Plant systems	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	234	35	269	269	-	-	-	-	-	-	-	-	-	3,120
1a.1.16.4	Waste management	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
1a.1.16	Total	-	-	-	-	-	-	1,214	182	1,396	1,396	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	89	13	102	102	-	-	-	-	-	-	-	-	-	1,183
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	90	13	103	103	-	-	-	-	-	-	-	-	-	1,200
1a.1.17	Total	-	-	-	-	-	-	179	27	205	205	-	-	-	-	-	-	-	-	-	2,383
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	7	1	9	9	-	-	-	-	-	-	-	-	-	100
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,980	491	3,471	3,471	-	-	-	-	-	-	-	-	-	35,890
Period 1a Collateral Costs																					
1a 3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	10,307	1,546	11,853	-	11,853	-	-	-	-	-	-	-	-	-
1a 3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,307	1,546	11,853	-	11,853	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a 4.1	Insurance	-	-	-	-	-	-	1,734	173	1,907	1,907	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	221	-	-	-	-	-	55	276	276	-	-	-	-	-	-	-	-	-	-
1a 4.4	Heavy equipment rental	-	288	-	-	-	-	-	43	331	331	-	-	-	-	-	-	-	-	-	-
1a 4.5	Disposal of DAW generated	-	-	5	1	-	23	-	6	35	35	-	-	-	404	-	-	-	8,103	99	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	625	94	719	719	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	371	37	408	408	-	-	-	-	-	-	-	-	-	-
1a 4 8	Emergency Planning Fees	-	-	-	-	-	-	101	10	111	-	111	-	-	-	-	-	-	-	-	-
1a.4.9	Site O&M Cost	-	-	-	-	-	-	250	37	287	287	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	968	145	1,113	-	1,113	-	-	-	-	-	-	-	-	-
1a 4.11	ISFSI Operating Costs	-	-	-	-	-	-	71	11	82	-	82	-	-	-	-	-	-	-	-	-
1a 4.12	Security Staff Cost	-	-	-	-	-	-	968	145	1,114	1,114	-	-	-	-	-	-	-	-	-	58,921
1a.4.13	Utility Staff Cost	-	-	-	-	-	-	24,422	3,663	28,085	28,085	-	-	-	-	-	-	-	-	-	-387,421
1a 4	Subtotal Period 1a Period-Dependent Costs	-	509	5	1	-	23	29,510	4,421	34,470	33,164	1,306	-	-	404	-	-	-	8,103	99	446,343
1a.0	TOTAL PERIOD 1a COST	-	509	5	1	-	23	42,798	6,458	49,794	36,635	13,159	-	-	404	-	-	-	8,103	99	482,233

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	New Radwaste Building - Systems Removal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
1b.1.1.2	Old Radwaste Building - Systems Removal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
1b.1.1.3	Augmented Off Gas - Decon	2	-	-	-	-	-	-	1	3	3	-	-	-	-	-	-	-	-	37	-
1b.1.1.4	Drywell - Liner Removal	1,629	-	-	-	-	-	-	814	2,443	2,443	-	-	-	-	-	-	-	-	32,453	-
1b.1.1.5	RBG - Torus Removal	2,184	-	-	-	-	-	-	1,092	3,275	3,275	-	-	-	-	-	-	-	-	43,506	-
1b.1.1.6	Reactor Building -19ft - Decon	5	-	-	-	-	-	-	3	8	8	-	-	-	-	-	-	-	-	109	-
1b.1.1.7	Stack/Exhaust Tunnels - Remove & Decon	42	-	-	-	-	-	-	21	63	63	-	-	-	-	-	-	-	-	952	-
1b.1.1.8	Turbine Building 0ft - Decon	8	-	-	-	-	-	-	4	12	12	-	-	-	-	-	-	-	-	155	-
1b.1.1.9	Reactor Building 119ft - Decon	341	-	-	-	-	-	-	170	511	511	-	-	-	-	-	-	-	-	6,782	-
1b.1.1	Totals	4,210	-	-	-	-	-	-	2,105	6,315	6,315	-	-	-	-	-	-	-	-	83,995	-
1b.1	Subtotal Period 1b Activity Costs	4,210	-	-	-	-	-	-	2,105	6,315	6,315	-	-	-	-	-	-	-	-	83,995	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,115	1,217	9,332	9,332	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	8,115	1,217	9,332	9,332	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	628	-	-	-	-	-	-	94	723	723	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process liquid waste	196	-	65	175	-	734	-	314	1,485	1,485	-	-	-	-	1,348	-	-	169,933	265	-
1b.3.3	Small tool allowance	-	68	-	-	-	-	-	10	78	78	-	-	-	-	-	-	-	-	-	-
1b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	2,577	387	2,963	-	2,963	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	824	68	65	175	-	734	2,577	805	5,248	2,285	2,963	-	-	-	1,348	-	-	169,933	265	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	735	-	-	-	-	-	-	184	919	919	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	437	44	481	481	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	527	53	579	579	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	311	-	-	-	-	-	78	388	388	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	73	-	-	-	-	-	11	84	84	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	1	0	-	7	-	2	10	10	-	-	-	117	-	-	-	2,339	29	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	158	24	181	181	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	94	9	103	103	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	25	3	28	-	28	-	-	-	-	-	-	-	-	-
1b.4.10	Site O&M Cost	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	244	37	281	-	281	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	18	3	21	-	21	-	-	-	-	-	-	-	-	-
1b.4.13	Security Staff Cost	-	-	-	-	-	-	244	37	281	281	-	-	-	-	-	-	-	-	-	14,851
1b.4.14	Utility Staff Cost	-	-	-	-	-	-	4,536	680	5,216	5,216	-	-	-	-	-	-	-	-	-	72,417
1b.4	Subtotal Period 1b Period-Dependent Costs	735	383	1	0	-	7	6,345	1,172	8,644	8,315	329	-	-	117	-	-	-	2,339	29	87,269
1b.0	TOTAL PERIOD 1b COST	5,770	451	67	176	-	740	17,037	5,299	29,539	26,247	3,292	-	-	117	1,348	-	-	172,272	84,289	87,269
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	409	-	-	-	-	-	61	470	470	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	19,098	-
1c.1.4	Secure building accesses									a											
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	44	7	50	50	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	446	-	-	-	-	777	293	1,515	1,515	-	-	-	-	-	-	-	-	22,798	583

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 1c Collateral Costs																					
1c.3.1	Process liquid waste	219	-	73	198	-	813	-	349	1,650	1,650	-	-	-	-	1,506	-	-	189,882	296	-
1c.3.2	Small tool allowance	-	3	-	-	-	-	-	0	4	4	-	-	-	-	-	-	-	-	-	-
1c.3.3	Spent Fuel Capital and Transfer	-	-	-	-	-	-	2,577	387	2,963	-	2,963	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	219	3	73	198	-	813	2,577	736	4,617	1,654	2,963	-	-	-	1,506	-	-	189,882	296	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	432	43	475	475	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	521	52	573	573	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	125	-	-	-	-	-	31	156	156	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	72	-	-	-	-	-	11	83	83	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	1	0	-	6	-	2	9	9	-	-	-	101	-	-	-	2,020	25	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	156	23	179	179	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	93	9	102	102	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	25	3	28	-	28	-	-	-	-	-	-	-	-	-
1c.4.9	Site O&M Cost	-	-	-	-	-	-	62	9	72	72	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	241	36	278	-	278	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	18	3	20	-	20	-	-	-	-	-	-	-	-	-
1c.4.12	Security Staff Cost	-	-	-	-	-	-	241	36	278	278	-	-	-	-	-	-	-	-	-	14,690
1c.4.13	Utility Staff Cost	-	-	-	-	-	-	4,431	665	5,096	5,096	-	-	-	-	-	-	-	-	-	71,630
1c.4	Subtotal Period 1c Period-Dependent Costs	-	197	1	0	-	6	6,221	923	7,348	7,023	326	-	-	101	-	-	-	2,020	25	86,320
1c.0	TOTAL PERIOD 1c COST	219	646	74	198	-	819	9,574	1,953	13,481	10,192	3,289	-	-	101	1,506	-	-	191,902	23,119	86,903
PERIOD 1 TOTALS		5,988	1,606	146	373	-	1,582	69,409	13,710	92,814	73,074	19,740	-	-	822	2,855	-	-	372,277	107,508	656,405
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	152	23	175	-	175	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	503	75	579	-	579	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	655	98	754	-	754	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	36,039	5,406	41,445	-	41,445	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	36,039	5,406	41,445	-	41,445	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	3,361	336	3,697	-	3,697	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	4,000	400	4,400	-	4,400	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	221	-	-	-	-	-	55	276	-	276	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	19	4	-	93	-	26	142	-	142	-	-	1,619	-	-	-	32,434	397	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,877	282	2,158	-	2,158	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	1,361	136	1,497	-	1,497	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	404	40	444	-	444	-	-	-	-	-	-	-	-	-
2a.4.8	Site O&M Cost	-	-	-	-	-	-	1,000	150	1,150	-	1,150	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	3,875	581	4,456	-	4,456	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	284	43	327	-	327	-	-	-	-	-	-	-	-	-
2a.4.11	Security Staff Cost	-	-	-	-	-	-	2,127	319	2,446	-	2,446	-	-	-	-	-	-	-	-	129,403
2a.4.12	Utility Staff Cost	-	-	-	-	-	-	15,739	2,361	18,100	-	18,100	-	-	-	-	-	-	-	-	242,109
2a.4	Subtotal Period 2a Period-Dependent Costs	-	221	19	4	-	93	34,028	4,729	39,094	-	39,094	-	-	1,619	-	-	-	32,434	397	371,511
2a.0	TOTAL PERIOD 2a COST	-	221	19	4	-	93	70,723	10,233	81,293	-	81,293	-	-	1,619	-	-	-	32,434	397	371,511

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection									a											
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	504	76	579	-	579	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	1,664	250	1,913	-	1,913	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	2,167	325	2,492	-	2,492	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	6,200	930	7,130	-	7,130	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	6,200	930	7,130	-	7,130	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	9,497	950	10,447	-	10,447	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	13,227	1,323	14,549	-	14,549	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	731	-	-	-	-	-	183	914	-	914	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	63	14	-	307	-	85	469	-	469	-	-	5,352	-	-	-	107,248	1,314	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	827	124	952	-	952	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	4,500	450	4,950	-	4,950	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	1,336	134	1,469	-	1,469	-	-	-	-	-	-	-	-	-
2b.4.8	Site O&M Cost	-	-	-	-	-	-	3,307	496	3,803	-	3,803	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	939	141	1,080	-	1,080	-	-	-	-	-	-	-	-	-
2b.4.10	Security Staff Cost	-	-	-	-	-	-	4,763	715	5,478	-	5,478	-	-	-	-	-	-	-	-	289,860
2b.4.11	Utility Staff Cost	-	-	-	-	-	-	33,368	5,005	38,373	-	38,373	-	-	-	-	-	-	-	-	490,001
2b.4	Subtotal Period 2b Period-Dependent Costs	-	731	63	14	-	307	71,764	9,605	82,484	-	82,484	-	-	5,352	-	-	-	107,248	1,314	779,861
2b.0	TOTAL PERIOD 2b COST	-	731	63	14	-	307	80,131	10,860	92,106	-	92,106	-	-	5,352	-	-	-	107,248	1,314	779,861
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly Inspection									a											
2c.1.2	Semi-annual environmental survey									a											
2c.1.3	Prepare reports									a											
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	1,396	209	1,605	1,605	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	4,611	692	5,303	5,303	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	6,007	901	6,907	6,907	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	23,020	2,302	25,322	25,322	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	36,657	3,666	40,323	40,323	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	2,026	-	-	-	-	-	506	2,532	2,532	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	175	39	-	851	-	236	1,301	1,301	-	-	-	14,833	-	-	-	297,236	3,642	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	2,293	344	2,637	2,637	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	12,471	1,247	13,718	13,718	-	-	-	-	-	-	-	-	-	-
2c.4.7	Site O&M Cost	-	-	-	-	-	-	9,164	1,375	10,539	10,539	-	-	-	-	-	-	-	-	-	-
2c.4.8	Security Staff Cost	-	-	-	-	-	-	6,601	990	7,591	7,591	-	-	-	-	-	-	-	-	-	401,670
2c.4.9	Utility Staff Cost	-	-	-	-	-	-	84,712	12,707	97,419	97,419	-	-	-	-	-	-	-	-	-	1,224,137
2c.4	Subtotal Period 2c Period-Dependent Costs	-	2,026	175	39	-	851	174,919	23,373	201,383	201,383	-	-	-	14,833	-	-	-	297,236	3,642	1,625,807
2c.0	TOTAL PERIOD 2c COST	-	2,026	175	39	-	851	180,925	24,274	206,290	206,290	-	-	-	14,833	-	-	-	297,236	3,642	1,625,807
PERIOD 2 TOTALS		-	2,978	257	57	-	1,251	331,779	45,367	381,689	206,290	173,399	-	-	21,803	-	-	-	436,918	5,353	2,777,180

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	345	52	396	396	-	-	-	-	-	-	-	-	-	4,600
3a.1.3	Perform detailed rad survey									a											
3a.1.4	End product description	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	97	15	112	112	-	-	-	-	-	-	-	-	-	1,300
3a.1.6	Define major work sequence	-	-	-	-	-	-	562	84	646	646	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	232	35	267	267	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	375	56	431	431	-	-	-	-	-	-	-	-	-	5,000
3a.1.9	Prepare/submit License Termination Plan	-	-	-	-	-	-	307	46	353	353	-	-	-	-	-	-	-	-	-	4,096
3a.1.10	Receive NRC approval of termination plan									a											
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	552	83	635	571	-	63	-	-	-	-	-	-	-	7,370
3a.1.11.2	Plant systems	-	-	-	-	-	-	312	47	359	323	-	36	-	-	-	-	-	-	-	4,167
3a.1.11.3	Reactor internals	-	-	-	-	-	-	532	80	612	612	-	-	-	-	-	-	-	-	-	7,100
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	487	73	560	560	-	-	-	-	-	-	-	-	-	6,500
3a.1.11.5	Sacrificial shield	-	-	-	-	-	-	37	6	43	43	-	-	-	-	-	-	-	-	-	500
3a.1.11.6	Moisture separators/reheaters	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	120	18	138	69	-	69	-	-	-	-	-	-	-	1,600
3a.1.11.8	Turbine & condenser	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
3a.1.11.9	Pressure suppression structure	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
3a.1.11.10	Drywell	-	-	-	-	-	-	120	18	138	138	-	-	-	-	-	-	-	-	-	1,600
3a.1.11.11	Plant structures & buildings	-	-	-	-	-	-	234	35	269	134	-	134	-	-	-	-	-	-	-	3,120
3a.1.11.12	Waste management	-	-	-	-	-	-	345	52	396	396	-	-	-	-	-	-	-	-	-	4,600
3a.1.11.13	Facility & site closeout	-	-	-	-	-	-	67	10	78	39	-	39	-	-	-	-	-	-	-	900
3a.1.11	Total	-	-	-	-	-	-	3,342	501	3,844	3,502	-	341	-	-	-	-	-	-	-	44,624
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	2,400
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	2,419	363	2,782	2,782	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	105	16	121	121	-	-	-	-	-	-	-	-	-	1,400
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,048	307	2,355	2,355	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	92	14	106	106	-	-	-	-	-	-	-	-	-	1,230
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	10,275	1,541	11,817	11,475	-	341	-	-	-	-	-	-	-	77,550
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	718	72	789	789	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	999	100	1,099	1,099	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	221	-	-	-	-	-	55	276	276	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	288	-	-	-	-	-	43	331	331	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	5	1	-	23	-	6	35	35	-	-	-	404	-	-	-	8,103	99	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	469	70	539	539	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	371	37	408	408	-	-	-	-	-	-	-	-	-	-
3a.4.8	Site O&M Cost	-	-	-	-	-	-	250	37	287	287	-	-	-	-	-	-	-	-	-	-
3a.4.9	Security Staff Cost	-	-	-	-	-	-	446	67	512	512	-	-	-	-	-	-	-	-	-	27,114
3a.4.10	Utility Staff Cost	-	-	-	-	-	-	16,376	2,456	18,833	18,833	-	-	-	-	-	-	-	-	-	261,236
3a.4	Subtotal Period 3a Period-Dependent Costs	-	509	5	1	-	23	19,629	2,945	23,112	23,112	-	-	-	404	-	-	-	8,103	99	288,350
3a.0	TOTAL PERIOD 3a COST	-	509	5	1	-	23	29,904	4,486	34,928	34,587	-	341	-	404	-	-	-	8,103	99	365,900

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt, Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	355	53	408	367	-	41	-	-	-	-	-	-	-	4,733
3b.1.1.2	Reactor internals	-	-	-	-	-	-	300	45	345	345	-	-	-	-	-	-	-	-	-	4,000
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	101	15	116	29	-	87	-	-	-	-	-	-	-	1,350
3b.1.1.4	CRD housings & NIs	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.5	Incore instrumentation	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.6	Removal primary containment	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	272	41	313	313	-	-	-	-	-	-	-	-	-	3,630
3b.1.1.8	Facility closeout	-	-	-	-	-	-	90	13	103	52	-	52	-	-	-	-	-	-	-	1,200
3b.1.1.9	Sacrificial shield	-	-	-	-	-	-	90	13	103	103	-	-	-	-	-	-	-	-	-	1,200
3b.1.1.10	Reinforced concrete	-	-	-	-	-	-	75	11	86	43	-	43	-	-	-	-	-	-	-	1,000
3b.1.1.11	Turbine & condensers	-	-	-	-	-	-	312	47	359	359	-	-	-	-	-	-	-	-	-	4,167
3b.1.1.12	Moisture separators & reheaters	-	-	-	-	-	-	150	22	172	172	-	-	-	-	-	-	-	-	-	2,000
3b.1.1.13	Radwaste building	-	-	-	-	-	-	204	31	235	212	-	24	-	-	-	-	-	-	-	2,730
3b.1.1.14	Reactor building	-	-	-	-	-	-	204	31	235	212	-	24	-	-	-	-	-	-	-	2,730
3b.1.1	Total	-	-	-	-	-	-	2,452	368	2,820	2,550	-	270	-	-	-	-	-	-	-	32,740
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	2,452	368	2,820	2,550	-	270	-	-	-	-	-	-	-	32,740
Period 3b Additional Costs																					
3b.2.1	Site Characterization	-	-	-	-	-	-	3,152	946	4,098	4,098	-	-	-	-	-	-	-	-	-	-
3b.2.2	Disposition of Liquid RCRA Waste (not lead)	-	-	-	9	529	-	-	81	618	618	-	-	2,019	-	-	-	-	115,076	-	-
3b.2.3	Disposition of PCB Soil RCRA Waste (not lead)	-	-	-	58	1,620	-	-	252	1,930	1,930	-	-	27,000	-	-	-	-	1,620,000	-	-
3b.2.4	Disposition of Lead Inventory	-	-	-	2	44	-	-	7	53	53	-	-	31	-	-	-	-	22,080	-	-
3b.2.5	Asbestos Remediation	-	9,791	1	43	-	716	-	2,833	13,184	13,184	-	-	-	19,193	-	-	-	249,515	150,230	-
3b.2	Subtotal Period 3b Additional Costs	-	9,791	1	113	2,192	716	3,152	3,918	19,883	19,883	-	-	29,050	19,193	-	-	-	2,006,671	150,230	-
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	628	-	-	-	-	-	-	94	723	723	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
3b.3.3	Small tool allowance	-	126	-	-	-	-	-	19	145	145	-	-	-	-	-	-	-	-	-	-
3b.3.4	Pipe cutting equipment	-	957	-	-	-	-	-	143	1,100	1,100	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	628	1,082	-	-	-	-	1,097	421	3,228	3,228	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	19	-	-	-	-	-	-	5	24	24	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	360	36	396	396	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	501	50	551	551	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	565	-	-	-	-	-	141	707	707	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	145	-	-	-	-	-	22	166	166	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	2	1	-	12	-	3	18	18	-	-	-	203	-	-	-	4,063	50	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	235	35	270	270	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	186	19	205	205	-	-	-	-	-	-	-	-	-	-
3b.4.9	Site O&M Cost	-	-	-	-	-	-	125	19	144	144	-	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	223	34	257	257	-	-	-	-	-	-	-	-	-	13,594
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	3,383	507	3,890	3,890	-	-	-	-	-	-	-	-	-	52,286
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	8,376	1,256	9,632	9,632	-	-	-	-	-	-	-	-	-	134,113
3b.4	Subtotal Period 3b Period-Dependent Costs	19	710	2	1	-	12	13,389	2,127	16,260	16,260	-	-	-	203	-	-	-	4,063	50	199,993
3b.0	TOTAL PERIOD 3b COST	648	11,584	3	113	2,192	728	20,090	6,834	42,192	41,922	-	270	29,050	19,396	-	-	-	2,010,734	150,280	232,733
PERIOD 3 TOTALS		648	12,093	8	114	2,192	751	49,994	11,320	77,120	76,509	-	611	29,050	19,800	-	-	-	2,018,837	150,379	598,633

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Recirculation Pumps & Motors	7	77	33	15	247	383	-	161	923	923	-	-	633	527	-	-	-	227,150	2,156	-
4a.1.1.2	CRDMs & NIs Removal	27	124	183	17	-	419	-	170	940	940	-	-	-	5,179	-	-	-	112,850	3,338	-
4a.1.1.3	Reactor Vessel Internals	84	1,741	2,685	462	-	2,604	132	3,457	11,164	11,164	-	-	-	1,502	1,377	287	-	300,825	17,509	832
4a.1.1.4	Vessel & Internals GTCC Disposal	-	-	300	-	-	5,501	-	855	6,657	6,657	-	-	-	-	-	-	411	72,900	-	-
4a.1.1.5	Reactor Vessel	-	4,318	778	209	-	5,169	132	6,089	16,694	16,694	-	-	-	16,203	-	-	-	1,654,750	17,509	832
4a.1.1	Totals	119	6,261	3,978	702	247	14,076	263	10,732	36,378	36,378	-	-	633	23,411	1,377	287	411	2,368,475	40,512	1,665
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	232	549	151	5,284	-	-	928	7,144	7,144	-	-	59,003	-	-	-	-	2,855,154	4,957	-
4a.1.3	Main Condensers	-	714	342	94	3,290	-	-	720	5,159	5,159	-	-	36,736	-	-	-	-	1,653,126	15,160	-
Disposal of Plant Systems																					
Drywell System Components																					
4a.1.4	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reactor Building System Components																					
4a.1.5.1	RC1/RC3	-	3	-	-	1	-	-	1	5	5	-	-	14	-	-	-	-	577	63	-
4a.1.5.2	RCA	-	30	1	1	12	21	-	15	80	80	-	-	147	64	-	-	-	11,731	689	-
4a.1.5.3	RCB	-	45	1	1	41	5	-	19	112	112	-	-	501	16	-	-	-	21,819	1,009	-
4a.1.5.4	RCD	-	240	4	9	321	-	-	110	683	683	-	-	3,974	-	-	-	-	161,384	5,273	-
4a.1.5.5	RCG	-	46	1	3	92	-	-	26	167	167	-	-	1,136	-	-	-	-	46,136	1,020	-
4a.1.5.6	RCJ	-	48	1	1	50	-	-	20	120	120	-	-	617	-	-	-	-	25,044	1,068	-
4a.1.5.7	RCM	-	73	1	3	120	-	-	37	235	235	-	-	1,481	-	-	-	-	60,136	1,636	-
4a.1.5.8	RCN	-	165	2	5	170	-	-	68	410	410	-	-	2,107	-	-	-	-	85,581	3,610	-
4a.1.5.9	RCS	-	58	4	3	51	110	-	51	277	277	-	-	636	330	-	-	-	55,442	1,313	-
4a.1.5.10	RCT	-	37	0	1	38	-	-	15	91	91	-	-	464	-	-	-	-	18,658	807	-
4a.1.5	Totals	-	745	15	27	895	137	-	360	2,179	2,179	-	-	11,078	412	-	-	-	486,708	16,488	-
New Radwaste Building System Components																					
4a.1.6.1	7EB	-	106	2	2	29	65	-	48	253	253	-	-	362	196	-	-	-	32,343	2,373	-
4a.1.6.2	N2G	-	8	-	0	4	-	-	3	15	15	-	-	49	-	-	-	-	2,007	178	-
4a.1.6.3	N2P	-	19	0	1	28	-	-	9	57	57	-	-	341	-	-	-	-	13,830	406	-
4a.1.6.4	N3A	-	46	0	1	32	-	-	16	96	96	-	-	398	-	-	-	-	16,151	999	-
4a.1.6.5	N3D	-	55	0	1	41	-	-	20	117	117	-	-	501	-	-	-	-	20,362	1,237	-
4a.1.6.6	N3I	-	11	-	-	2	1	-	3	18	18	-	-	27	3	-	-	-	1,368	259	-
4a.1.6.7	N3N	-	67	0	1	36	-	-	22	127	127	-	-	447	-	-	-	-	18,140	1,492	-
4a.1.6.8	N3P	-	17	0	0	14	-	-	7	39	39	-	-	179	-	-	-	-	7,267	374	-
4a.1.6.9	N3Q	-	12	-	0	6	-	-	4	22	22	-	-	80	-	-	-	-	3,260	261	-
4a.1.6.10	N3R	-	12	-	0	8	-	-	4	24	24	-	-	97	-	-	-	-	3,934	256	-
4a.1.6.11	N3S	-	17	0	0	15	-	-	7	40	40	-	-	187	-	-	-	-	7,583	387	-
4a.1.6.12	N3T	-	11	-	0	5	-	-	3	19	19	-	-	58	-	-	-	-	2,357	240	-
4a.1.6.13	N3U	-	78	4	3	49	107	-	54	293	293	-	-	610	326	-	-	-	53,705	1,673	-
4a.1.6.14	N3W	-	79	4	3	52	118	-	58	315	315	-	-	643	359	-	-	-	58,024	1,740	-
4a.1.6.15	N3Y	-	143	3	7	247	-	-	74	474	474	-	-	3,054	-	-	-	-	124,028	3,141	-
4a.1.6.16	N51	-	27	0	1	19	-	-	10	57	57	-	-	239	-	-	-	-	9,707	621	-
4a.1.6.17	N52	-	23	0	0	10	8	-	10	52	52	-	-	121	28	-	-	-	7,154	539	-
4a.1.6.18	N53	-	40	1	1	20	15	-	17	93	93	-	-	248	52	-	-	-	14,050	915	-
4a.1.6.19	N54	-	12	0	0	4	6	-	5	26	26	-	-	46	19	-	-	-	3,347	259	-
4a.1.6.20	N55	-	50	0	1	33	-	-	18	102	102	-	-	414	-	-	-	-	16,809	1,114	-
4a.1.6.21	N56	-	74	1	2	59	-	-	28	164	164	-	-	734	-	-	-	-	29,828	1,527	-
4a.1.6.22	N5A	-	28	1	1	18	16	-	14	78	78	-	-	226	60	-	-	-	13,435	644	-
4a.1.6.23	N5B	-	27	0	1	25	-	-	10	63	63	-	-	307	-	-	-	-	12,485	603	-
4a.1.6.24	N5C	-	12	-	0	9	-	-	4	26	26	-	-	106	-	-	-	-	4,294	267	-
4a.1.6.25	N5D	-	19	0	0	12	-	-	7	39	39	-	-	152	-	-	-	-	6,190	426	-

Table E
Oyster Creek Nuclear Generating Station
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(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
New Radwaste Building System Components (continued)																					
4a.1.6.26	N5E	-	13	0	0	9	-	-	5	27	27	-	-	110	-	-	-	-	4,453	278	-
4a.1.6.27	N5F	-	19	0	0	7	9	-	8	44	44	-	-	91	27	-	-	-	6,103	411	-
4a.1.6.28	N5G	-	9	-	-	3	-	-	3	15	15	-	-	40	-	-	-	-	1,645	205	-
4a.1.6.29	N5H	-	8	0	-	0	5	-	3	17	17	-	-	5	15	-	-	-	1,556	172	-
4a.1.6.30	N5I	-	11	-	0	4	-	-	3	18	18	-	-	51	-	-	-	-	2,090	238	-
4a.1.6.31	N5J	-	8	0	0	11	-	-	4	23	23	-	-	131	-	-	-	-	5,328	187	-
4a.1.6.32	N5K	-	10	-	0	8	-	-	4	20	20	-	-	75	-	-	-	-	3,050	224	-
4a.1.6.33	N5N	-	19	0	0	12	-	-	7	38	38	-	-	143	-	-	-	-	5,803	433	-
4a.1.6.34	N5O	-	49	1	2	54	-	-	21	127	127	-	-	670	-	-	-	-	27,221	1,083	-
4a.1.6.35	N5P	-	19	1	1	15	12	-	10	57	57	-	-	183	48	-	-	-	10,712	419	-
4a.1.6.36	N5Q	-	18	1	1	15	12	-	10	56	56	-	-	182	47	-	-	-	10,615	413	-
4a.1.6.37	N5S	-	44	2	5	177	-	-	39	267	267	-	-	2,195	-	-	-	-	89,151	989	-
4a.1.6.38	N5T	-	49	1	1	49	8	-	22	131	131	-	-	606	28	-	-	-	28,708	1,116	-
4a.1.6.39	N5U	-	50	1	1	49	8	-	22	131	131	-	-	607	28	-	-	-	28,787	1,128	-
4a.1.6.40	N5Y	-	24	0	0	12	4	-	9	49	49	-	-	153	12	-	-	-	7,230	545	-
4a.1.6.41	N5Z	-	24	0	0	12	4	-	9	49	49	-	-	153	12	-	-	-	7,230	545	-
4a.1.6.42	PPA	-	51	1	1	38	18	-	23	132	132	-	-	468	53	-	-	-	23,775	1,127	-
4a.1.6	Totals	-	1,417	29	41	1,252	415	-	655	3,809	3,809	-	-	15,491	1,314	-	-	-	741,095	31,443	-
Old Radwaste Building System Components																					
4a.1.7.1	7BA	-	56	0	1	39	-	-	20	117	117	-	-	480	-	-	-	-	19,481	1,248	-
4a.1.7.2	7DA	-	33	1	1	10	40	-	20	105	105	-	-	122	121	-	-	-	15,829	718	-
4a.1.7.3	7FA	-	15	0	1	17	8	-	9	50	50	-	-	206	25	-	-	-	10,642	349	-
4a.1.7.4	PBA	-	100	4	3	72	76	-	56	310	310	-	-	893	258	-	-	-	56,723	2,238	-
4a.1.7.5	PDA	-	36	0	1	30	-	-	14	81	81	-	-	373	-	-	-	-	15,150	800	-
4a.1.7.6	PMA	-	8	-	0	4	-	-	3	16	16	-	-	54	-	-	-	-	2,174	190	-
4a.1.7.7	PRA	-	58	1	2	69	-	-	25	155	155	-	-	855	-	-	-	-	34,703	1,294	-
4a.1.7.8	PTK / PTP	-	9	-	-	2	-	-	3	14	14	-	-	30	-	-	-	-	1,199	202	-
4a.1.7	Totals	-	315	7	8	243	125	-	148	847	847	-	-	3,011	404	-	-	-	155,901	7,038	-
Turbine Building System Components																					
4a.1.8.1	7CA	-	185	6	6	142	130	-	101	570	570	-	-	1,755	390	-	-	-	106,219	4,088	-
4a.1.8.2	TB2	-	645	11	27	962	-	-	311	1,957	1,957	-	-	11,906	-	-	-	-	483,529	14,232	-
4a.1.8.3	TB23	-	4	-	-	3	-	-	1	9	9	-	-	42	-	-	-	-	1,699	85	-
4a.1.8.4	TB38	-	11	0	0	10	-	-	4	25	25	-	-	124	-	-	-	-	5,034	229	-
4a.1.8.5	TC2	-	1,073	45	112	3,928	-	-	879	6,038	6,038	-	-	48,609	-	-	-	-	1,974,054	23,615	-
4a.1.8.6	TE2	-	131	3	8	282	-	-	77	501	501	-	-	3,495	-	-	-	-	141,941	2,853	-
4a.1.8.7	TEE	-	220	4	9	333	-	-	107	673	673	-	-	4,115	-	-	-	-	167,126	4,883	-
4a.1.8.8	TEG	-	18	0	0	11	-	-	6	35	35	-	-	139	-	-	-	-	5,640	381	-
4a.1.8.9	TP2	-	116	2	6	215	-	-	62	402	402	-	-	2,659	-	-	-	-	107,977	2,578	-
4a.1.8.10	TP3	-	77	3	3	69	57	-	45	254	254	-	-	859	209	-	-	-	50,293	1,738	-
4a.1.8.11	TPE	-	69	3	2	52	86	-	42	234	234	-	-	647	225	-	-	-	43,953	1,519	-
4a.1.8	Totals	-	2,548	79	174	6,009	253	-	1,636	10,698	10,698	-	-	74,350	824	-	-	-	3,087,463	56,199	-
Augmented Offgas System Components																					
4a.1.9	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous System Components																					
4a.1.10	Totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4a.1.11	Scaffolding in support of decommissioning	-	583	10	3	95	17	-	166	874	874	-	-	1,057	66	-	-	-	53,469	14,559	-
4a.1	Subtotal Period 4a Activity Costs	119	12,816	5,009	1,200	17,314	15,022	263	15,346	87,090	87,090	-	-	201,361	26,431	1,377	287	411	11,201,390	186,376	1,665
Period 4a Additional Costs																					
4a.2.1	Curie Surcharge (Excluding RPV)	-	-	-	-	-	177	-	44	222	222	-	-	-	-	-	-	-	-	-	-
4a.2	Subtotal Period 4a Additional Costs	-	-	-	-	-	177	-	44	222	222	-	-	-	-	-	-	-	-	-	-

Table E
Oyster Creek Nuclear Generating Station
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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 4a Collateral Costs																					
4a.3.1	Process liquid waste	5	-	5	13	-	108	-	32	164	164	-	-	-	-	103	-	-	13,045	20	-
4a.3.2	Small tool allowance	-	135	-	-	-	-	-	20	156	140	-	16	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	5	135	5	13	-	108	-	53	320	304	-	16	-	-	103	-	-	13,045	20	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	35	-	-	-	-	-	-	9	44	44	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	657	66	722	722	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	914	91	1,006	905	-	101	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	766	-	-	-	-	-	192	958	958	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	1,426	-	-	-	-	-	214	1,640	1,640	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	44	10	-	215	-	60	328	328	-	-	-	3,737	-	-	-	74,896	918	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	429	64	493	493	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	397	40	436	436	-	-	-	-	-	-	-	-	-	-
4a.4.9	Site O&M Cost	-	-	-	-	-	-	229	34	263	263	-	-	-	-	-	-	-	-	-	-
4a.4.10	Radwaste Processing Equipment/Services	-	-	-	-	-	-	329	49	379	379	-	-	-	-	-	-	-	-	-	-
4a.4.11	Security Staff Cost	-	-	-	-	-	-	941	141	1,082	1,082	-	-	-	-	-	-	-	-	-	57,257
4a.4.12	DOC Staff Cost	-	-	-	-	-	-	7,377	1,107	8,483	8,483	-	-	-	-	-	-	-	-	-	115,469
4a.4.13	Utility Staff Cost	-	-	-	-	-	-	13,109	1,966	15,076	15,076	-	-	-	-	-	-	-	-	-	206,603
4a.4	Subtotal Period 4a Period-Dependent Costs	35	2,192	44	10	-	215	24,381	4,033	30,910	30,809	-	101	-	3,737	-	-	-	74,896	918	379,329
4a.0	TOTAL PERIOD 4a COST	160	15,144	5,058	1,224	17,314	15,522	24,645	19,475	98,541	98,425	-	116	201,361	30,168	1,481	287	411	11,269,330	187,314	380,993
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	378	46	57	68	-	1,645	-	627	2,821	2,821	-	-	-	6,387	-	-	-	573,110	1,071	-
Disposal of Plant Systems																					
Drywell System Components																					
4b.1.2.1	IAA/IAC	273	228	58	34	575	1,499	-	665	3,332	3,332	-	-	7,111	4,507	-	-	-	692,839	6,005	-
4b.1.2.2	IBA	68	112	5	4	71	144	-	109	513	513	-	-	880	432	-	-	-	74,439	3,362	-
4b.1.2.3	ICA	98	186	10	7	149	225	-	176	851	851	-	-	1,841	675	-	-	-	135,304	5,537	-
4b.1.2.4	IEA	-	46	3	3	75	63	-	39	229	229	-	-	926	188	-	-	-	54,479	1,081	-
4b.1.2.5	RC6	-	43	0	1	36	-	-	16	96	96	-	-	440	-	-	-	-	17,889	962	-
4b.1.2	Totals	439	616	76	48	905	1,930	-	1,007	5,021	5,021	-	-	11,199	5,802	-	-	-	974,949	16,947	-
Reactor Building System Components																					
4b.1.3.1	RB1	-	132	2	6	202	-	-	64	406	406	-	-	2,495	-	-	-	-	101,308	2,913	-
4b.1.3.2	RBB	-	72	1	3	106	-	-	34	216	216	-	-	1,306	-	-	-	-	53,019	1,569	-
4b.1.3.3	RBC	-	73	1	3	120	-	-	37	235	235	-	-	1,485	-	-	-	-	60,294	1,609	-
4b.1.3.4	RBE	-	96	1	3	112	-	-	41	254	254	-	-	1,381	-	-	-	-	56,063	2,122	-
4b.1.3.5	RBF	-	83	4	3	60	101	-	56	307	307	-	-	740	315	-	-	-	57,301	1,863	-
4b.1.3.6	RBO	-	356	11	26	907	-	-	230	1,530	1,530	-	-	11,229	-	-	-	-	456,005	8,051	-
4b.1.3.7	RBS	-	167	7	8	223	142	-	113	660	660	-	-	2,757	428	-	-	-	150,334	3,774	-
4b.1.3.8	RBSW	-	93	1	3	109	-	-	40	246	246	-	-	1,343	-	-	-	-	54,558	2,081	-
4b.1.3.9	RC7	-	62	1	3	89	-	-	29	185	185	-	-	1,106	-	-	-	-	44,917	1,306	-
4b.1.3.10	RD8	-	62	17	11	150	541	-	176	957	957	-	-	1,861	1,624	-	-	-	221,264	1,434	-
4b.1.3.11	RDM	-	32	0	1	22	-	-	11	65	65	-	-	268	-	-	-	-	10,870	690	-
4b.1.3.12	REC	-	142	2	5	158	-	-	60	367	367	-	-	1,953	-	-	-	-	79,329	3,132	-
4b.1.3.13	REF	-	68	6	4	54	171	-	69	371	371	-	-	667	515	-	-	-	73,233	1,504	-
4b.1.3.14	REH/REI	-	84	1	3	107	-	-	38	233	233	-	-	1,325	-	-	-	-	53,806	1,851	-
4b.1.3.15	REL	-	144	3	8	268	-	-	77	497	497	-	-	3,286	-	-	-	-	133,445	3,177	-
4b.1.3.16	REM	-	37	1	1	43	-	-	16	98	98	-	-	538	-	-	-	-	21,846	826	-
4b.1.3.17	REO	-	84	6	4	90	162	-	76	422	422	-	-	1,115	486	-	-	-	88,889	1,886	-
4b.1.3.18	REQ	-	112	3	4	106	50	-	57	331	331	-	-	1,311	150	-	-	-	66,646	2,510	-
4b.1.3.19	RER	17	37	1	1	14	33	-	28	131	131	-	-	177	96	-	-	-	15,995	1,116	-
4b.1.3.20	RET	8	23	0	0	15	3	-	13	63	63	-	-	185	11	-	-	-	8,443	697	-
4b.1.3.21	REW	-	19	0	0	12	-	-	7	38	38	-	-	146	-	-	-	-	5,936	422	-
4b.1.3.22	REX	-	21	0	0	13	-	-	7	42	42	-	-	165	-	-	-	-	6,710	466	-

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Reactor Building System Components (continued)																					
4b.1.3.23	REY	-	23	0	0	15	-	-	8	47	47	-	-	192	-	-	-	-	7,781	512	-
4b.1.3.24	RFB	-	109	2	4	131	-	-	48	293	293	-	-	1,622	-	-	-	-	65,859	2,414	-
4b.1.3.25	RFC	24	68	3	2	27	69	-	51	244	244	-	-	337	207	-	-	-	32,210	1,978	-
4b.1.3.26	RFF	-	76	1	2	75	-	-	31	185	185	-	-	923	-	-	-	-	37,469	1,694	-
4b.1.3.27	RFH	-	102	7	4	56	175	-	79	422	422	-	-	692	525	-	-	-	75,175	2,271	-
4b.1.3.28	RFJ	-	89	6	4	56	170	-	74	397	397	-	-	690	510	-	-	-	73,713	1,971	-
4b.1.3.29	RFL	-	57	1	2	61	-	-	24	144	144	-	-	754	-	-	-	-	30,625	1,262	-
4b.1.3.30	RFN	-	77	1	3	90	-	-	33	205	205	-	-	1,118	-	-	-	-	45,418	1,712	-
4b.1.3.31	RFQ	-	107	1	2	76	-	-	39	225	225	-	-	942	-	-	-	-	38,243	2,379	-
4b.1.3.32	RGC	-	60	1	2	54	-	-	23	139	139	-	-	667	-	-	-	-	27,107	1,343	-
4b.1.3.33	RGD	-	173	9	23	813	-	-	170	1,188	1,188	-	-	10,058	-	-	-	-	408,453	3,861	-
4b.1.3.34	RGI	-	35	0	1	33	-	-	14	84	84	-	-	414	-	-	-	-	16,826	794	-
4b.1.3.35	RGL	-	41	1	1	45	-	-	17	105	105	-	-	555	-	-	-	-	22,545	917	-
4b.1.3.36	RGP	-	20	0	1	19	-	-	8	48	48	-	-	236	-	-	-	-	9,661	437	-
4b.1.3.37	RGR	-	126	2	4	132	-	-	53	318	318	-	-	1,633	-	-	-	-	66,314	2,823	-
4b.1.3.38	RGU	-	55	1	1	44	-	-	21	122	122	-	-	547	-	-	-	-	22,199	1,249	-
4b.1.3.39	RH1	-	33	0	1	27	-	-	12	74	74	-	-	339	-	-	-	-	13,754	733	-
4b.1.3.40	RH2	-	26	1	1	44	-	-	14	88	88	-	-	550	-	-	-	-	22,340	615	-
4b.1.3.41	RH3 / RH4 / RH6	-	80	1	1	48	-	-	28	158	158	-	-	592	-	-	-	-	24,061	1,785	-
4b.1.3.42	RHA	6	14	0	0	7	11	-	11	50	50	-	-	83	34	-	-	-	6,374	440	-
4b.1.3.43	RHJ	-	29	0	1	23	-	-	11	63	63	-	-	282	-	-	-	-	11,443	644	-
4b.1.3.44	RHL	-	19	0	0	10	-	-	6	35	35	-	-	121	-	-	-	-	4,913	418	-
4b.1.3.45	RHX	-	35	0	1	36	-	-	14	87	87	-	-	440	-	-	-	-	17,877	782	-
4b.1.3.46	RHY	-	32	0	1	30	-	-	13	75	75	-	-	369	-	-	-	-	14,998	716	-
4b.1.3.47	RMCC	-	66	1	2	80	-	-	29	178	178	-	-	989	-	-	-	-	40,165	1,468	-
4b.1.3	Totals	55	3,555	108	162	5,009	1,627	-	2,110	12,626	12,626	-	-	61,983	4,901	-	-	-	2,955,733	80,238	-
New Radwaste Building System Components																					
4b.1.4.1	N3B	-	118	1	3	113	-	-	47	281	281	-	-	1,392	-	-	-	-	56,536	2,547	-
4b.1.4.2	N4B	-	59	0	1	43	-	-	21	125	125	-	-	530	-	-	-	-	21,506	1,295	-
4b.1.4.3	N4A	9	20	1	1	15	12	-	15	72	72	-	-	183	42	-	-	-	10,761	587	-
4b.1.4.4	N4B	7	19	1	0	13	10	-	13	64	64	-	-	162	36	-	-	-	9,398	559	-
4b.1.4.5	N4D	-	60	0	1	37	-	-	21	119	119	-	-	459	-	-	-	-	18,650	1,300	-
4b.1.4.6	N4E	-	5	-	-	1	-	-	1	7	7	-	-	17	-	-	-	-	687	106	-
4b.1.4.7	N4F	-	13	-	0	8	-	-	5	26	26	-	-	98	-	-	-	-	3,986	285	-
4b.1.4.8	N4H	-	15	0	1	18	5	-	8	45	45	-	-	217	14	-	-	-	10,038	337	-
4b.1.4.9	N4K	-	16	0	0	14	-	-	6	37	37	-	-	176	-	-	-	-	7,138	352	-
4b.1.4.10	N4L	-	23	0	0	14	-	-	8	46	46	-	-	177	-	-	-	-	7,195	525	-
4b.1.4.11	N5R	-	53	1	2	83	-	-	26	166	166	-	-	1,029	-	-	-	-	41,782	1,188	-
4b.1.4.12	N5V	39	49	2	1	39	29	-	45	205	205	-	-	482	111	-	-	-	27,292	1,918	-
4b.1.4.13	N5W	-	6	-	-	1	-	-	2	9	9	-	-	10	-	-	-	-	401	148	-
4b.1.4.14	N5X	51	60	1	2	68	-	-	51	233	233	-	-	842	-	-	-	-	34,176	2,378	-
4b.1.4	Totals	107	516	8	14	467	56	-	269	1,436	1,436	-	-	5,774	203	-	-	-	249,545	13,525	-
Old Radwaste Building System Components																					
4b.1.5.1	ORW Pre D&D Desludge and Decon	-	143	-	-	-	-	-	21	164	164	-	-	-	-	-	-	-	-	2,839	-
4b.1.5.2	PRD	-	11	0	0	12	-	-	5	28	28	-	-	151	-	-	-	-	6,112	245	-
4b.1.5.3	PSB	-	94	1	3	97	-	-	39	234	234	-	-	1,198	-	-	-	-	48,634	2,096	-
4b.1.5.4	PTA	-	27	0	1	30	-	-	11	69	69	-	-	371	-	-	-	-	15,084	603	-
4b.1.5.5	PUA	-	142	1	3	112	-	-	53	311	311	-	-	1,389	-	-	-	-	56,392	3,096	-
4b.1.5.6	PUU	-	100	2	4	147	16	-	52	322	322	-	-	1,825	66	-	-	-	78,471	2,224	-
4b.1.5.7	PVA	-	6	-	-	1	-	-	2	9	9	-	-	13	-	-	-	-	519	148	-
4b.1.5.8	UAB	-	216	2	5	191	-	-	84	498	498	-	-	2,387	-	-	-	-	96,117	4,648	-
4b.1.5.9	UAS	-	147	2	5	184	-	-	65	404	404	-	-	2,277	-	-	-	-	92,465	3,221	-
4b.1.5	Totals	-	886	10	22	775	16	-	332	2,041	2,041	-	-	9,590	66	-	-	-	393,793	19,120	-

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Turbine Building System Components																					
4b.1.6.1	TD2	-	40	0	1	32	-	-	15	87	87	-	-	390	-	-	-	-	15,850	851	-
4b.1.6.2	TF2	-	222	9	22	780	-	-	177	1,209	1,209	-	-	9,646	-	-	-	-	391,743	4,842	-
4b.1.6.3	TFG	-	18	0	0	12	-	-	6	37	37	-	-	150	-	-	-	-	6,106	399	-
4b.1.6.4	TG2	-	165	7	17	611	-	-	136	937	937	-	-	7,564	-	-	-	-	307,179	3,678	-
4b.1.6.5	TH2	-	311	7	18	640	-	-	177	1,154	1,154	-	-	7,914	-	-	-	-	321,363	6,838	-
4b.1.6.6	TKA	-	16	-	0	6	-	-	5	27	27	-	-	74	-	-	-	-	2,996	348	-
4b.1.6.7	TL2	-	66	2	2	42	39	-	33	185	185	-	-	523	119	-	-	-	31,828	1,440	-
4b.1.6.8	TMA	-	42	1	2	72	-	-	22	138	138	-	-	895	-	-	-	-	36,367	906	-
4b.1.6.9	TN2	-	216	4	10	359	-	-	110	700	700	-	-	4,447	-	-	-	-	180,585	4,743	-
4b.1.6.10	TO2	-	119	-	-	-	-	-	18	137	-	-	137	-	-	-	-	-	-	2,773	-
4b.1.6.11	TOA	-	59	1	2	82	-	-	28	172	172	-	-	1,014	-	-	-	-	41,172	1,302	-
4b.1.6.12	TOCR	-	49	2	4	137	-	-	33	224	224	-	-	1,692	-	-	-	-	68,697	1,058	-
4b.1.6.13	TOR	-	43	1	2	75	-	-	22	144	144	-	-	931	-	-	-	-	37,795	957	-
4b.1.6.14	TOV	-	13	-	0	8	-	-	5	26	26	-	-	98	-	-	-	-	3,978	295	-
4b.1.6.15	TOW	-	76	2	6	207	-	-	51	342	342	-	-	2,557	-	-	-	-	103,857	1,626	-
4b.1.6.16	TOX / TOY	-	19	0	0	10	-	-	6	36	36	-	-	124	-	-	-	-	5,052	423	-
4b.1.6.17	TS2	-	137	4	9	313	-	-	83	545	545	-	-	3,875	-	-	-	-	157,362	2,964	-
4b.1.6.18	TTA	-	41	1	2	73	-	-	21	138	138	-	-	899	-	-	-	-	36,508	921	-
4b.1.6.19	TU2	-	127	2	5	169	-	-	58	361	361	-	-	2,096	-	-	-	-	85,139	2,827	-
4b.1.6	Totals	-	1,778	44	104	3,628	39	-	1,007	6,600	6,462	-	137	44,890	119	-	-	-	1,833,597	39,193	-
Augmented Offgas System Components																					
4b.1.7.1	AY8	-	98	1	4	129	-	-	44	274	274	-	-	1,596	-	-	-	-	64,813	2,125	-
4b.1.7.2	AYA	-	21	0	1	41	-	-	12	78	78	-	-	512	-	-	-	-	20,775	463	-
4b.1.7.3	AYB	-	19	0	1	22	-	-	8	50	50	-	-	267	-	-	-	-	10,862	430	-
4b.1.7.4	AYC	-	51	1	2	82	-	-	25	161	161	-	-	1,012	-	-	-	-	41,078	1,126	-
4b.1.7.5	AYE	-	17	-	0	8	-	-	6	32	32	-	-	103	-	-	-	-	4,199	375	-
4b.1.7.6	AZ8	-	38	1	1	49	-	-	17	107	107	-	-	611	-	-	-	-	24,796	829	-
4b.1.7.7	AZA	-	9	-	-	3	-	-	3	15	15	-	-	40	-	-	-	-	1,638	190	-
4b.1.7.8	AZC	-	70	1	3	93	-	-	32	198	198	-	-	1,145	-	-	-	-	46,509	1,547	-
4b.1.7.9	AZD	-	12	-	0	6	-	-	4	22	22	-	-	75	-	-	-	-	3,063	267	-
4b.1.7.10	AZE	-	11	-	0	6	-	-	4	21	21	-	-	70	-	-	-	-	2,856	256	-
4b.1.7.11	AZF	-	10	-	0	7	-	-	4	22	22	-	-	90	-	-	-	-	3,672	233	-
4b.1.7.12	AZI	-	21	0	1	28	-	-	10	60	60	-	-	343	-	-	-	-	13,938	473	-
4b.1.7	Totals	-	377	5	14	474	-	-	168	1,037	1,037	-	-	5,865	-	-	-	-	238,198	8,315	-
Miscellaneous System Components																					
4b.1.8.1	BAA	-	172	3	7	235	-	-	79	496	496	-	-	2,908	-	-	-	-	118,031	3,779	-
4b.1.8.2	BBA	-	64	2	5	176	-	-	43	291	291	-	-	2,183	-	-	-	-	88,656	1,403	-
4b.1.8.3	BDA	-	7	-	-	2	-	-	2	12	12	-	-	27	-	-	-	-	1,063	167	-
4b.1.8.4	CAA	-	341	7	18	633	-	-	184	1,182	1,182	-	-	7,828	-	-	-	-	317,896	7,506	-
4b.1.8.5	DAA	-	45	0	1	30	-	-	16	92	92	-	-	376	-	-	-	-	15,277	1,004	-
4b.1.8.6	DAC	-	103	1	3	99	-	-	41	247	247	-	-	1,230	-	-	-	-	49,940	2,302	-
4b.1.8.7	DGB	-	56	-	-	-	-	-	8	65	-	-	65	-	-	-	-	-	-	1,277	-
4b.1.8.8	DOT	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	223	-
4b.1.8.9	DPH	-	67	-	-	-	-	-	10	77	-	-	77	-	-	-	-	-	-	1,501	-
4b.1.8.10	DWF	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	359	-
4b.1.8.11	FWP	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	2,013	-
4b.1.8.12	GAA / GCA	-	16	-	-	-	-	-	2	18	-	-	18	-	-	-	-	-	-	350	-
4b.1.8.13	INTAKE STRUCTURE	-	142	-	-	-	-	-	21	163	-	-	163	-	-	-	-	-	-	3,206	-
4b.1.8.14	MAA	-	87	1	3	119	-	-	40	251	251	-	-	1,469	-	-	-	-	59,650	1,918	-
4b.1.8.15	MBA	-	35	0	1	33	-	-	14	83	83	-	-	413	-	-	-	-	16,776	759	-
4b.1.8.16	MBS / MBT	-	26	0	0	9	-	-	8	42	42	-	-	106	-	-	-	-	4,371	575	-
4b.1.8.17	MS	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	635	-
4b.1.8.18	NMB ROOF	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	294	-
4b.1.8.19	OB	-	213	-	-	-	-	-	32	245	-	-	245	-	-	-	-	-	-	4,916	-
4b.1.8.20	PTB	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	687	-
4b.1.8.21	RSF ROOF	-	21	0	0	14	-	-	7	43	43	-	-	175	-	-	-	-	7,097	463	-
4b.1.8.22	UYARD	-	1,324	6	14	498	-	-	408	2,250	2,250	-	-	6,162	-	-	-	-	250,262	21,728	-
4b.1.8.23	WAA	-	113	1	3	97	-	-	43	257	257	-	-	1,197	-	-	-	-	48,803	2,491	-

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(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Miscellaneous System Components (continued)																					
4b.1.8.24	WHS	-	13	-	-	-	-	-	2	15	-	-	15	-	-	-	-	-	-	300	-
4b.1.8.25	YARD AREAS	-	243	-	-	-	-	-	36	279	-	-	279	-	-	-	-	-	-	5,499	-
4b.1.8.26	YDA / YFA / YLA	-	1	-	-	2	-	-	1	4	4	-	-	19	-	-	-	-	783	30	-
4b.1.8	Totals	-	3,273	23	56	1,947	-	-	1,027	6,325	5,249	-	1,076	24,093	-	-	-	-	978,424	65,387	-
4b.1.9	Scaffolding in support of decommissioning	-	875	16	5	142	25	-	249	1,312	1,312	-	-	1,586	99	-	-	-	80,203	21,839	-
Decontamination of Site Buildings																					
4b.1.10.1	New Radwaste Building - Systems Removal	-	83	37	24	1	382	-	124	651	651	-	-	6	3,819	-	-	-	382,184	1,875	-
4b.1.10.2	Old Radwaste Building - Systems Removal	-	2	4	3	1	41	-	11	61	61	-	-	6	405	-	-	-	40,784	53	-
4b.1.10.3	Reactor Building - Systems Removal	-	3	6	4	-	65	-	18	96	96	-	-	-	648	-	-	-	64,800	80	-
4b.1.10.4	Turbine Building - Systems Removal	-	283	90	57	-	919	-	318	1,668	1,668	-	-	-	9,194	-	-	-	919,350	5,447	-
4b.1.10.5	Augmented Off Gas - Decon	13	51	5	4	4	58	-	35	167	167	-	-	45	553	-	-	-	57,145	1,236	-
4b.1.10.6	Drywell - Decon	1	481	130	119	-	2,569	-	794	4,095	4,095	-	-	-	13,738	-	-	-	1,295,817	9,202	-
4b.1.10.7	Drywell - Liner Removal	1,449	848	30	50	1,787	154	-	1,254	5,573	5,573	-	-	22,106	601	-	-	-	951,625	47,881	-
4b.1.10.8	LLRW Storage - Decon	7	27	3	2	-	33	-	19	92	92	-	-	-	333	-	-	-	33,330	651	-
4b.1.10.9	Miscellaneous Buildings - Decon	7	27	3	2	-	33	-	19	92	92	-	-	-	328	-	-	-	32,778	655	-
4b.1.10.10	New Radwaste Building - Decon	33	193	21	14	19	214	-	125	818	818	-	-	235	2,129	-	-	-	222,101	4,207	-
4b.1.10.11	Old Radwaste Building - Decon	-	315	86	55	12	877	-	317	1,662	1,662	-	-	152	8,769	-	-	-	882,850	4,766	-
4b.1.10.12	RBS - Torus Removal	1,942	975	45	75	2,649	229	-	1,685	7,599	7,599	-	-	32,774	891	-	-	-	1,410,755	80,582	-
4b.1.10.13	Reactor Building -19ft - Decon	23	132	11	10	166	98	-	96	536	536	-	-	2,052	911	-	-	-	171,878	3,192	-
4b.1.10.14	Reactor Building 23ft - Decon	15	60	7	4	-	70	-	41	197	197	-	-	-	700	-	-	-	70,017	1,427	-
4b.1.10.15	Reactor Building 51ft - Decon	17	66	8	5	-	78	-	46	219	219	-	-	-	781	-	-	-	78,096	1,582	-
4b.1.10.16	Reactor Building 75ft - Decon	6	24	3	2	-	26	-	16	75	75	-	-	-	261	-	-	-	26,136	560	-
4b.1.10.17	Reactor Building 91ft - Decon	12	48	5	3	-	56	-	33	158	158	-	-	-	558	-	-	-	55,767	1,148	-
4b.1.10.18	Stack/Exhaust Tunnels - Remove & Decon	72	161	13	8	-	134	-	112	501	501	-	-	-	1,339	-	-	-	133,878	4,626	-
4b.1.10.19	Turbine Building 0ft - Decon	50	217	21	15	92	211	-	150	757	757	-	-	1,144	2,069	-	-	-	251,969	5,240	-
4b.1.10.20	Turbine Building 23ft - Decon	33	163	16	12	90	161	-	114	589	589	-	-	1,109	1,570	-	-	-	200,663	3,855	-
4b.1.10.21	Turbine Building 46ft - Decon	20	78	9	6	-	94	-	55	262	262	-	-	-	944	-	-	-	94,413	1,866	-
4b.1.10.22	Contaminated Soil	-	76	1,039	663	-	10,620	-	2,877	15,275	15,275	-	-	-	106,200	-	-	-	10,619,990	6,020	-
4b.1.10.23	Reactor Building 119ft - Decon	310	382	6	6	126	51	-	284	1,164	1,164	-	-	1,563	442	-	-	-	107,248	14,576	-
4b.1.10	Totals	4,006	4,695	1,600	1,144	4,946	17,170	-	8,544	42,106	42,106	-	-	61,196	157,182	-	-	-	18,103,570	180,725	-
4b.1	Subtotal Period 4b Activity Costs	4,987	16,616	1,946	1,636	18,292	22,508	-	15,339	81,325	80,112	-	1,213	226,175	174,759	-	-	-	26,381,130	446,360	-
Period 4b Additional Costs																					
4b.2.1	ISFSI License Termination	-	649	7	53	-	580	1,277	507	3,074	-	3,074	-	-	4,723	-	-	-	506,151	10,801	2,560
4b.2	Subtotal Period 4b Additional Costs	-	649	7	53	-	580	1,277	507	3,074	-	3,074	-	-	4,723	-	-	-	506,151	10,801	2,560
Period 4b Collateral Costs																					
4b.3.1	Process liquid waste	14	-	153	184	-	1,386	-	396	2,133	2,133	-	-	-	-	2,069	-	-	339,017	90	-
4b.3.2	Disposal of additional debris from decontamination	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	29	0	-
4b.3.3	Small tool allowance	-	324	-	-	-	-	-	49	373	373	-	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	14	324	153	184	-	1,386	-	445	2,506	2,506	-	-	-	1	2,069	-	-	339,046	90	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	781	-	-	-	-	-	-	195	977	977	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	1,040	104	1,144	1,144	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	1,448	145	1,593	1,593	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	1,704	-	-	-	-	-	426	2,130	2,130	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	2,272	-	-	-	-	-	341	2,613	2,613	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	84	19	-	411	-	114	628	628	-	-	-	7,164	-	-	-	143,563	1,759	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	507	76	584	584	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	628	63	691	691	-	-	-	-	-	-	-	-	-	-
4b.4.9	Site O&M Cost	-	-	-	-	-	-	362	54	416	416	-	-	-	-	-	-	-	-	-	-
4b.4.10	Radwaste Processing Equipment/Services	-	-	-	-	-	-	521	78	600	600	-	-	-	-	-	-	-	-	-	-
4b.4.11	Security Staff Cost	-	-	-	-	-	-	1,490	224	1,714	1,714	-	-	-	-	-	-	-	-	-	90,688
4b.4.12	DOC Staff Cost	-	-	-	-	-	-	11,453	1,718	13,171	13,171	-	-	-	-	-	-	-	-	-	179,860
4b.4.13	Utility Staff Cost	-	-	-	-	-	-	19,948	2,992	22,940	22,940	-	-	-	-	-	-	-	-	-	315,133
4b.4	Subtotal Period 4b Period-Dependent Costs	781	3,976	84	19	-	411	37,398	5,530	49,200	49,200	-	-	-	7,164	-	-	-	143,563	1,759	585,679

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
4b 0	TOTAL PERIOD 4b COST	5,783	21,566	2,191	1,892	18,292	24,885	38,675	22,822	136,105	131,818	3,074	1,213	226,175	186,647	2,069	-	-	27,369,890	459,010	588,239
PERIOD 4e - License Termination																					
Period 4e Direct Decommissioning Activities																					
4e.1.1	ORISE confirmatory survey	-	-	-	-	-	-	116	35	150	150	-	-	-	-	-	-	-	-	-	-
4e.1.2	Terminate license																				
4e.1	Subtotal Period 4e Activity Costs	-	-	-	-	-	-	116	35	150	150	-	-	-	-	-	-	-	-	-	-
Period 4e Additional Costs																					
4e.2.1	Final Site Survey	-	-	-	-	-	-	4,572	1,371	5,943	5,943	-	-	-	-	-	-	-	-	98,444	-
4e.2	Subtotal Period 4e Additional Costs	-	-	-	-	-	-	4,572	1,371	5,943	5,943	-	-	-	-	-	-	-	-	98,444	-
Period 4e Collateral Costs																					
4e.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
4e.3	Subtotal Period 4e Collateral Costs	-	-	-	-	-	-	1,097	164	1,261	1,261	-	-	-	-	-	-	-	-	-	-
Period 4e Period-Dependent Costs																					
4e.4.1	Insurance	-	-	-	-	-	-	541	54	595	595	-	-	-	-	-	-	-	-	-	-
4e.4.2	Property taxes	-	-	-	-	-	-	753	75	828	828	-	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	464	-	-	-	-	-	116	580	580	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	4	1	-	17	-	5	27	27	-	-	-	305	-	-	-	6,105	75	-
4e.4.5	Plant energy budget	-	-	-	-	-	-	94	14	108	108	-	-	-	-	-	-	-	-	-	-
4e.4.6	NRC Fees	-	-	-	-	-	-	327	33	359	359	-	-	-	-	-	-	-	-	-	-
4e.4.7	Site O&M Cost	-	-	-	-	-	-	188	28	216	216	-	-	-	-	-	-	-	-	-	-
4e.4.8	Security Staff Cost	-	-	-	-	-	-	232	35	267	267	-	-	-	-	-	-	-	-	-	14,143
4e.4.9	DOC Staff Cost	-	-	-	-	-	-	4,090	614	4,704	4,704	-	-	-	-	-	-	-	-	-	62,857
4e.4.10	Utility Staff Cost	-	-	-	-	-	-	5,019	753	5,772	5,772	-	-	-	-	-	-	-	-	-	69,536
4e.4	Subtotal Period 4e Period-Dependent Costs	-	464	4	1	-	17	11,244	1,726	13,457	13,457	-	-	-	305	-	-	-	6,105	75	146,536
4e.0	TOTAL PERIOD 4e COST	-	464	4	1	-	17	17,028	3,297	20,811	20,811	-	-	-	305	-	-	-	6,105	98,519	146,536
PERIOD 4 TOTALS		5,942	37,174	7,253	3,116	35,606	40,424	80,348	45,594	255,457	251,054	3,074	1,329	427,535	217,120	3,550	287	411	38,665,320	744,843	1,115,768
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Stack/Exhaust Tunnels - Remove & Decon	-	824	-	-	-	-	-	124	947	947	-	-	-	-	-	-	-	-	2,421	-
5b.1.1.2	Administration Building	-	441	-	-	-	-	-	66	507	-	-	507	-	-	-	-	-	-	8,313	-
5b.1.1.3	Augmented Off Gas Building	-	241	-	-	-	-	-	36	277	-	-	277	-	-	-	-	-	-	3,466	-
5b.1.1.4	Chlorination Building	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	434	-
5b.1.1.5	Diesel Generator Building	-	91	-	-	-	-	-	14	105	-	-	105	-	-	-	-	-	-	1,197	-
5b.1.1.6	Dilution Structure	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,723	-
5b.1.1.7	Domestic Water Facility	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	178	-
5b.1.1.8	Fire Pump House	-	4	-	-	-	-	-	1	4	-	-	4	-	-	-	-	-	-	64	-
5b.1.1.9	Fresh Water Pump House	-	18	-	-	-	-	-	3	21	-	-	21	-	-	-	-	-	-	330	-
5b.1.1.10	Heating Boiler House	-	32	-	-	-	-	-	5	37	-	-	37	-	-	-	-	-	-	578	-
5b.1.1.11	Intake Structure	-	383	-	-	-	-	-	57	440	-	-	440	-	-	-	-	-	-	5,856	-
5b.1.1.12	Low Level Radwaste Storage	-	304	-	-	-	-	-	46	350	-	-	350	-	-	-	-	-	-	4,918	-
5b.1.1.13	Machine Shop	-	177	-	-	-	-	-	27	203	-	-	203	-	-	-	-	-	-	3,021	-
5b.1.1.14	Main Gate Security	-	82	-	-	-	-	-	12	95	-	-	95	-	-	-	-	-	-	1,257	-
5b.1.1.15	Maintenance Building	-	275	-	-	-	-	-	41	316	-	-	316	-	-	-	-	-	-	4,943	-
5b.1.1.16	Materials Warehouse	-	692	-	-	-	-	-	104	796	-	-	796	-	-	-	-	-	-	10,317	-
5b.1.1.17	Miscellaneous Structures	-	304	-	-	-	-	-	46	349	-	-	349	-	-	-	-	-	-	4,607	-
5b.1.1.18	New Radwaste Building	-	480	-	-	-	-	-	72	552	-	-	552	-	-	-	-	-	-	7,334	-
5b.1.1.19	New Sample Pump House	-	8	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	148	-
5b.1.1.20	Office Building	-	214	-	-	-	-	-	32	246	-	-	246	-	-	-	-	-	-	3,875	-
5b.1.1.21	Old Radwaste Building	-	361	-	-	-	-	-	54	415	-	-	415	-	-	-	-	-	-	5,456	-
5b.1.1.22	Plant Engineering	-	139	-	-	-	-	-	21	160	-	-	160	-	-	-	-	-	-	2,120	-

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Demolition of Remaining Site Buildings (continued)																					
5b.1.1.23	Pretreatment Building	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	495	-
5b.1.1.24	Reactor Building	-	4,157	-	-	-	-	-	624	4,781	-	-	4,781	-	-	-	-	-	-	63,446	-
5b.1.1.25	Sample Pool	-	12	-	-	-	-	-	2	14	-	-	14	-	-	-	-	-	-	201	-
5b.1.1.26	Site Emergency Building	-	250	-	-	-	-	-	38	288	-	-	288	-	-	-	-	-	-	3,940	-
5b.1.1.27	Tank Pads & Misc. Yard	-	698	-	-	-	-	-	105	803	-	-	803	-	-	-	-	-	-	9,514	-
5b.1.1.28	Turbine Building	-	3,438	-	-	-	-	-	516	3,954	-	-	3,954	-	-	-	-	-	-	51,425	-
5b.1.1.29	Turbine Pedestal	-	407	-	-	-	-	-	61	468	-	-	468	-	-	-	-	-	-	5,050	-
5b.1.1	Totals	-	14,211	-	-	-	-	-	2,132	16,343	947	-	15,396	-	-	-	-	-	-	206,426	-
Site Closeout Activities																					
5b.1.2	Remove Rubble	-	6,680	-	-	-	-	-	1,002	7,682	-	-	7,682	-	-	-	-	-	-	10,759	-
5b.1.3	Grade & landscape site	-	345	-	-	-	-	-	52	397	-	-	397	-	-	-	-	-	-	1,483	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	117	18	134	134	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	21,236	-	-	-	-	117	3,203	24,556	1,082	-	23,474	-	-	-	-	-	-	218,668	1,560
Period 5b Additional Costs																					
5b.2.1	Concrete Crushing	-	430	-	5	-	-	-	65	499	-	-	499	-	-	-	-	-	-	2,875	-
5b.2.2	ISFSI Site Restoration	-	633	-	-	-	-	36	100	769	-	769	-	-	-	-	-	-	-	2,981	160
5b.2	Subtotal Period 5b Additional Costs	-	1,062	-	5	-	-	36	165	1,268	-	769	499	-	-	-	-	-	-	5,856	160
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	163	-	-	-	-	-	25	188	-	-	188	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	163	-	-	-	-	-	25	188	-	-	188	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	882	88	971	-	-	971	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	1,552	155	1,708	-	-	1,708	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	3,327	-	-	-	-	-	499	3,826	-	-	3,826	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	97	15	112	-	-	112	-	-	-	-	-	-	-	-
5b.4.5	Site O&M Cost	-	-	-	-	-	-	388	58	446	-	-	446	-	-	-	-	-	-	-	-
5b.4.6	Security Staff Cost	-	-	-	-	-	-	479	72	551	-	-	551	-	-	-	-	-	-	-	29,160
5b.4.7	DOC Staff Cost	-	-	-	-	-	-	6,510	977	7,487	-	-	7,487	-	-	-	-	-	-	-	98,820
5b.4.8	Utility Staff Cost	-	-	-	-	-	-	3,409	511	3,920	-	-	3,920	-	-	-	-	-	-	-	48,600
5b.4	Subtotal Period 5b Period-Dependent Costs	-	3,327	-	-	-	-	13,318	2,375	19,020	-	-	19,020	-	-	-	-	-	-	-	176,580
5b.0	TOTAL PERIOD 5b COST	-	25,789	-	5	-	-	13,471	5,768	45,032	1,082	769	43,182	-	-	-	-	-	-	224,524	178,300
PERIOD 5 TOTALS		-	25,789	-	5	-	-	13,471	5,768	45,032	1,082	769	43,182	-	-	-	-	-	-	224,524	178,300

Table E
Oyster Creek Nuclear Generating Station
SAFSTOR Decommissioning Cost Estimate
(Thousands of 2003 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes Class A Cu. Feet	Burial Volumes Class B Cu. Feet	Burial Volumes Class C Cu. Feet	Burial Volumes GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
TOTAL COST TO DECOMMISSION		12,578	79,639	7,663	3,665	37,799	44,009	545,000	121,759	852,113	610,009	196,982	45,122	456,585	259,345	6,405	287	411	41,493,350	1,232,607	5,326,284

TOTAL COST TO DECOMMISSION WITH 16.67% CONTINGENCY:	$852,113	thousands of 2003 dollars
TOTAL NRC LICENSE TERMINATION COST IS 71.59% OR	$610,009	thousands of 2003 dollars
SPENT FUEL MANAGEMENT COST IS 23.5% OR:	$196,982	thousands of 2003 dollars
NON-NUCLEAR DEMOLITION COST IS 4.91% OR:	$45,122	thousands of 2003 dollars
TOTAL PRIMARY SITE RADWASTE VOLUME BURIED	44,148	cubic Feet
TOTAL SECONDARY SITE RADWASTE VOLUME BURIED:	221,888	cubic Feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED	411	cubic Feet
TOTAL SCRAP METAL REMOVED:	22,851	tons
TOTAL CRAFT LABOR REQUIREMENTS:	1,232,607	man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense.
a - indicates that this activity performed by decommissioning staff.
0 - indicates that this value is less than 0.5 but is non-zero.
a cell containing " - " indicates a zero value

APPENDIX F

WORK DIFFICULTY FACTOR ADJUSTMENTS

GUIDELINES FOR APPLYING WORK DURATION ADJUSTMENT FACTORS

TLG has historically applied work duration adjustment factors in determining unit cost factors to account for working in a radiologically controlled environment. In performing an area-by-area decommissioning estimate, the work duration factors are applied on an "area" basis based on the nominal area conditions. Where practical, areas are established based on similar working conditions.

The WDFs fall into five categories: access, respiratory protection, ALARA, protective clothing (PC), and work breaks. The guidelines of how these factors are assessed for each area is described below. Table F-1 details the WDFs used for each of the seven unit cost factor sets contained in the estimates. Table F-2 outlines the unit cost factors used for each area of the Oyster Creek plant.

1) Access Factor:

Controlling Variables:
- Height of the component above the working floor
- Difficulty in working around the component (restricted access)

Source of Variable Information:
- Estimators observation or judgment
- Plant drawings

Range of Access Factor Adjustments:
0% - Components are accessible and located near a working level floor or platform

10% - Scaffolding (component less than <12 feet above floor) is required to access the majority of the components *or* the area around the components is congested.

20% - Scaffolding (component less than <12 feet above floor) is required to access the majority of the components *and* the area around the components is congested.

30% - Scaffolding (component between 12 - 20 feet above floor) is required to access the majority of the components *or* the area around the components are extremely congested.

40% - Scaffolding (component between 20 - 45 feet above floor) is required to access the majority of the components).

50% - Scaffolding (component greater than 45 feet above floor) is required to access the majority of the components).

2) Respiratory Protection Factor:

Controlling Variables:
- Component surface contamination levels (internal or external)
- Type of work (potential to create an airborne problem)
- General area surface contamination levels
- Site specific requirements for maintaining respirator qualifications (initial qualification, requalification, etc.)
- Personal air sampler requirements

Sources of Variable Information:
- Radiation Work Permit Requirements
- Area Survey Maps
- Site Radiation Protection Program Manual

Range of Respiratory Protection Factor Adjustments:
0% - Respiratory protection is not required (clean system or loose surface contamination has been removed).
25% - Respiratory protection is only required during limited segments of the work (i.e. physical cutting)
50% - Respiratory protection is continuously required while working on the component.

3) Radiation/ALARA Factor:

Controlling Variables:
- Component contact dose rate
- General area dose rate
- Site specific requirements for maintaining radiation worker qualification (initial qualification, requalification, etc.)
- Dosimetry requirements

Sources of Variable Information:
- Area Survey Maps
- Site Radiation Protection Program Manual
- Radiation Work Permit Requirements

Range of Radiation/ALARA Factor Adjustments:
(Note that surface contamination levels are principally accounted for in protective clothing requirements and respiratory protection requirements)

0% - The component is clean and is not located in a radiologically controlled area

10% - The component is located in a radiologically controlled area (General Area Radiation field < 2 .5 mrem/hr).

20% - The component is located in a radiologically controlled area (General Area Radiation field between 2. 5 to 15 mrem/hr).

40% - The component is located in a radiologically controlled area (General Area Radiation field between 16 and 99 mrem/hr).

100% - The component is located in a radiologically controlled area (General Area Radiation field > 100 mrem/hr).

4) Protective Clothing Factor:

Controlling Variables:
- Component surface contamination levels (internal or external)
- General area surface contamination levels
- Type of activity (wet/dry work, potential to create a surface contamination problem)
- Site specific work schedule arrangements

Sources of Variable Information:
- Radiation Work Permit Requirements
- Area Survey Maps
- Site Radiation Protection Program Manual

Range of Protective Clothing Factor Adjustments (alternate site-specific schedules may dictate alternate adjustments):

0% - The component is clean and is not located in a radiologically controlled area.

30% - The component is clean or contaminated and is located in a surface contamination controlled area . Work is to be completed in accordance with

the requirements of an RWP, which specifies a single or double set of "PCs", or "PCs" with plastics.

50% - The components is located in a surface contamination controlled area. Work is to be completed in accordance with the requirements of an RWP, which specifies "plastics" in addition to double PCs for protective clothing.

100% - The component is located in a surface contamination controlled area. Work is to be completed in accordance with the requirements of an RWP, which specifies double "PCs" and double "plastics". (extremely wet or humid working environment).

5) Work Break Factor:

Controlling Variables:
- Site specific work schedule arrangements

Sources of Variable Information:
- Typical site work schedule

Range of Work Break Factor Adjustments:

8.33% - Workday schedule outlined in AIF/NESP-036 (alternate site-specific schedules may dictate alternate adjustments).

TABLE F-1

UNIT COST FACTOR SETS AND THEIR WORK DIFFICULTY ADJUSTMENT FACTORS

	DECON / Clean Percentage				DECON / Contam. Percentage			
UCF Set ID	Access	Resp.	PCs	ALARA	Access	Resp.	PCs	ALARA
1	10.0	0.0	0	10	10.0	0.0	0	10
2	20.0	0.0	30	10	20.0	0.0	30	10
3	20.0	25.0	30	30	20.0	25.0	30	30
4	30.0	25.0	50	30	30.0	25.0	50	30
5	50.0	25.0	50	40	50.0	25.0	50	40
6	30.0	25.0	50	50	30.0	25.0	50	100
7	20.0	0.0	0	0	20.0	25.0	30	30

	SAFSTOR / Clean Percentage				SAFSTOR / Contam. Percentage			
	Access	Resp.	PCs	ALARA	Access	Resp.	PCs	ALARA
1	10.0	0.0	0	10	10.0	0.0	0	10
2	20.0	0.0	30	10	20.0	0.0	30	10
3	20.0	25.0	30	10	20.0	25.0	30	10
4	30.0	25.0	50	10	30.0	25.0	50	10
5	50.0	25.0	50	10	50.0	25.0	50	10
6	30.0	25.0	50	10	30.0	25.0	50	10
7	20.0	0.0	0	0	20.0	25.0	30	10

TABLE F-2

OYSTER CREEK STN DESIGNATIONS AND ASSOCIATED UNIT COST FACTORS

AREA	AREA DESCRIPTION	UCF SET
Drywell System Components		
IAA	DRYWELL RECIRC LOOP	5
IAC	DRYWELL EL. 13 - SUB PILE ROOM	5
ICA	DRYWELL EL. 51 & 75'	5
IEA	DRYWELL EL. 95	4
RC6	DRYWELL LABRYNTH	3
Reactor Building System Components		
RB1	REACTOR BUILDING - 19' GENERAL	3
RBB	19' NE	3
RBC	19' SE	3
RBE	CRD SYSTEM PUMP ROOM	3
RBF	REACTOR BUILDING EQUIPMENT DRAIN TANK ROOM	3
RBO	19' INSIDE TORUS	4
RBS	TOP OF TORUS SEGMENT N/E	4
RBSW	REACTOR BUILDING SWITCHGEAR ROOM	2
RC1	SOUTHEAST AIRLOCK	3
RC7	SW RAD MONITOR ENCLOSURE	2
RCA	NORTH SCRAM DISCHARGE VOLUME	3
RCB	LAUNDRY & LAB DRAIN TANKS/PUMPS	3
RCD	NORTH BANK HCU's	3
RCG	NORTH CONTAINMENT SPRAY HEAT EXCHANGERS	3
RCJ	CRD SYSTEM FILTER/VALVING AREA	3
RCM	SOUTH BANK CSS HEAT EXCHANGERS	3
RCN	SOUTH BANK CONTROL ROD DRIVE MODULES	3
RCS	SOUTH SCRAM DISCHARGE VOLUME (RCS15VM)	3
RCT	REACTOR BUILDING EL.23-6 - ALL AREAS GENERAL	3
RD8	RX33' SHUTDOWN COOLING RM GENERAL ALL AREAS	3
RDM	TIP DRIVE ROOM WEST	3
REC	CORE SPRAY BOOSTER PUMPS	3
REF	SHUTDOWN COOLING HEAT EXCHANGER ROOM	1
REH	NITROGEN COMPRESSOR AREA	3
REI	REACTOR 51' TOOL CRIB	3
REL	RBCCW HEAT EXCHANGER/PUMP AREA	3
REM	SOUTHEAST ACCESS AREA	3
REO	CLEANUP SYSTEM HEAT EXCHANGER ROOM	4
REQ	CLEANUP SYSTEM PUMP AREA	3
RER	CLEANUP SYSTEM VALVE NEST EL.64	5
RET	CLEANUP FILTER SLUDGE PUMP HALLWAY	6
REW	INSTRUMENT RACK RK01	3

TABLE F-2

OYSTER CREEK STN DESIGNATIONS AND ASSOCIATED UNIT COST FACTORS (continued)

AREA	AREA DESCRIPTION	UCF SET
Reactor Building System Components (continued)		
REX	INSTRUMENT RACK RK02 AREA	3
REY	REACTOR BUILDING 51' GENERAL ALL AREAS	3
RFB	SOUTH EAST GENERAL AREA (C.U. SURGE TANK)	3
RFC	RWCU VALVE AISLE AND CONTROL AREA	5
RFF	CLEANUP SYSTEM FILTER AID/PRECOAT TANK AREA	3
RFH	OLD FUEL POOL HEAT EXCHANGERS & PUMPS AREA	3
RFJ	ASFP HEAT EXCHANGERS/PUMPS AREA	3
RFL	CONTROL ROD DRIVE REBUILD ROOM	3
RFN	EMERGENCY CONDENSER VALVE AREA	3
RFQ	REACTOR BUILDING 75' GENERAL ALL AREAS	3
RGC	NORTHEAST ACCESS AREA	3
RGD	"B" EMERGENCY CONDENSER NE01-B	3
RGI	SOUTHEAST ACCESS AREA	3
RGL	SOUTHWEST ACCESS AREA	3
RGP	CLEANUP DEMINERALIZER VAULT (RGP16FM)	4
RGR	LIQUID POISON TANK/PUMPS AREA	3
RGU	REACTOR BUILDING EL.95 - GENERAL ALL AREAS	3
RH1	NORTH FLOOR AREA	3
RH2	WEST FLOOR AREA	3
RH3	RB EL119 ALL AREAS	3
RH4	REACTOR BUILDING CRANE	3
RH6	ELEVATOR CONTROL EQUIP AREA	3
RHA	REACTOR CAVITY	6
RHJ	CASK WASHDOWN / DECONTAMINATION AREA	3
RHL	BRIDGE CRANE AND TRACKS	3
RHX	SOUTH FLOOR AREA	3
RHY	SOUTH EAST FLOOR AREA	3
RMCC	REACTOR BUILDING MCC ROOM	2
New Radwaste Building System Components		
7EB	NRW TUNNEL GENERAL ALL AREAS	5
N2G	NRW BUILDING GENERAL ALL ELEVATIONS	3
N2P	NRW BUILDING PENTHOUSE	3
N38	NRW 23' GENERAL ALL AREAS	3
N3A	NRW TRUCK BAY	3
N3D	NEW RADWASTE FILL AISLE	4
N3I	NRW #2 SUMP ROOM	4
N3N	NRW SOUTH OPERATING GALLERY EAST	4

TABLE F-2

OYSTER CREEK STN DESIGNATIONS AND ASSOCIATED UNIT COST FACTORS (continued)

AREA	AREA DESCRIPTION	UCF SET
New Radwaste Building System Components (continued)		
N3P	NRW HIGH PURITY PUMP ROOM	3
N3Q	NRW WC-P-1B WASTE CHEM PUMP ROOM	3
N3R	NRW VALVE AREA WEST	3
N3S	NRW WC-P-1A WASTE CHEM PUMP ROOM	4
N3T	NRW #1 SUMP ROOM	4
N3U	NRW CONCENTRATOR SKID ROOM 'A'	4
N3W	NRW CONCENTRATOR SKID ROOM 'B'	4
N3Y	NRW HEAT EXCHANGER BUILDING	3
N48	NRW 38' GENERAL ALL AREAS	3
N4A	NRW 'A' HOLD-UP TANK SL-T-3A ROOM	5
N4B	B' HOLD-UP TANK SL-T-3B ROOM	5
N4D	LARGE CONTAINER FILL SKID ROOM SL-Y-6	4
N4E	NRW LARGE CONTAINER FILL SKID ROOM	3
N4F	CLW PROCESS AREA	4
N4H	SPENT RESIN TRANSFER PIPING	4
N4K	NRW SPENT RESIN VALVE GALLERY	4
N4L	PIPE GALLERY WEST	4
N51	NRW HP-D-1A DEMINERALIZER ROOM	5
N52	NRW HP-F-2A RESIN TRAP ROOM	5
N53	NRW HP-D-1B DEMINERALIZER ROOM	5
N54	NRW HP-F-2B RESIN TRAP ROOM	5
N55	NRW MEZZANINE/VALVING AREA	4
N56	NRW 48-0 ELEVATION GENERAL ALL AREAS	3
N5A	NRW "A" CONCENTRATED LIQUID WASTE TANK ROOM SL-T-1A	5
N5B	NRW "B" CONCENTRATED LIQUID WASTE TANK ROOM SL-T-1B	5
N5C	NRW CHEMICAL WASTE FILTER ROOM 1A	4
N5D	NRW HIGH PURITY FILTER ROOM 1A	4
N5E	NRW CHEMICAL WASTE FILTER ROOM 1B	4
N5F	NRW HIGH PURITY FILTER ROOM 1B	4
N5G	NRW CONCENTRATED LIQUID WASTE PUMP SL-P-1A ROOM	5
N5H	NRW VALVE GALLERY EAST	4
N5I	NRW CONCENTRATED LIQUID WASTE PUMP SL-P-1B ROOM	5
N5J	NRW SAMPLE SINK AREA	3
N5K	NRW NEUTRALIZATION FEED SKID AREA	3
N5N	NRW LAUNDRY/DECON AREA	3
N5O	NRW FILTER PRECOAT/BODY FEED ROOM	3
N5P	NRW SL-T-2A SPENT RESIN TANK	5
N5Q	NRW SL-T-2B SPENT RESIN TANK	5
N5R	NRW CONTROL ROOM	3

TABLE F-2

OYSTER CREEK STN DESIGNATIONS AND ASSOCIATED UNIT COST FACTORS (continued)

AREA	AREA DESCRIPTION	UCF SET
New Radwaste Building System Components (continued)		
N5S	NRW BUILDING HVAC ROOM	3
N5T	NRW CHEM WASTE/FLR DRAIN TANK ROOM WC-T-1A	5
N5U	NRW CHEM WASTE/FLR DRAIN TANK ROOM WC-T-1B	5
N5V	NRW CHEM WASTE/FLR DRAIN TANK ROOM WC-T-1C	5
N5W	NRW CRANE BAY-STORAGE/LAYDOWN ROOM	3
N5X	NRW HIGH PURITY TANK & ROOM 1A	5
N5Y	NRW WC-D-1A DEMISTER ROOM	5
N5Z	NRW WC-D-1B DEMISTER ROOM	5
PAA	OLD RADWASTE BUILDING GENERAL ALL AREAS	3
Old Radwaste Building System Components		
7BA	1-12 SUMP AREA GENERAL	4
7DA	ORW TUNNEL GENERAL ALL AREAS	4
7FA	ORW AIR FILTER ROOM	5
PBA	ORW SMALL PUMP ROOM	5
PDA	ORW 35' & 45' CENTRIFUGE AND HOPPER	5
PMA	ORW OVERBOARD DISCHARGE MONITOR	3
PRA	ORW ROOF GENERAL ALL AREAS	4
PRD	ORW FUEL POOL FILTERS / KELLY BUILDING	4
PSB	ORW CONTROL ROOM OPERATION AREA	3
PTA	ORW COMPACTOR AREA	3
PTK	ORW - NORTH ANNEX	3
PTP	DRUM STORAGE AREA GENERAL	3
PUA	ORW LARGE PUMP ROOM	4
PUU	ORW INSIDE TANK ROOM GENERAL	4
PVA	ORW NORTH ANNEX KELLY BUILDING	2
UAB	ORW OUTSIDE TANKS & MOAT AREA	4
UAS	ORW SURGE TANK & PUMP AREA	4
ORW	ORW PRE D&D DESLUDGE AND DECON	4
Turbine Building System Components		
7CA	TURBINE TUNNEL GENERAL ALL AREAS	5
TB2	TURBINE BUILDING BASEMENT GENERAL ALL AREAS	3
TB23	TB23 HALLWAY AREA	1
TB38	TB38 HALLWAY AREA	1
TC2	CONDENSER BAY OVERHEAD GENERAL ALL AREAS	3
TD2	CONDENSER BAY DRAIN TANK PIT	3

TABLE F-2

OYSTER CREEK STN DESIGNATIONS AND ASSOCIATED UNIT COST FACTORS (continued)

AREA	AREA DESCRIPTION	UCF SET
Turbine Building System Components (continued)		
TE2	SPARE EXCITER GENERAL ALL AREAS	2
TEE	4160 VOLT ROOM	3
TEG	RCA EXIT	1
TF2	FEED PUMP ROOM GENERAL ALL AREAS	3
TFG	OFF GAS SAMPLE AREA	3
TG2	CONDENSATE PUMP PIT	3
TH2	HEATER BAY AREA	3
TKA	TB EAST AND WEST PASSAGEWAY	2
TL2	HI-LO CONDUCTIVITY ROOM	3
TMA	MECHANICAL VACUUM PUMP ROOM	3
TN2	TB BASEMENT NORTH	3
TO2	OPERATING FLOOR	3
TOA	HEATER BAY ROOF	3
TOCR/DCA	TURBINE BUILDING CONTROL ROOM	1
TOR	TURBINE BYPASS VALVE AREA	3
TOV	CONTAMINATED INSTRUMENT SHOP EL.55-4	2
TOW	EL.46-6 WEST ROOF AREA	3
TOX	TURBINE RAGEMS II BUILDING	3
TOY	TURBINE REPAIR OFFICE	3
TP2	CONDENSATE DEMINERALIZER AREA	3
TP3	CONDENSATE DEMINERALIZER TANK ROOM	4
TPE	REGEN TANK ROOM ENTRANCE AREA	3
TS2	STEAM JET AIR EJECTOR ROOM	3
TTA	TRUNNION ROOM GENERAL ALL AREAS	4
TU2	TB NORTH MEZZANINE	3
Augmented Offgas System Components		
AY8	AOG NORTH ACCESS AREA (AYFOGZI)	3
AYA	RECOMBINER ROOM 'A'	3
AYB	RECOMBINER ROOM 'B'	3
AYC	CHARCOAL ADSORBER ROOM	3
AYE	AOG PIPE TUNNEL & SUMP AREA	4
AZ8	REFRIGERATION EQOT AREA ALL AREAS	3
AZA	HEPA FILTER ROOM 'A'	3
AZC	AOG CONTROL ROOM AREA	3
AZD	WATER REMOVAL TRAIN #1 ROOM	3
AZE	WATER REMOVAL TRAIN #2 ROOM	3
AZF	WATER REMOVAL TRAIN #3 ROOM	3

TABLE F-2

OYSTER CREEK STN DESIGNATIONS AND ASSOCIATED UNIT COST FACTORS (continued)

AREA	AREA DESCRIPTION	UCF SET
Augmented Offgas System Components (continued)		
AZI	AOG BUILDING HVAC ROOM	3
Miscellaneous System Components		
BAA	BOILER HOUSE ALL AREAS	3
BBA	STACK ALL AREAS	3
BDA	RAGEMS I BUILDING	3
CAA	CONDENSATE STORAGE TANK	3
DAA	CHEMISTRY LA GENERAL ALL AREAS	3
DAC	CABLE SPREADING ROOM EL.36-0	3
DGB	DIESEL GENERATOR #1 & #2 W/ STORAGE TANK	1
DOT	DIRTY OIL TANK	1
DPH14-6	DILUTION PUMP HOUSE	1
DPH6-0	DILUTION PUMP HOUSE	1
DWF	DOMESTIC WATER FACILITY	1
FWP	FRESH WATER PUMP HOUSE	1
GAA	NORTH GUARD HOUSE AND PARKING LOT	1
GCA	MAIN GATE SECURITY BUILDING AND PARKING LOT	1
MAA	NMB ;HOT MACHINE SHOP	3
MBA	NMB RWP OFFICE	2
MBS	NMB HOT TOOL ROOM	2
MBT	RESP MAINT FACILITY	2
MS23-6	MACHINE SHOP	1
MS34-6	HEALTH PHYSICS STORAGE AREA	1
MSROOF	MACHINE SHOP ROOF	1
NMBROOF	HOT MACHINE SHOP ROOF AREA	1
OB35-0	OFFICE BUILDING A/B BATTERY ROOM	1
OB46-6	OFFICE BUILDING	1
OBROOF	OFFICE BUILDING ROOF	1
PTB23-6	PRETREATMENT BLDG	1
RSFROOF	SERVICE HEAD ROOF	2
WAA	LLRWSF	2
WHS	CONTROL ROOM	1
YDA	DRYWELL PROCESSING FACILITY	2
YFA	YARD LAUNDRY TRAILER	2
YLA	YARD RADWASTE SHIPPING CENTER	2
INTAKE STR	INTAKE STRUCTURE	1
UYARD	YARD	2
YARD AREAS	YARD AREAS	1

APPENDIX G

WORK AREA DESIGNATION

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REACTOR BUILDING

RAA	RX BLDG.-GENERAL ALL AREAS

BELOW 23' ELEVATION

RB1	-19' ELEVATION TORUS ROOM-GENERAL ALL AREAS
RBB	CONTAINMENT SPRAY PUMP ROOM NE (1-1 & 1-2) AND 1-6 SUMP
RBC	CONTAINMENT SPRAY PUMP ROOM SE (1-3 & 1-4) AND 1-7 SUMP
RBE	CONTROL ROD DRIVE (CRD) SYSTEM PUMP ROOM (RK-04) AND "A" & "C" CORE SPRAY PUMPS
RBF	RX BLDG. EQUIPMENT DRAIN TANK (RBEDT) ROOM AND "B" & "D" CORE SPRAY PUMPS
RBO	INSIDE TORUS-GENERAL ALL AREAS
RBS	TOP OF TORUS-GENERAL ALL AREAS

23' ELEVATION

RCT	23' ELEVATION-GENERAL ALL AREAS
RC1	SE AIRLOCK AND STAIRS
RC2	ELEVATOR PIT
RC5	RX BLDG. TRUCK (RAILROAD) BAY AIRLOCK
RC6	DRYWELL LABYRINTH & FRONT OF DRYWELL SHIELD DOORS
RCA	NORTH SCRAM DISCHARGE VOLUME/TORUS ACCESS/NORTH WEST CORNER
RCB	LAB DRAIN TANK/LAUNDRY (NV-36) DRAIN TANK & PUMP (NV-40)
RCD	NORTH BANK CRD ACCUMULATORS (HUC'S) & NORTH WEST ACCESS
RCG	NORTH CONTAINMENT SPRAY HEAT EXCHANGERS (1-1 & 1-2)
RCJ	CONTROL ROD DRIVE (CRD) SYSTEM FILTER & VALVING AREA

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REACTOR BUILDING

23' ELEVATION - CONTINUED

RCM	SOUTH CONTAINMENT SPRAY HEAT EXCHANGERS (1-3 & 1-4) & FRONT OF TRUCK (RAILROAD) BAY AIRLOCK
RCN	SOUTH BANK OF CRD ACCUMULATORS (HCU'S)
RCS	SOUTH SCRAM DISCHARGE VOLUME AREA/ CORE SPRAY BOOSTER PUMPS /TORUS VACUUM BREAKERS

38' ELEVATION

RDM	TIP SYSTEM AREA-GENERAL
RD8	SHUTDOWN COOLING PUMP ROOM-GENERAL

51' ELEVATION

REY	51' ELEVATION-GENERAL ALL AREAS
REC	INSTRUMENT RACK RK-03 AREA & CORE SPRAY BOOSTER PUMPS
REF	SHUTDOWN COOLING HEAT EXCHANGER ROOM
REH	QA/QC STORAGE AREA & NITROGEN COMPRESSOR AREA
REI	TOOL CRIB & LAYDOWN AREA
REL	RX BLDG. CLOSED COOLING WATER (RBCCW) HEAT EXCHANGER & PUMP AREA
REM	SOUTH EAST ACCESS AREA
REO	CLEANUP SYSTEM HEAT EXCHANGER ROOM
REQ	CLEANUP SYSTEM PUMP AREA
RER	CLEANUP SYSTEM VALVE NEST
RET	CLEANUP FILTER SLUDGE TANK ROOM AND HALLWAY
REV	AREA OVER STEAM TUNNEL
REW	RK-01 INSTRUMENT RACK
REX	RK-02 INSTRUMENT RACK

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(Continued)

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REACTOR BUILDING - CONTINUED

75' ELEVATION

RFB	SE GENERAL AREA (CLEANUP SURGE TANK IN OVERHEAD)
RFC	CLEANUP VALVE AISLE & CONTROL AREA
RFF	CLEANUP SYSTEM FILTER TANK/RK-05 INSTRUMENT RACK/TANK AREA
RFH	OLD FUEL POOL HEAT EXCHANGER & PUMP AREA
RFJ	AUGMENTED (NEW) SPENT FUEL POOL HEAT EXCHANGER & PUMP AREA
RFL	CONTROL ROD DRIVE (CRD) REBUILD ROOM/ WASH TANK AREA
RFN	EMERGENCY CONDENSER VALVE (OVERHEAD) AREA/CRD STORAGE & STAGING AREA
RFQ	75' ELEVATION-GENERAL ALL AREAS
REW	RK-01 INSTRUMENT RACK-SEE 51' RX BLDG. MAP

95' ELEVATION

RGA	LICENSED SOURCE STORAGE CAGE
RGC	NE ACCESS AREA/REACTOR BLDG. CLOSED COOLING WATER (RBCCW) SURGE TANK
RGD	"A" & "B" EMERGENCY CONDENSER AREA
RGF	RECIRC SEAL REBUILD ROOM
RGI	SOUTH EAST AREA
RGL	SOUTH WEST AREA
RGP	CLEANUP DEMINERALIZER VAULT
RGR	LIQUID POISON TO NORTH CORRIDOR
RGU	95' ELEVATION-GENERAL ALL AREAS

119' ELEVATION

RH1	NORTH FLOOR AREA/SKIMMER SURGE TANK/ OBSERVATION TOWER
RH2	WEST FLOOR AREA
RH3	119' ELEVATION-GENERAL ALL AREAS

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(Continued)

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REACTOR BUILDING

119' ELEVATION - CONTINUED

RH4	RX BLDG. CRANE
RH5	RX BLDG. ROOF
RH6	ELEVATOR CONTROL/EQUIPMENT LANDING AREA
RHA	REACTOR CAVITY
RHB	SPENT FUEL POOL
RHC	NEW FUEL STORAGE
RHD	EQUIPMENT STORAGE POOL (ESP)
RHJ	CASK WASHDOWN/DECONTAMINATION/ NORTH EAST FLOOR AREA
RHX	SOUTH FLOOR AREA
RHY	SOUTH EAST FLOOR AREA
RHL	REFUEL BRIDGE

DRYWELL

IGA	DRYWELL-GENERAL ALL AREAS
IAA	13' ELEVATION-ALL AREAS *EXCEPT CRD ROOM*
IAC	13' ELEVATION - CRD ROOM
IBA	23' ELEVATION
IBB	DRYWELL AIRLOCK
ICA	46' ELEVATION
IEA	82' ELEVATION
RC6	DRYWELL LABYRINTH & FRONT OF DRYWELL SHIELD DOORS

TURBINE BUILDING

TAA	TURBINE BLDG.-GENERAL ALL AREAS
TB2	BASEMENT SOUTH-GENERAL ALL AREAS
TC2	CONDENSER BAY-GENERAL ALL AREAS
TE2	SPARE EXCITER AREA-GENERAL ALL AREAS
TEE	4160 VOLT ROOM
TEG	RAD CON COUNT ROOM/TURBINE BLDG. EXIT
TF2	FEEDPUMP ROOM-GENERAL ALL AREAS

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(Continued)

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TURBINE BUILDING - CONTINUED

TFG	OFF GAS SAMPLE AREA
TG2	CONDENSATE PUMP PIT-GENERAL ALL AREAS
TH2	HEATER BAY-GENERAL ALL AREAS
TKA	NE PASSAGEWAY & NE HALLWAY
TL2	HI/LO CONDUCTIVITY ROOM-GENERAL ALL AREAS
TMA	MECHANICAL VACUUM PUMP ROOM
TN2	BASEMENT NORTH-GENERAL ALL AREAS
TO2	TURBINE BLDG. OPERATING FLOOR (TBOF)-GENERAL ALL AREAS
TOW	WEST & NORTH WEST ROOF AREA
TOX	TURBINE RAGEMS BUILDING
TOY	TURBINE REPAIR OFFICE
TOA	HEATER BAY ROOF
TOS	TURBINE FLOOR TOOL ROOM
TOV	CONTAMINATED (HOT) I & C SHOP
TOR	BYPASS VALVE AREA BELOW TBOF
TP2	CONDENSATE DEMINERALIZER CONTROL ROOM-ALL AREAS
TP3	CONDENSATE DEMINERALIZER TANK ROOM-ALL AREAS
TPE	CONDENSATE DEMINERALIZER REGEN TANK ROOM-ALL AREAS
TS2	STEAM JET AIR EJECTOR ROOM-ALL AREAS
TTA	TRUNNION ROOM-GENERAL ALL AREAS
TU2	NORTH MEZZANINE-ALL AREAS

NEW RAD WASTE

N2G	NEW RAD WASTE-GENERAL ALL AREAS
N2P	PENTHOUSE & ROOF

23' ELEVATION

N38	23' ELEVATION-GENERAL ALL AREAS
N3A	TRUCK BAY & CATALYST/PROCESSING ROOM
N3D	FILL AISLE/LINER STORAGE & RB2 CONTROL PANEL

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NEW RAD WASTE

23' ELEVATION - CONTINUED

N3I	#2 SUMP ROOM - DS-P-4A, DS-P-4B
N3N	SOUTH OPERATING GALLERY/VALVE AREA/ PIPE CHASE
N3P	HP-P-1A HIGH PURITY PUMP ROOM
N3Q	WC-P-1B WASTE CHEM PUMP ROOM
N3R	VALVE AREA WEST/WASTE CHEM VALVE AREA
N3S	WC-P-1A WASTE CHEM PUMP ROOM
N3T	#1 SUMP ROOM DS-P-3A, DS-P-3B
N3U	"A" EVAPORATOR
N3W	"B" EVAPORATOR
N3Y	NRW HEAT EXCHANGER BLDG.-GENERAL ALL AREAS
7EB	1-3 SUMP

38' ELEVATION

N48	38' ELEVATION-GENERAL ALL AREAS
N4A	"A" HOLD-UP TANK/SL-T-3A ROOM (ACCESS FROM FILL AISLE)
N4B	"B" HOLD-UP TANK/SL-T-3B ROOM (ACCESS FROM FILL AISLE)
N4D	PIPE/VALVE GALLERY SOUTH & EAST
N4E	LARGE CONTAINER FILL SKID ROOM SL-Y-6
N4F	CLW PROCESS VALVE AREA
N4G	CLW VALVING ROOM
N4H	SPENT RESIN TRANSFER PIPING ROOM
N4K	SPENT RESIN VALVE GALLERY
N4L	PIPE GALLERY WEST/VALVE AREA RESURGE REGEN

48' & 58' ELEVATIONS

N51	HP-D-1A DEMINERALIZER ROOM
N52	HP-F-2A RESIN TRAP ROOM
N53	HP-D-1B DEMINERALIZER ROOM
N54	HP-F-2B RESIN TRAP ROOM
N55	MEZZANINE/VALVING AREA-*58' ELEVATION*

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NEW RAD WASTE

48' & 58' ELEVATIONS - CONTINUED

N56	48' ELEVATION-GENERAL ALL AREAS
N5A	"A" CONCENTRATED LIQUID WASTE TANK ROOM SL-T-1A
N5B	"B" CONCENTRATED LIQUID WASTE TANK ROOM SL-T-1B
N5C	WC-F-1A CHEMICAL WASTE FILTER ROOM
N5D	HP-F-1A HIGH PURITY FILTER ROOM
N5E	WC-F-1B CHEMICAL WASTE FILTER ROOM
N5F	HP-F-1B HIGH PURITY FILTER ROOM
N5G	CONCENTRATED LIQUID WASTE PUMP S-P-1A ROOM
N5H	SL-T-1A/1B VALVE ALLEY
N5I	CONCENTRATED LIQUID WASTE PUMP S-P-1B ROOM
N5J	SAMPLE SINK AREA
N5K	NEUTRALIZATION FEED SKID AREA
N5N	LAUNDRY/DECON AREA
N5O	FILTER PRECOAT/BODY FEED ROOM
N5P	SL-T-2A SPENT RESIN TANK
N5Q	SL-T-2B SPENT RESIN TANK
N5R	CONTROL ROOM (NEW RAD WASTE)
N5S	HVAC ROOM
N5T	WC-T-1A CHEM WASTE/FLOOR DRAIN TANK
N5U	WC-T-1B CHEM WASTE/FLOOR DRAIN TANK
N5V	WC-T-1C CHEM WASTE/FLOOR DRAIN TANK
N5W	CRANE BAY/STORAGE LAYDOWN AREA
N5X	HP-T-1A HIGH PURITY TANK ROOM
N5Y	WC-D-1A DEMISTER ROOM
N5Z	WC-D-1B DEMISTER ROOM
7EB	1-3 SUMP

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OLD RAD WASTE

PAA	OLD RAD WASTE-GENERAL ALL AREAS
PBA	SMALL PUMP ROOM - ALL AREAS
PDA	35' & 45' ELEVATION-CENTRIFUGE & HOPPER ROOMS -ALL AREAS
PMA	OVERBOARD DISCHARGE MONITOR
PRD	KELLY BLDG. /NV-37 FUEL POOL FILTERS
PRA	ROOF-ALL AREAS
PSB	CONTROL ROOM (OLD RAD WASTE) & PRECOAT ROOM-ALL AREAS
PTA	COMPACTOR ROOM-ALL AREAS
PTK	NORTH ACCESS OPERATING AISLE
PTP	DRUM STORAGE & SCAFFOLD PLANNING-ALL AREAS
PUA	LARGE PUMP ROOM & MEZZANINE-ALL AREAS
PUU	TANK ROOM-ALL AREAS
PVA	NORTH ANNEX KELLY BLDG.

AUGMENTED OFF GAS (AOG)

23' ELEVATION

AXA	AOG -GENERAL ALL AREAS
AY8	23' ELEVATION-GENERAL ALL AREAS
AYA	"A" RECOMBINER ROOM
AYB	"B" RECOMBINER ROOM
AYC	CHARCOAL ABSORBER ROOM
AYE	PIPE TUNNEL & SUMP AREA

38' ELEVATION

AZ8	38' ELEVATION-GENERAL ALL AREAS
AZA	HEPA FILTER ROOM
AZC	CONTROL ROOM (AOG)
AZD	#1 WATER REMOVAL TRAIN ROOM
AZE	#2 WATER REMOVAL TRAIN ROOM
AZF	#3 WATER REMOVAL TRAIN ROOM

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AUGMENTED OFF GAS (AOG)

38' ELEVATION - CONTINUED

AZH	FLAME ARRESTOR ROOM
AZI	HVAC ROOM
AZJ	38' STAIRWELL & LANDING AREA

YARD

YAA	YARD-GENERAL ALL AREAS
YDA	DRYWELL (DW) PROCESS FACILITY & BRIEF AREA
YFA	LAUNDRY TRAILERS
YHA	RCT/GATE 20 TRAILER
YKA	SCAFFOLD STORAGE SHED
YLA	SHIPPING SURVEYS
BAA	BOILER HOUSE-ALL AREAS
BBA	STACK - ALL AREAS
BCA	STACK PAD - ALL AREAS
BDA	RAGEMS BUILDING-GENERAL ALL AREAS
PPA	NRW PUMP HOUSE - ALL AREAS
UAB	ORW OUTSIDE TANK MOAT AREA (HP-T-2A/2B & WC-T-3A/3B)
UAS	ORW SURGE TANK NV-04 & PUMP AREA
7BA	1-12 SUMP AREA - GENERAL ALL AREAS
7CA	TURBINE & RX BLDG. TUNNELS-GENERAL ALL AREAS
7DA	ORW TUNNEL-GENERAL ALL AREAS
7EB	NRW TUNNEL-GENERAL ALL AREAS & 1-3 SUMP
7FA	HEPA FILTER ROOM UNDER ORW
7EB	NRW 1-3 SUMP

CONDENSATE TRANSFER/TORUS WATER STORAGE

CAA	CONDENSATE WATER STORAGE TANK/ TORUS WATER STORAGE TANK (TWST) - GENERAL ALL AREAS

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CONDENSATE TRANSFER/TORUS WATER STORAGE - CONTINUED

CBA	CONDENSATE TRANSFER PUMP HOUSE - GENERAL ALL AREAS

MAC/NEW MAINTENANCE BUILDING

MAA	HOT MACHINE SHOP
MAB	CLEAN TOOL ROOM
MBA	RWP OFFICE/MAC
MBS	HOT TOOL ROOM
MBT	RESPIRATOR MAINTENANCE FACILITY
MGG	NEW MAINTENANCE BLDG.-GENERAL ALL AREAS

LOW LEVEL RAD WASTE

WAA	LOW LEVEL RAD WASTE STORAGE FACILITY

MAIN OFFICE/SERVICE BUILDING

DAA	CHEM LAB/PASS ROOM
DBA	480 VOLT ROOM
DCA	CONTROL ROOM
DDA	THIRD FLOOR M&C/EXIT
DEA	MAIN OFFICE BLDG. ROOF
DFA	OLD CABLE SPREADING ROOM
DQQ	BATTERY ROOM/MG SET ROOM/ NEW CABLE SPREADING ROOM/OPS COORDINATION OFFICE/OFFICE BLDG./ SERVICE BLDG.-GENERAL ALL AREAS

MISCELLANEOUS

GAA	NORTH GATE GUARD HOUSE & NORTH PARKING LOT

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(Continued)

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MISCELLANEOUS - CONTINUED

GCA	MAIN GATE GUARD HOUSE & MAIN PARKING LOT
XEA	AUXILIARY OFFICE BUILDING (AOB) RAD CON & SAFETY
XFA	BLDG. 3 - STATION SERVICES (SS)/ INSTRUMENT & CALIBRATION (I&C) SHOP/ FIRE PROTECTION DEPT.-*NOT INCLUDING COUNT ROOM/TURBINE BLDG. EXIT)*
XGA	SITE EMERGENCY BUILDING (SEB)
XIA	TOOL CALIBRATION TRAILER (OLD SS TRAILER)
XJA	REFUEL CAFE
XLA	MAINTENANCE FAB SHOPS
XMA	WAREHOUSE
YCA	AUXILIARY OFFICE BLDG. (AOB) CHEMISTRY LAB
YJA	BLDG. 4/MECHANICAL WELDING SHOP
YSA	RADIAC TRAILER
ZFA	CONTRACTOR TRAILERS 90-105 @ NORTH GATE
ZHA	TRAILER 300 COMPLEX @ NORTH GATE
ZJA	FORKED RIVER SITE
QQQ	MISCELLANEOUS - GENERAL ALL AREAS