

ATTACHMENT F

TESTIMONY OF MR. TODD SMITH
AND
ASSOCIATED EXHIBITS

EXHIBIT No. MY-300

DIRECT TESTIMONY OF

MR. TODD SMITH

MAINE YANKEE ATOMIC POWER COMPANY

1 heavy construction industry for six years, including as a project cost engineer for Cianbro
2 Corporation, one of the largest construction and construction services companies on the
3 East Coast. As President of TSSD, I have extensive experience in the nuclear
4 decommissioning field. My career has included eighteen years of work with the heavy
5 construction industry, involving the tasks of construction management, corporate
6 management and project controls. For twelve years, I have served as Executive Director
7 of Business Operations, Business Manager, Project Controls Manager, or
8 Decommissioning Waste Manager at Yankee, Connecticut Yankee and/or Yankee
9 Atomic.

10
11 Q. Have you previously testified before a regulatory commission?

12 A. Yes. I presented testimony before this Commission on behalf of the Company in Docket
13 Nos. ER08-1356-000 and ER04-55-000. I also presented testimony on behalf of Yankee
14 Atomic in Docket Nos. ER11-109-000 and ER06-249-000, and on behalf of Connecticut
15 Yankee in Docket Nos. ER11-101-000 and ER04-981-000.

16
17 **II. PURPOSE OF TESTIMONY**

18 Q. What is the purpose of your testimony?

19 A. Yankee is submitting an application to the Commission to reduce its wholesale rates to
20 reflect the combined effect of: (1) Yankee's receipt of a damage award in litigation with
21 the DOE, and the need to address the possible recovery of additional damages in the
22 future phases of litigation; and (2) a projected increase in decommissioning costs due

1 primarily to the extension of the period during which Yankee must store spent nuclear
2 fuel and high-level waste, as well as other revised cost estimates.

3 In my testimony I will present Yankee's new estimate of the costs of various
4 activities and items required to operate and subsequently dismantle and decontaminate
5 ("D&D") the Company's independent spent fuel storage installation ("ISFSI"). I refer to
6 these costs collectively as "decommissioning costs" and to my analysis as the "2013
7 Estimate." Another Yankee witness, Ms. Carla Pizzella, Yankee's Vice President, Chief
8 Financial Officer and Treasurer, uses the new decommissioning cost estimate to analyze
9 the adequacy of funding for Yankee's Nuclear Decommissioning Trust ("NDT") and
10 Spent Fuel Disposal Trust ("Spent Fuel Trust"). Finally, I note that the decommissioning
11 estimate is subject to certain assumptions, and variations in these assumptions could
12 cause large changes in the final costs that the Company may incur. The two other
13 Yankee witnesses, Mr. Wayne Norton and Ms. Pizzella, discuss these assumptions and
14 the potential for changes to the assumptions further in their testimony.

15
16 Q. Can you summarize your testimony?

17 A. The 2013 Estimate is divided into two components: ISFSI operations and ISFSI D&D. It
18 projects a total cost of \$280,377,720 for storing spent nuclear fuel and high-level waste
19 and ISFSI D&D for the 2013 to 2033 period as shown in Exhibit No. MY-301. This total
20 compares favorably to Yankee's previous estimate of the same costs, which was
21 performed in 2008 (the "2008 Estimate"), when the equivalent portions of the two
22 estimates are compared. The 2008 Estimate projected a total cost (including escalation)
23 of \$163,132,119 for the period 2008-2023 as shown in Exhibit No. MY-302. As I will

1 explain, the 2013 Estimate covers a longer period, based on the projected extension of the
2 period during which Yankee will have to operate the ISFSI. However, the two estimates
3 can be compared for the period that they both cover, namely 2008-2023. The
4 combination of actual costs in 2008-2012 with the 2013 Estimate's forecast for 2013-
5 2023 totals \$176,432,938, which is an increase of approximately \$13.3 million. Thus, on
6 a comparable basis (i.e., comparing the portions of the two estimates covering the same
7 period – 2008 to 2023), the 2013 Estimate is close to the 2008 Estimate; differing by less
8 than 8 percent.

9 The 2013 Estimate total of \$280,377,720 differs from the 2008 Estimate's
10 projection of \$163,132,119 for a number of reasons. The primary reason for the
11 difference is that, based on DOE's delays in removing the spent fuel and high-level
12 waste, Yankee's operations are projected to extend an additional 10 years to 2033.
13 Extending Yankee's operations to 2033 increases the 2013 Estimate (including
14 escalation) to \$280,377,720 million, which is an increase of \$117,245,601 million. Other
15 reasons for the difference include the capital costs associated with new security
16 requirements expected to result from regulation changes being considered by the Nuclear
17 Regulatory Commission ("NRC"), and the incorporation of the new "site specific" ISFSI
18 D&D cost estimate prepared by an independent third-party, as required by recently
19 adopted NRC regulation.

20
21

1 **II. BACKGROUND**

2 Q. Can you provide some background regarding Yankee's decommissioning efforts?

3 A. Yes. As explained more fully in Mr. Norton's testimony, in 1997, Yankee permanently
4 ceased power operations at the Plant, and commenced the process of decommissioning.
5 Subsequently, Yankee transferred spent nuclear fuel and Greater-Than-Class C
6 ("GTCC") waste to the ISFSI storage canisters. Yankee has safely and securely stored
7 the spent fuel and GTCC waste from the Plant in the ISFSI since that time.

8 As a consequence of the 1997 shutdown, Yankee proposed to amend its wholesale
9 power contract – First Revised Rate Schedule FERC No. 1 - ("Power Contract") to
10 clarify and confirm provisions for the recovery of costs incurred by Yankee in providing
11 power from the Plant and all costs of decommissioning the Plant, including the costs of
12 maintaining the Plan in a safe condition following shutdown and prior to D&D. Also in
13 that filing, Yankee proposed to decrease its annual decommissioning rates by \$6.8
14 million per year, the amount associated with spent fuel storage costs, in the event certain
15 amendments to Maine state law would allow Yankee to access its state-mandated Spent
16 Fuel Trust to pay for those costs. The necessary amendments were enacted, and since
17 1999 Yankee has utilized a portion of its Spent Fuel Trust balance to fund costs
18 associated with construction of the ISFSI and transfer of the fuel and GTCC waste from
19 the fuel pool to the ISFSI. Decommissioning was completed in 2005. Yankee has safely
20 and securely stored the spent fuel and GTCC waste from the Plant in the ISFSI since that
21 time. With the Plant D&D completed, Yankee's principal remaining activities include
22 the current operation of the ISFSI and the future decommissioning of the ISFSI, including
23 corporate dissolution. It uses amounts accumulated in the NDT for these purposes. In

1 addition, as I noted above, Yankee used some of the monies in the Spent Fuel Trust to
2 fund some ISFSI-related activities.

3 Most of the legal and regulatory issues associated with decommissioning the Plant
4 have been resolved by past proceedings and settlement agreements. For example, all
5 parties recognized that the use of Spent Fuel Trust monies to fund ISFSI construction
6 meant that the Spent Fuel Trust would someday need to be replenished, as long as
7 Yankee continued to have an obligation to pay the DOE for disposal of the pre-1983
8 spent nuclear fuel. Consequently, in 2004, in Docket No. ER04-55-000, Yankee entered
9 into a settlement agreement (the “2004 Settlement Agreement”) in which the parties
10 agreed that: (1) Yankee would not collect funds from ratepayers to replenish the Spent
11 Fuel Trust until November 1, 2008; and (2) Yankee would file with the Commission a
12 proceeding no later than August 1, 2008, for the purpose of determining the appropriate
13 method and schedule to recover sufficient funds to replenish the Spent Fuel Trust fund.
14 The 2004 Settlement Agreement also established how any net proceeds from litigation
15 against DOE for its delay in removing nuclear materials from the Plant site would be
16 applied to Yankee costs. In 2008, Yankee made this required filing in Docket No. ER08-
17 1356-000.

18
19 Q. Is Yankee currently collecting decommissioning charges?

20 A. No. However, under the 2008 filing, Yankee’s rates for 2013 include charges of \$5.3
21 million through October 2013 (\$6.4 million on an annual basis) for the purpose of
22 replenishing the Spent Fuel Trust.

23

1 **III. 2013 DECOMMISSIONING ESTIMATE**

2 Q. What are the key assumptions underlying the 2013 Estimate?

3 A. The most important assumption underlying the 2013 Estimate is the projection that the
4 DOE will not remove Yankee's spent fuel and GTCC waste and the site will not be fully
5 decommissioned and remediated before 2033. As Mr. Norton explains, the 2033 end-
6 date was chosen based on the assumption that DOE would complete the removal of spent
7 fuel and GTCC waste from the Yankee site in 2031.

8 Another key assumption used in the 2013 Estimate is that DOE will bear the cost
9 of removing the GTCC waste, in addition to the spent nuclear fuel. The Company
10 believes that this is a DOE obligation under the Standard Contract. However, DOE has
11 contested this matter in litigation. In 2008, the Federal Circuit Court of Appeals found
12 that the proper valuation of GTCC waste disposal is an issue that must be resolved in
13 future proceedings, and that the Government need not "bear the cost of GTCC waste
14 disposal alone." *Yankee Atomic Electric Co. v. U.S.*, 536 F.3d 1268, 1279 (2008). In
15 2010, the U.S. Court of Federal Claims similarly stated that "any additional costs of
16 GTCC disposal are reserved for future proceedings." *Yankee Atomic Electric Co. v. U.S.*,
17 94 Fed.Cl. 678, 721 n.47 (2010). Notwithstanding these rulings, Yankee believes that it
18 will ultimately prevail on this issue, and thus has assumed in the 2013 Estimate that DOE
19 will bear the cost of GTCC waste removal. Obviously, if Yankee is required to pay a
20 share of the costs of removal and disposal of the GTCC waste, then its costs of
21 decommissioning will increase.

22 Further, with the exception of new NRC ISFSI security requirements expected to
23 result from a pending rulemaking proceeding (discussed below), the 2013 Estimate is

1 based on current laws, regulations, and other mandates applicable to the Company's
2 decommissioning activities, including nuclear operations, nuclear waste handling, nuclear
3 security, and environmental remediation. Although there have been no major changes in
4 regulatory requirements since the 2008 Estimate, we cannot be assured that this will
5 remain the case over the entire storage period. Such mandates may change over time,
6 and the longer the time period over which storage and decommissioning extend, the
7 greater the chance that such changes may take place.

8 Ms. Pizzella and Mr. Norton provide further detail regarding the assumptions
9 underlying the 2013 Estimate, and discuss a number of uncertainties that may force the
10 Company to adjust these assumptions in the future. It is important to understand that my
11 testimony is based on these assumptions, and is therefore subject to the uncertainties Ms.
12 Pizzella and Mr. Norton identify.

13
14 Q. Describe the approach you took to prepare the 2013 Estimate.

15 A. To prepare the 2013 Estimate, I reviewed the projections of the scope of work and labor
16 and material unit costs that formed the basis for the projections in the 2008 Estimate of
17 costs for the fuel storage period, including D&D of the ISFSI in order to determine
18 whether these projections remain valid for purposes of the 2013 Estimate. I performed
19 the analysis in this manner because, with the completion of the physical
20 decommissioning of the Plant, Yankee has entered a steady state of operation that
21 consists of managing the spent fuel and GTCC waste storage on site. Because the Plant
22 is no longer operating, the volume of spent fuel and GTCC waste are constant. Thus,

1 absent any major changes in regulatory requirements, this steady state of operation
2 requires a relatively predictable scope of activities.

3 Likewise, the unit costs of performing these activities are relatively stable on a
4 constant dollar basis in the absence of any significant change in market conditions. The
5 same is true of ISFSI D&D: the constant dollar cost of decontaminating and dismantling
6 the ISFSI should not change if there has not been a change in the regulatory requirements
7 affecting the scope of that work, or a change in market conditions affecting the costs. For
8 example, if there has been no change in insurance market conditions, the premium costs
9 for Yankee to obtain insurance to cover the same scope of work involved in
10 decommissioning should not change. Thus, if there has been no major change in
11 regulatory requirements or market conditions affecting ISFSI operations or D&D, the
12 cost projections in the 2008 Estimate should remain valid, once adjusted for escalation
13 and the extended fuel storage term. In my testimony, I accordingly focus on the portions
14 of the scope of work where I have identified changes in the scope of work or the cost of
15 accomplishing the scope of work.

16
17 Q. How is the 2013 Estimate expressed?

18 A. The 2013 Estimate of the scope and unit cost for completing decommissioning is
19 expressed in constant 2013 dollars; in other words, it assesses the price of goods and
20 services based on the value of a dollar in 2013.

21
22 Q. What is the constant dollar estimate used for?

23 A. The constant dollar estimate is used as an input in Yankee's decommissioning funding

1 model, which also takes into account escalation over the projected period until final
2 decommissioning is completed as well as other factors; this produces the final estimate
3 that becomes the basis of Yankee's funding requirements and decommissioning
4 collections. Ms. Pizzella's testimony describes the development of the funding model.
5

6 Q. After your review of the 2008 projections of the scope of work and labor and material
7 unit costs, what did you conclude?

8 A. Based on my review and analysis, I concluded that the scope of work and unescalated
9 unit costs projected in the 2008 Estimate for ISFSI operations and D&D remain
10 reasonable, with the exceptions that I will discuss. There are only a few significant
11 differences between the two estimates in terms of the scope of work. With the Plant site
12 decommissioning completed, the scope of both estimates is primarily limited to the
13 remaining fuel storage activities – i.e., ISFSI operations and D&D. While there have
14 been no major changes in the regulatory requirements affecting ISFSI operations or ISFSI
15 D&D, Yankee has determined, based on experience since the 2008 Estimate was
16 prepared, that it requires additional management resources to address regulatory
17 requirements. In addition, as I will discuss, the 2013 Estimate takes into account the
18 prospect that security costs will increase to comply with new requirements coming out of
19 a rulemaking currently pending before the NRC. As I will also discuss later in my
20 testimony, there have been a number of areas where I have identified changes in the costs
21 of accomplishing the scope of work reflected in the 2013 Estimate.

22 To be clear, I am not claiming that the nominal costs (i.e., the costs actually
23 charged in a particular year, expressed in the value of dollars existing in that year) of

1 labor and materials will stay the same over the next decade: these nominal costs will
2 undoubtedly increase with inflation. However, the real, constant-dollar costs of these
3 labor and materials projected in the 2008 Estimate remain a reasonable projection of
4 these costs today, when expressed in 2013 dollars to account for escalation since the 2008
5 Estimate was prepared, and taking into account the extended term of spent fuel storage
6 and the other factors I will discuss.

7
8 Q. How did you convert the costs in the 2008 Estimate and the 2013 Estimate to escalated
9 dollars?

10 A. For the 2008 Estimate, I adjusted each of the cost projections, in 2008 constant dollars by
11 escalating them annually at an assumed rate of 2.5% per year to the year of expenditure.
12 For the 2013 Estimate, I used the actual costs for the period 2008 through 2012 and then
13 similarly adjusted the cost projections in 2013 constant dollars for the period 2013
14 through 2023 by 2.5% annually to the year of expenditure.

15
16 Q. How does the 2013 Estimate compare with the 2008 Estimate?

17 A. The 2008 Estimate projected a total cost (including escalation) of \$163,132,119 over the
18 2008-2023 period. The combination of actual costs in 2008-2012 with the 2013
19 Estimate's forecast for 2013-2023 totals \$176,432,938, which is an increase of
20 approximately \$13.3 million. Thus, on a comparable basis (i.e., comparing the portions
21 of the two estimates covering the same period – 2008 to 2023), the 2013 Estimate is quite
22 close to the 2008 Estimate; differing by less than 8 percent. Extending Yankee's

1 operations to 2033 increases the 2013 Estimate (including escalation) to \$280,377,720,
2 which is an increase of \$117,245,601.

3
4 Q. What accounts for the difference between the total amount of the 2013 Estimate and the
5 2008 Estimate?

6 A. The 2013 Estimate total of approximately \$280 million differs from the 2008 Estimate's
7 projection of approximately \$163 million for a number of reasons. The primary reason
8 for the difference is that, based on DOE's delays in removing the spent fuel and GTCC
9 waste, Yankee's operations are projected to extend an additional 10 years to 2033. Other
10 reasons for the difference include the capital costs associated with new security
11 requirements expected to result from regulation changes being considered by the NRC,
12 and the incorporation of the new "site specific" ISFSI D&D cost estimate prepared by an
13 independent third-party, as required by recently adopted NRC regulation. As I will
14 discuss, other cost categories also changed, with some increasing and some decreasing.

15 I discuss each specific cost category below. First, I address the various activities
16 and cost categories associated with Yankee's operation of the ISFSI. Second, I address
17 activities and cost categories associated with the dismantlement and decontamination of
18 the Company's ISFSI.

19

20

1 **IV. NEW ESTIMATE OF ISFSI OPERATION COSTS**

2 Q. Describe the type of expenses that Yankee expects to incur for ISFSI operations over the
3 next 20 years.

4 A. ISFSI operations will continue until DOE removes the spent fuel and GTCC waste,
5 allowing for the decommissioning of the ISFSI. Yankee expects that the ISFSI operating
6 costs will continue to cover a number of categories, including costs for insurance, labor,
7 security, materials and supplies, miscellaneous expenses, outside services, property taxes,
8 regulatory fees and utilities.

9
10 Q. Explain how Yankee projected insurance costs.

11 A. The insurance cost estimate is based on an updated estimate of costs provided by
12 Yankee's insurance consultant, Marsh USA Inc., derived from the current contractual
13 terms. The total estimated cost of insurance for the period 2013-2033 is \$13,161,803.
14 The levels of insurance that Yankee procures for prudent business operations and
15 regulations have not materially changed since the 2008 Estimate. However, due to more
16 favorable insurance rates, there has been a significant reduction in projected insurance
17 costs. Namely, in the 2008 Estimate insurance costs were projected to be \$12,895,172
18 for the period 2008-2023. As a result of the more favorable rates and incorporating
19 actual costs for 2008-2012, such costs are now projected to be only \$8,117,650 for that
20 same period. Based on my review, the new estimate of insurance costs is reasonable.

21

1 Q. Please explain the labor estimate.

2 A. The labor estimate consists of salaries and benefits to staff working in the areas of the
3 long term operations of the ISFSI (excluding contractor security staff, which is discussed
4 separately below). In preparing the estimate, Yankee reviewed the positions held by
5 current staff, and determined whether it plans to fill each position in the future with
6 Company employees or with contracted workers. The Company then forecasted future
7 staffing needs based on activities scheduled to occur during each year, and determined
8 the cost of each position based on existing labor rates. That review of staffing needs
9 revealed a need to add additional resources to manage Yankee's compliance with
10 regulatory requirements, especially those enforced by the NRC. Experience has shown
11 that the shift from power production to spent fuel storage operations has not reduced the
12 regulatory requirements with which Yankee must comply to the extent projected in the
13 2008 Estimate. The 2013 Estimate includes additional positions that the Company
14 determined it needed to fill to maintain the regulatory authorizations it needs to continue
15 to operate the ISFSI and eventually to decommission it. Namely, Yankee added three
16 program managers and a licensing engineer. All work part-time for Yankee and its sister
17 companies, and each of the program managers has specific areas of expertise (e.g.,
18 security and corrective action). Yankee also added a Canister Relicensing Project
19 Manager to manage the planning, engineering and licensing activities to support the
20 license renewal for Yankee and its sister companies, and to support industry efforts to
21 implement Consolidated Interim Storage.

22 The costs of each non-contractor position reflect the costs of employee benefits.
23 Yankee's employee benefits include medical, dental and life insurance, as well as

1 compensation costs such as payroll taxes. Medical and dental insurance costs are based
2 on contracted costs for each type of insurance, with anticipated medical trends. Other
3 benefits have been calculated based on the percentage of payroll that such benefits have
4 historically represented.

5 Based on this review, the 2013 Estimate for Labor - Non-Manual is \$44,952,439
6 for the period 2013-2033. This category of costs has increased from the 2008 Estimate as
7 a result of increased labor costs of operating and managing the ISFSI. In the 2008
8 Estimate, labor costs were projected to be \$16,501,571 for the period 2008-2023. As a
9 result of the increase in labor costs and incorporating actual costs for 2008-2012, such
10 costs are now projected to be \$25,054,734 for that same period.

11
12 Q. Describe the estimate for the security costs, including new NRC regulations expected to
13 increase security costs.

14 A. The security category includes the costs associated with "Labor – Security," which
15 includes guarding the ISFSI through Yankee's current vendor, G4S. In preparing the
16 2013 Estimate, Yankee calculated an estimate for a portion of the costs in this category
17 based on review of the contract, rates under the contract, and the work that remains to be
18 performed under the contract. Based on this review, Yankee estimates the costs for this
19 category to be \$65,879,054 for the period 2013-2033. Also, because there have been no
20 material changes to rates or scope of work, the 2013 Estimate is comparable to the 2008
21 Estimate with respect to Labor – Security costs. In the 2008 Estimate, these costs were
22 projected to be \$39,948,472 for the period 2008-2023. In the 2013 Estimate, the costs are
23 now projected to be \$36,673,516 for that same period.

1 In addition to the Labor – Security costs, the 2013 Estimate projects an increase in
2 the costs of maintaining security at Yankee’s ISFSI in compliance with regulations that
3 the NRC’s is considering in a pending rulemaking proceeding. The NRC has initiated a
4 rulemaking to revise the existing security requirements in its regulations that apply during
5 the storage of spent nuclear fuel and high-level waste at ISFSIs. The NRC’s specific
6 objectives for this rulemaking are to: (i) update the ISFSI security regulations to improve
7 the consistency and clarity to reflect current NRC thinking on security requirements, and
8 to incorporate lessons learned from recent security inspections and evaluations
9 conducted; (ii) to make generically applicable requirements similar to those imposed on
10 ISFSI licensees by the post-9/11 security orders; and (iii) to update ISFSI security
11 regulations using a risk-informed and performance based structure. *See Draft Technical*
12 *Basis for a Rulemaking to Revise the Security Requirements for Facilities Storing Spent*
13 *Nuclear Fuel and High-Level Radioactive Waste, Revision 1*, NRC-2009-0558 (Dec. 16,
14 2009). These new regulations are expected to impose new security requirements on
15 Yankee’s ISFSI operations. In the 2013 Estimate, Yankee has included the projected
16 costs of these new regulations in the “Outside Services - ISFSI OP” category, and
17 estimates these costs to be \$26,479,800 for the period 2013-2033. In the 2008 Estimate,
18 these costs were projected to be \$7,963,579 for the period 2008-2023. In the 2013
19 Estimate, as a result of the new security requirements and including actuals for 2008-
20 2012, the costs are now projected to be \$20,453,373 for that same period.

21

1 Q. Describe the estimate for the materials and supplies category.

2 A. The materials and supplies category is drawn from the projected costs for consumables to
3 be used during the remainder of operations onsite. Such costs include, among other
4 things, fuel for machinery, office supplies, and computer supplies. Costs are based on a
5 projection of future costs on an item-by-item basis. In the 2013 Estimate, these costs are
6 projected to be \$2,268,132 for the period 2013-2033. They have increased from the 2008
7 Estimate. In the 2008 Estimate, these costs were projected to be \$955,787 for the period
8 2008-2023. In the 2013 Estimate, the costs are now projected to be \$1,706,035 for that
9 same period.

10

11 Q. Explain the miscellaneous expenses identified in the 2013 Estimate.

12 A. This category consists of costs of travel, meals, operation and maintenance of vehicles,
13 and equipment, rentals, and leases. The Company based its 2013 Estimate of these costs
14 on actual costs prescribed by its contracts over the period until 2033, or on input from the
15 provider of the service or responsible Company manager. The 2013 Estimate for these
16 costs is \$2,802,647 for the period 2013-2033. The estimate of these costs has increased
17 slightly since the 2008 Estimate. In the 2008 Estimate, these costs were projected to be
18 \$1,562,484 for the period 2008-2023. In the 2013 Estimate, the costs are now projected
19 to be \$1,650,749 for that same period.

20

21 Q. Explain how Yankee projected the costs of outside legal services.

22 A. The forecast for the cost of legal services was provided by the Company's counsel, with
23 input from our outside litigation attorneys. It accounts for anticipated legal matters such

1 as the DOE litigation and upcoming rate cases. The 2013 Estimate of these costs is
2 \$11,247,708. Compared to the 2008 Estimate, there is a significant reduction in the
3 estimate for these costs because of improved efficiencies associated with the DOE
4 litigation process. Namely, in the 2008 Estimate, these costs were projected to be
5 \$12,979,476 for the period 2008-2023. In the 2013 Estimate, as a result of the
6 streamlined DOE litigation processes and taking into account actual costs for 2008-2012,
7 the costs are now projected to be \$8,423,177 for that same period. Of course, delays in
8 current litigation, or unforeseen litigation arising in the future could change this portion
9 of the estimate.

10
11 Q. Explain how Yankee projected the costs of outside services for administrative and
12 general for the 2013 Estimate.

13 A. Yankee estimated the administrative and general (“A&G”) costs required to support
14 operation of the Company during the fuel storage period by projecting its current costs,
15 and attempting to identify any changes that would increase the level of these costs (when
16 adjusted for inflation). Yankee based its 2013 Estimate of these costs on actual costs
17 prescribed by its contracts over the period until 2033, or on input from the provider of the
18 service or responsible Company manager. Yankee also compared its estimate of A&G
19 costs with the A&G costs incurred by Connecticut Yankee and Yankee Atomic in
20 connection with a similar type and scope of work. The 2013 Estimate of these costs is
21 \$13,845,190. The new estimate is lower than the 2008 Estimate. In the 2008 Estimate,
22 these costs were projected to be \$11,783,744 for the period 2008-2023. In the 2013
23 Estimate, the costs are now projected to be \$9,167,211 for that same period.

1 Q. Explain how Yankee projected the cost of property taxes.

2 A. The Company pays property taxes to the Town of Wiscasset, Maine, which is the location
3 of the ISFSI. Yankee is subject to a 2005 Property Tax and Impact Fee Agreement with
4 the Town. The Company assumed in the 2013 Estimate that property taxes will continue
5 for the remainder of the ISFSI's lifetime, and estimates these costs to total \$25,956,649
6 for the period 2013-2033. Obviously, such things as major changes in property
7 valuations or tax rates could cause this estimate to change. The property tax estimate in
8 the 2008 Estimate was lower than the current estimate. In the 2008 Estimate, these costs
9 were projected to be \$14,695,100 for the period 2008-2023. In the 2013 Estimate, the
10 costs are now projected to be \$16,467,670 for that same period. This increase reflects the
11 property tax impact of additional real and personal property improvements in Yankee's
12 property tax basis over time.

13
14 Q. Explain how Yankee estimated its costs for regulatory fees.

15 A. Regulatory Fees consist of the amounts paid to the federal and state agencies that oversee
16 Yankee's activities, including Yankee's NRC annual license holder fee, NRC review fees,
17 fees to the State of Maine for a state nuclear safety inspector, nuclear industry group fees,
18 and fees paid to financial institutions. The fees were estimated based on historical
19 experience. The 2013 Estimate projects \$22,947,564 in regulatory fees for the period
20 2013-2033. These costs have remained relatively static. In the 2008 Estimate, these
21 costs were projected to be \$14,517,352 for the period 2008-2023. That projection has
22 decreased in the 2013 Estimate to \$13,989,413 for that same period.

23

1 Q. Please explain how Yankee projected utility costs.

2 A. Utility costs are based on current contracts and projected needs for water, electricity and
3 telephone service. The Company estimates these costs to total \$3,057,143 for the period
4 2013-2033. The estimate for utility costs in the 2008 Estimate was higher than the
5 current estimate. In the 2008 Estimate, these costs were projected to be \$2,282,990 for
6 the period 2008-2023. In the 2013 Estimate, the costs are now projected to be
7 \$1,983,444 for that same period. This reduction is due primarily to a reduced estimate of
8 Yankee's purchased power costs.

9
10 Q. Does the 2013 Estimate include a contingency allowance? If so, please describe the
11 contingency allowance.

12 A. Yes. The 2013 Estimate includes a contingency allowance. The line item cost estimates
13 described elsewhere in this testimony consider work performed under normal conditions,
14 with no complications such as inclement weather or equipment problems, among others.
15 A contingency calculation is necessary to allow for the likely occurrence of such
16 disruptions. Contingency factors in the 2013 Estimate were derived from Yankee's
17 experience and assessments of future risk, and applied to total costs. Similar to the 2008
18 Estimate, Yankee used a 5% contingency for ISFSI operations and a 10% contingency for
19 the final three years of the estimate which includes ISFSI D&D. The 2013 Estimate
20 includes a contingency allowance of \$16,408,870 for the period 2013-2033. The new
21 contingency allowance reflects a slight decrease from the 2008 Estimate. The
22 contingency allowance in the 2008 Estimate was \$9,668,389 for the period 2008-2023,
23 and in the 2013 Estimate it is \$9,101,507 for that period.

1 It is important to remember, however, that contingency factors such as the one
2 included in the 2013 Estimates can only account for minor difficulties, delays and
3 disruptions. That is, they reflect the certainty that any project involving a facility's
4 operation and dismantlement over a lengthy time period will encounter circumstances
5 that cause costs to deviate from projected levels, even though those specific
6 circumstances cannot be predicted or identified in advance. Contingency allowances
7 cannot address the larger uncertainties discussed by Ms. Pizzella or Mr. Norton, such as
8 general inflation, extended delays by the DOE, or industry-wide regulatory changes.
9

10 **V. NEW ESTIMATE OF THE ISFSI D&D COSTS**

11 Q. What are the tasks associated with ISFSI D&D?

12 A. After DOE removes the spent fuel and GTCC waste, it will be necessary for Yankee to
13 dismantle and decontaminate the ISFSI. D&D tasks include engineering, site
14 preparations, ISFSI remediation, removal of major equipment, demolition of remaining
15 portions of the waste containment structure, disposal of low level waste, decontamination
16 and environmental restoration of the site, conducting a final radiation survey, preparation
17 of a final dismantling program report for the NRC, and general corporate, regulatory and
18 administrative costs.

19
20 Q. How were the costs of these D&D activities projected for purposes of the 2013 Estimate?

21 A. The NRC now requires each licensee operating an ISFSI to commission a third-party to
22 prepare an estimate of the cost of completing the ISFSI D&D. Yankee commissioned
23 such an estimate, which was completed by Knight Cost Engineering Services, LLC

1 (“KCES”) in December of 2012. The D&D estimate is provided as Exhibit No. MY-303.
2 The D&D estimate was prepared in accordance with the guidelines provided in
3 Regulatory Guide 1.202 and NUREG-1713. In addition, it takes into account the
4 guidelines identified in NUREG-1757. These are NRC regulations and guidelines
5 addressing the requirements for the preparation of ISFSI D&D cost estimates.

6 Two types of costs were determined in the D&D estimate: (i) activity costs; and
7 (ii) level of effort costs. All costs were current to July, 2012. The activity costs were
8 developed utilizing a unit cost factor approach. Site material quantities for concrete, steel
9 and equipment were developed from site specific drawings. Productivity factors were
10 applied to these quantities to determine activity durations. Labor crews were developed
11 and applied to the material quantities to determine labor costs and person-hours. The
12 activity durations were used to develop a project schedule. The level of effort costs, such
13 as equipment rental and General Contractor (“GC”) staff, were developed based on the
14 project schedule duration. A rental equipment file was developed for the construction
15 effort. The GC staff was assumed to be on-site for the duration of the project.

16
17 Q. What assumptions were used in the preparation of the D&D estimate?

18 A. KCES used a number of assumptions in preparing the D&D estimate. These
19 assumptions, which were based on the most current decommissioning methodologies and
20 site-specific considerations, include the following. Component quantities were
21 developed from actual plant listings. Concrete volumes were developed from plant
22 drawings. The oversight staff was assumed to be the similar size and configuration as it
23 is today, with staff positions and costs at July, 2012 salary and benefit levels.

1 Subcontractor base labor rates and fringe benefits were taken from the 2012 R. S. Means
2 Heavy Construction Cost Data and adjusted to Maine based on the City Cost Indexes for
3 Augusta, ME. Activity labor costs did not include any allowance for delays between
4 activities, nor was there any cost allowance for craft labor retained on-site while waiting
5 for work to become available. All skilled laborers will be supplied locally and hired by
6 the GC. Transportation costs were based on actual mileage from Yankee to the Studsvik
7 processing facility in Memphis, Tennessee. The ISFSI concrete pad, Vertical Concrete
8 Cask (“VCC”) exterior concrete and VCC liner steel were assumed to be Class A waste
9 to be disposed of at the Studsvik processing facility in Tennessee. A disposal rate of
10 \$0.13 per pound was used, based on information provided by Studsvik. A number of
11 buildings will be disposed of as clean waste in a local landfill at a disposal rate of \$91.80
12 per ton, based on information provided in the 2012 R. S. Means Building Construction
13 Cost Data. All Universal Multi Pack Systems containing both spent fuel and GTCC
14 waste will have been removed from site prior to the start of D&D activities. Property
15 taxes were included at the cost of \$1,003,000 per year, and fees were included at the
16 current cost of \$687,000 per year. Insurance and legal costs were included at the current
17 cost of \$604,500 per year and \$200,000 per year, respectively. The D&D activities will
18 be performed under the current regulations. The removal of the pad and concrete
19 overpacks will be performed in Tyvek coveralls. No subsurface material is assumed to
20 require remediation regarding radionuclides.

21

22

1 Q. What was the total cost of the D&D estimate?

2 A. KCES determined that the total D&D cost including contingency is \$26.8 million, which
3 includes \$22.1 million for radiological removal and \$4.7 million for non-radiological
4 removal.

5
6 Q. How did you use this third-party ISFSI D&D estimate in connection with the preparation
7 of the overall 2013 Estimate?

8 A. I used the KCES estimate of the GC costs, which are the costs of the hands-on D&D
9 activities. These costs total \$16,853,063, and represent approximately two-thirds of the
10 total KCES D&D estimate. The remaining costs, which are not related to the GC costs,
11 basically comprise A&G and other corporate costs. These costs are represented
12 differently in the overall estimate of decommissioning costs. Consequently, I prepared
13 my own projections of those costs, and relied on the KCES estimate as a check on and
14 support for my projections. With respect to these costs, my projections and the KCES
15 estimate are essentially identical.

16

17 **VI. ESCALATION RATE**

18 Q. You explained earlier that the NDT funding analysis takes into account escalation in
19 decommissioning costs after 2013. Do you have a recommendation regarding a
20 reasonable escalation rate?

21 A. Yes. I recommend that the NDT funding analysis use an escalation rate of 2.5% per year.
22 This is the same escalation rate that was applied to the 2008 Estimate to develop the 2008
23 funding schedule.

1 Q. What is your basis for this recommendation?

2 A. My recommendation to use 2.5% as the annual escalation rate in the Yankee funding
3 analysis is based on several factors. First, a significant portion of the Company's costs of
4 ISFSI operations are incurred under long-term contracts (i.e., contracts with a duration of
5 3 to 5 years) under which the pricing reflects 2.5% annual escalation. Unlike projections
6 of general inflation rates, which can be open to debate, these contracts leave no doubt that
7 a significant portion of Yankee's costs will escalate at a 2.5% annual rate. This fact
8 makes it reasonable and appropriate to use a 2.5% annual inflation assumption in
9 Yankee's decommissioning funding model. Further, the 2.5% escalation rate falls below
10 the long-term CPI average of 3.4% since 1980, as shown in Exhibit No. MY-302.

11

12 Q. Thank you. I have no further questions at this time.

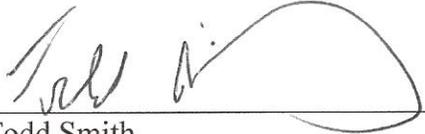
**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Maine Yankee Atomic Power Company)

Docket No. ER13-__-000

DECLARATION OF TODD SMITH

I depose and state under penalty of perjury that the foregoing exhibits were prepared or assembled by me or under my direction, and that I have read the foregoing questions and answers labeled as my testimony: that if asked the same questions my answers in response would be as shown; and that the facts contained in my answers are true to the best of my knowledge, information, and belief.



Todd Smith

EXHIBIT No. MY-301

2013 DECOMMISSIONING COST ESTIMATE

MAINE YANKEE ATOMIC POWER COMPANY
2013 DECOMMISSIONING COST ESTIMATE
(Escalated 2013 Dollars)

Category	Costs 2013-2033
Contingency	\$16,408,870
Insurance	\$13,161,803
Labor - Non-Manual	\$44,952,439
Labor - Security	\$65,879,054
Materials & Supplies	\$2,268,132
Miscellaneous	\$2,802,647
Outside Services - A&G	\$13,845,190
Outside Services - Fuel Loading	\$4,491,817
Outside Services - ISFSI OP's	\$26,479,800
Outside Services - Legal	\$11,247,708
Outside Services - NON-RAD D&D of ISFSI	\$4,685,599
Outside Services - RAD D&D of ISFSI	\$22,193,306
Property Taxes	\$25,956,649
Regulatory Fees	\$22,947,564
Utilities	\$3,057,143
Grand Total	\$280,377,720

**2013-2033 Summary
(UNESCALATED)**

	Data										
FERC Summary	Sum of 2013	Sum of 2014	Sum of 2015	Sum of 2016	Sum of 2017	Sum of 2018	Sum of 2019	Sum of 2020	Sum of 2021	Sum of 2022	Sum of 2023
Contingency	\$ 429,920	\$ 404,170	\$ 522,225	\$ 559,435	\$ 571,607	\$ 422,857	\$ 446,607	\$ 440,707	\$ 422,857	\$ 422,857	\$ 422,857
Insurance	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500
Labor - Non-Manual	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250
Labor - Security	\$ 2,111,000	\$ 2,111,000	\$ 2,322,100	\$ 2,554,310	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741
Materials & Supplies	\$ 112,547	\$ 85,547	\$ 85,547	\$ 97,547	\$ 85,547	\$ 85,547	\$ 85,547	\$ 97,547	\$ 85,547	\$ 85,547	\$ 85,547
Miscellaneous	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000
Outside Services - A&G	\$ 570,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000
Outside Services - Fuel Loading	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Outside Services - ISFSI OP's	\$ 743,000	\$ 1,005,000	\$ 2,905,000	\$ 3,655,000	\$ 3,655,000	\$ 680,000	\$ 655,000	\$ 775,000	\$ 680,000	\$ 680,000	\$ 680,000
Outside Services - Legal	\$ 900,000	\$ 200,000	\$ 450,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 700,000	\$ 450,000	\$ 200,000	\$ 200,000	\$ 200,000
Outside Services - NON-RAD D&D of ISFSI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Outside Services - RAD D&D of ISFSI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Property Taxes	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100
Regulatory Fees	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000
Utilities	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000
Grand Total	\$ 9,028,317	\$ 8,487,567	\$ 10,966,722	\$ 11,748,142	\$ 12,003,745	\$ 8,879,995	\$ 9,378,745	\$ 9,254,845	\$ 8,879,995	\$ 8,879,995	\$ 8,879,995

**2013-2033 Summary
(UNESCALATED)**

											Sum of Totals
FERC Summary	Sum of 2024	Sum of 2025	Sum of 2026	Sum of 2027	Sum of 2028	Sum of 2029	Sum of 2030	Sum of 2031	Sum of 2032	Sum of 2033	2013-2033
Contingency	\$ 422,857	\$ 460,357	\$ 422,857	\$ 422,857	\$ 422,857	\$ 422,857	\$ 435,357	\$ 1,397,423	\$ 2,233,837	\$ 409,020	\$ 12,116,377
Insurance	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 464,500	\$ 791,100	\$ 10,081,100
Labor - Non-Manual	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,712,250	\$ 1,757,250	\$ 1,782,250	\$ 629,500	\$ 34,989,500
Labor - Security	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 2,809,741	\$ 500,000	\$ -	\$ 51,744,525
Materials & Supplies	\$ 85,547	\$ 85,547	\$ 85,547	\$ 85,547	\$ 85,547	\$ 85,547	\$ 85,547	\$ 85,547	\$ 85,547	\$ 17,500	\$ 1,779,440
Miscellaneous	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 105,000	\$ 125,000	\$ 54,000	\$ 2,174,000
Outside Services - A&G	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 520,000	\$ 420,000	\$ 410,000	\$ 10,760,000
Outside Services - Fuel Loading	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,880,000	\$ -	\$ -	\$ 2,880,000
Outside Services - ISFSI OP's	\$ 680,000	\$ 680,000	\$ 680,000	\$ 680,000	\$ 680,000	\$ 680,000	\$ 680,000	\$ 655,000	\$ 505,000	\$ 75,000	\$ 22,108,000
Outside Services - Legal	\$ 200,000	\$ 950,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 450,000	\$ 700,000	\$ 200,000	\$ 1,300,000	\$ 8,500,000
Outside Services - NON-RAD D&D of ISFSI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,930,972	\$ -	\$ 2,930,972
Outside Services - RAD D&D of ISFSI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,622,091	\$ 12,300,000	\$ -	\$ 13,922,091
Property Taxes	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 1,003,100	\$ 203,100	\$ 20,265,100
Regulatory Fees	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 767,000	\$ 1,222,000	\$ 1,822,000	\$ 585,000	\$ 17,435,000
Utilities	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 150,000	\$ 200,000	\$ 25,000	\$ 2,355,000
Grand Total	\$ 8,879,995	\$ 9,667,495	\$ 8,879,995	\$ 8,879,995	\$ 8,879,995	\$ 8,879,995	\$ 9,142,495	\$ 15,371,652	\$ 24,572,206	\$ 4,499,220	\$ 214,041,105

**2013-2033 Summary
(ESCALATED)**

	Data										
FERC Summary	Sum of 2013	Sum of 2014	Sum of 2015	Sum of 2016	Sum of 2017	Sum of 2018	Sum of 2019	Sum of 2020	Sum of 2021	Sum of 2022	Sum of 2023
Contingency	\$429,920	\$414,274	\$548,662	\$602,451	\$630,947	\$478,424	\$517,927	\$523,862	\$515,210	\$528,090	\$541,293
Insurance	\$464,500	\$476,113	\$488,015	\$500,216	\$512,721	\$525,539	\$538,678	\$552,145	\$565,948	\$580,097	\$594,599
Labor - Non-Manual	\$1,712,250	\$1,755,056	\$1,798,933	\$1,843,906	\$1,890,004	\$1,937,254	\$1,985,685	\$2,035,327	\$2,086,210	\$2,138,366	\$2,191,825
Labor - Security	\$2,111,000	\$2,163,775	\$2,439,656	\$2,750,712	\$3,101,428	\$3,178,964	\$3,258,438	\$3,339,899	\$3,423,397	\$3,508,981	\$3,596,706
Materials & Supplies	\$112,547	\$87,686	\$89,878	\$105,047	\$94,428	\$96,789	\$99,208	\$115,953	\$104,231	\$106,836	\$109,507
Miscellaneous	\$105,000	\$107,625	\$110,316	\$113,074	\$115,900	\$118,798	\$121,768	\$124,812	\$127,932	\$131,131	\$134,409
Outside Services - A&G	\$570,000	\$533,000	\$546,325	\$559,983	\$573,983	\$588,332	\$603,041	\$618,117	\$633,570	\$649,409	\$665,644
Outside Services - Decom											
Outside Services - Fuel Loading	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Outside Services - ISFSI OP's	\$743,000	\$1,030,125	\$3,052,066	\$3,936,035	\$4,034,436	\$769,358	\$759,599	\$921,231	\$828,514	\$849,227	\$870,457
Outside Services - Legal	\$900,000	\$205,000	\$472,781	\$215,378	\$220,763	\$226,282	\$811,785	\$534,909	\$243,681	\$249,773	\$256,017
Outside Services - NON-RAD D&D of ISFSI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Outside Services - RAD D&D of ISFSI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Property Taxes	\$1,003,100	\$1,028,178	\$1,053,882	\$1,080,229	\$1,107,235	\$1,134,916	\$1,163,288	\$1,192,371	\$1,222,180	\$1,252,734	\$1,284,053
Regulatory Fees	\$767,000	\$786,175	\$805,829	\$825,975	\$846,624	\$867,790	\$889,485	\$911,722	\$934,515	\$957,878	\$981,825
Utilities	\$110,000	\$112,750	\$115,569	\$118,458	\$121,419	\$124,455	\$127,566	\$130,755	\$134,024	\$137,375	\$140,809
Grand Total	\$9,028,317	\$8,699,756	\$11,521,912	\$12,651,464	\$13,249,888	\$10,046,899	\$10,876,469	\$11,001,102	\$10,819,412	\$11,089,897	\$11,367,144

**2013-2033 Summary
(ESCALATED)**

FERC Summary											Sum of Totals
	Sum of 2024	Sum of 2025	Sum of 2026	Sum of 2027	Sum of 2028	Sum of 2029	Sum of 2030	Sum of 2031	Sum of 2032	Sum of 2033	2013-2033
Contingency	\$554,825	\$619,129	\$582,913	\$597,486	\$612,423	\$627,733	\$662,448	\$2,179,503	\$3,571,124	\$670,227	\$16,408,870
Insurance	\$609,464	\$624,701	\$640,318	\$656,326	\$672,734	\$689,553	\$706,792	\$724,461	\$742,573	\$1,296,309	\$13,161,803
Labor - Non-Manual	\$2,246,620	\$2,302,786	\$2,360,356	\$2,419,364	\$2,479,849	\$2,541,845	\$2,605,391	\$2,740,710	\$2,849,194	\$1,031,509	\$44,952,439
Labor - Security	\$3,686,624	\$3,778,789	\$3,873,259	\$3,970,090	\$4,069,343	\$4,171,076	\$4,275,353	\$4,382,237	\$799,325	\$0	\$65,879,054
Materials & Supplies	\$112,245	\$115,051	\$117,927	\$120,876	\$123,898	\$126,995	\$130,170	\$133,424	\$136,760	\$28,676	\$2,268,132
Miscellaneous	\$137,769	\$141,213	\$144,744	\$148,362	\$152,071	\$155,873	\$159,770	\$163,764	\$199,831	\$88,485	\$2,802,647
Outside Services - A&G	\$682,285	\$699,342	\$716,826	\$734,746	\$753,115	\$771,943	\$791,241	\$811,023	\$671,433	\$671,833	\$13,845,190
Outside Services - Decom											\$0
Outside Services - Fuel Loading	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,491,817	\$0	\$0	\$4,491,817
Outside Services - ISFSI OP's	\$892,219	\$914,524	\$937,388	\$960,822	\$984,843	\$1,009,464	\$1,034,700	\$1,021,576	\$807,318	\$122,896	\$26,479,800
Outside Services - Legal	\$262,417	\$1,277,644	\$275,702	\$282,595	\$289,660	\$296,901	\$684,728	\$1,091,761	\$319,730	\$2,130,201	\$11,247,708
Outside Services - NON-RAD D&D of ISFSI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,685,599	\$0	\$4,685,599
Outside Services - RAD D&D of ISFSI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,529,909	\$19,663,397	\$0	\$22,193,306
Property Taxes	\$1,316,154	\$1,349,058	\$1,382,784	\$1,417,354	\$1,452,788	\$1,489,108	\$1,526,335	\$1,564,494	\$1,603,606	\$332,803	\$25,956,649
Regulatory Fees	\$1,006,370	\$1,031,530	\$1,057,318	\$1,083,751	\$1,110,845	\$1,138,616	\$1,167,081	\$1,905,903	\$2,912,741	\$958,591	\$22,947,564
Utilities	\$144,330	\$147,938	\$151,636	\$155,427	\$159,313	\$163,296	\$167,378	\$233,949	\$319,730	\$40,965	\$3,057,143
Grand Total	\$11,651,323	\$13,001,706	\$12,241,171	\$12,547,200	\$12,860,880	\$13,182,402	\$13,911,388	\$23,974,531	\$39,282,362	\$7,372,496	\$280,377,720

EXHIBIT No. YA-302

COMPARISON OF 2010 AND 2013 ESTIMATE

2013 Estimates Maine Yankee Comparison to 2008 Estimate

Exhibit No. MY-302

	2008 Estimate	2013 Estimate	
Categories for FERC Summary	2008-2023 Escalated (2.5%)	2008-12 Actuals 2013-23 Estimate Escalated	Comments
Contingency	\$9,668,389	\$ 9,101,507	
Fee's	\$14,517,352	\$ 13,989,413	
Insurance	\$12,895,172	\$ 8,117,650	More Favorable Insurance Rates
Labor - Non-Manual	\$16,501,571	\$ 25,054,734	Revised Labor Costs to Manage ISFSI's
Labor - Security	\$39,948,472	\$ 36,673,516	Revised Costs of ISFSI Security
Materials & Supplies	\$955,787	\$ 1,706,035	
Miscellaneous	\$1,562,484	\$ 1,650,749	
Outside Services - A&G	\$11,783,744	\$ 9,167,211	
Outside Services - ISFSI OP's	\$7,963,579	\$ 20,453,373	2013-2023 estimate includes capital expenditures associated with pending new security regulations
Outside Services - Legal	\$12,979,476	\$ 8,423,177	Streamlined DOE Litigation
Outside Services - Fuel Loading	\$3,205,684	\$ 3,509,000	
Outside Services - DECOM	\$14,172,319	\$ 20,135,458	ISFSI DECOM estimate updated in 2012
Property Taxes	\$14,695,100	\$ 16,467,670	
Utilities	\$2,282,990	\$ 1,983,444	
Grand Total	\$163,132,119	\$176,432,938	
Footnotes:			

1. 2008-2012 Actuals are \$6 Million under 2008 Estimate Budget for the same time period

EXHIBIT No. MY-303

DECOMMISSIONING STUDY OF THE
MAINE YANKEE
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

KNIGHT COST ENGINEERING SERVICES, LLC
DECEMBER, 2012

Decommissioning Study of the Maine Yankee Independent Spent Fuel Storage Installation

Prepared for Maine Yankee Atomic Power
Company

Knight Cost Engineering Services, LLC

December, 2012

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1.0 INTRODUCTION

The purpose of this study is to identify the costs associated with the decommissioning of the Maine Yankee (MY) Independent Spent Fuel Storage Installation (ISFSI). This estimate includes only the structures, systems and land within the NRC licensed area. The MY ISFSI is located within the site boundary of the former Maine Yankee nuclear power plant in the Town of Wiscasset, Maine. The site is approximately 1200 feet north of the former plant site in an area used as a vehicle parking lot. The NAC-UMS fuel storage and transport canister system chosen by MY is licensed by the NRC for both storage and transportation.

The ISFSI consists of the storage system and concrete storage pads, a Protected Area (PA) for spent fuel storage and a Security/Operations Building for equipment and staff. The PA contains 16 3 foot thick concrete pads, each 31 feet by 31 feet. There are 64 dry storage casks on the 16 pads, 60 for spent fuel and four for sections of the reactor vessel internals that are classified as Greater Than Class C (GTCC) waste. Each vertical concrete cask has a two and a half-inch steel liner surrounded by 28.3 inches of reinforced concrete.

2.0 SUMMARY

Decommissioning is the safe removal of a facility or site from service and the reduction of radioactivity to a level that permits either the release of the property for unrestricted use and NRC license termination; or a restricted release of the property and NRC license termination. This estimate includes all costs incurred to release the property for unrestricted use.

On June 17, 2011, the NRC published a final rule amending its regulations to improve decommissioning planning. The rule will become effective on December 17, 2012 and requires compliance by March 31, 2013. This rule will require licensees to report additional details in their decommissioning cost estimate. To assist in the implementation of the new rule, the NRC issued NUREG-1757, "Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping and Timeliness."

NUREG-1757 does not apply to licensees under 10CFR Part 50 nor does it eliminate the need to follow Regulatory Guide 1.202 or NUREG-1713. It does provide additional information to support the development of the cost estimate. This cost estimate was prepared in accordance with the guidelines provided in RG 1.202 and NUREG-1713. In addition, it does take into account the guidelines identified in NUREG-1757.

NUREG-1757 specifies that a contingency of 25% is to be included in the estimate. This estimate takes exception to this contingency level for two reasons. First, the estimate is conservative in that the entire storage pad, concrete overpacks and overpack liners are assumed to be disposed of as potentially contaminated. Second, the MY site has recently been successfully decommissioned. Many of the key personnel involved in that project remain at the MY ISFSI. The lessons learned from that project will be incorporated in the MY ISFSI decommissioning. For this reason it is felt that a 10% contingency is adequate to cover unknown and unplanned occurrences.

The total cost including contingency is **\$26.8** million, 22.1 million for radiological removal and \$4.7 million for non-radiological removal. Table 2-1 provides a summary of costs. Cost details are provided in Appendix A

**TABLE 2-1
SUMMARY OF COSTS**

	<u>Total Cost</u>	<u>Radiological Removal \$</u>	<u>Non- radiological Removal \$</u>
Grand Total Building	\$26,753,057	\$22,100,343	\$4,652,713
Tax on General Contractor	\$0	\$0	\$0
General Contractor with contingency	\$18,086,215	\$14,940,781	\$3,145,434

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Site Costs with contingency	\$8,666,841	\$7,159,562	\$1,507,279
General Contractor	\$16,442,014	\$13,582,528	\$2,859,485
Site Costs	\$7,878,947	\$6,508,693	\$1,370,254
MY ISFSI	\$24,320,961	\$20,091,221	\$4,229,739
PERIOD DEPENDENT COSTS	\$14,247,714	\$11,769,847	\$2,477,867
1.1 MY Site Costs	\$7,878,947	\$6,508,693	\$1,370,254
1.1.1 Project Management	\$3,230,547		
1.1.2 Security Staff	\$2,153,899		
1.1.3 Fees	\$687,000	\$567,522	\$119,478
1.1.4 Insurance	\$604,500	\$499,369	\$105,131
1.1.5 Legal	\$200,000	\$165,217	\$34,783
1.1.6 Property Taxes	\$1,003,000	\$828,565	\$174,435
1.2 General Contractor	\$6,368,768	\$5,261,154	\$1,107,614
1.2.1 Decommissioning General Contractor	\$3,335,095		
1.2.2 Waste Packaging Crew	\$1,051,503		
1.2.3 Equipment & Materials	\$1,982,170		
ACTIVITIES	\$10,073,246	\$8,321,374	\$1,751,872
1.3 Project Engineering	\$18,639	\$15,397	\$3,242
1.3.1 Procedure Development and Review - Offsite	\$9,319		
1.3.2 Preparation of QA and Safety Documents - Offsite (in parallel with 1.2.1)	\$9,319		
1.4 Site Mobilization and General Employee Training (GET)	\$89,816	\$74,196	\$15,620
1.4.1 Site Mobilization	\$21,580		
1.4.2 General Employee Training	\$62,375		
1.4.3 Site Specific Training	\$5,860		
1.5 Site Preparation - Performed by Staff	\$10,916	\$9,017	\$1,898
1.5.1 Initial Site Survey			
1.5.2 Setup work areas			
1.5.3 Decontamination Readiness Review			
1.6 Disconnect all utilities to work areas.	\$5,458	\$4,509	\$949
1.6.1 Electrical	\$2,729		
1.6.2 Ventilation	\$1,364		
1.6.3 Piping	\$1,364		
1.7 Removal inside fences	\$8,684,403	\$8,176,919	\$507,484
1.7.1 Remove compacted gravel	\$370,409		\$370,409
1.7.2 Remove VCCs	\$5,875,944	\$5,875,944	\$0
1.7.2.1 Exterior Concrete	\$3,990,592	\$0	\$0
1.7.2.2 Steel liner	\$1,885,352		
1.7.3 Remove Concrete Pad	\$2,300,975	\$2,300,975	
1.7.4 Remove Security Fence	\$61,131		\$61,131
1.7.5 Remove Light Towers	\$75,945		\$75,945
1.8 Removal outside fences	\$1,205,264		\$1,205,264
1.8.1 Security/Operations Building	\$549,008		\$549,008

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1.8.2	Remove paved area inside nuisance fence	\$84,637		\$84,637
1.8.3	Remove nuisance fence	\$67,391		\$67,391
1.8.4	Miscellaneous Pads	\$76,849		\$76,849
1.8.5	Miscellaneous structures	\$126,572		\$126,572
1.8.6	Remove buried utilities	\$139,868		\$139,868
1.8.7	SOB electrical service	\$8,021		\$8,021
1.8.8	Remove road inside licensed area	\$137,895		\$137,895
1.8.9	Remove vehicle barriers	\$15,022		\$15,022
1.9	Final Site Survey Structure gone - By DGC Staff	\$25,000	\$20,652	\$4,348
1.9.1	Prepare Final Status Survey Plan			
1.9.2	Soil Sampling			
1.9.3	Direct Survey			
1.9.4	Sampling Analysis			
1.9.5	Prepare Final Status Survey Report			
1.10	Orise Site Release Confirmation			
1.11	Outside areas	\$8,712		\$8,712
1.11.1	Backfill, grade and seed	\$8,712		\$8,712
1.12	Demolition Crew Demobilization	\$15,720	\$12,986	\$2,734
1.13	Final Project Report - Offsite	\$9,319	\$7,699	\$1,621

3.0 DECOMMISSIONING COST ESTIMATING APPROACH

Two types of costs were determined in this estimate: activity costs and level of effort costs. The activity costs were developed utilizing a unit cost factor approach. Site material quantities for concrete, steel and equipment were developed from site specific drawings. Productivity factors were applied to these quantities to determine activity durations. Labor crews were developed and applied to the material quantities to determine labor costs and person-hours. The activity durations were used to develop a project schedule.

The level of effort costs such as equipment rental and the General Contractor (GC) staff were developed based on the project schedule duration. A rental equipment file was developed for the construction effort. The GC staff is assumed to be on-site for the duration of the project. The Oversight staff cost is another level of effort cost that is included in the cost estimate.

Bulk removal of the storage pad and concrete storage casks is assumed to be performed using an excavator with a hydraulic hammer attachment. The steel liner will be segmented utilizing torch cutters. All of this waste will be trucked off-site for processing. This leads to a large disposal volume; however, at a lower rate for bulk processing than for direct burial. In addition, there will be far less characterization and iterative decontamination. Clean structures will be demolished using mechanical means and disposed of at a local landfill.

In addition to the removal labor there is a dedicated waste packaging crew included in this estimate. This crew will consolidate, package and prepare containers for transportation. The waste packaging is estimated to remain on site for the duration of the project. This crew consists of 2 laborers; 1 Health Physics Technician; 1 Equipment Operator and 1 Foreman.

4.0 ASSUMPTIONS

Following is a list of assumptions developed by KCES in completing this study. These assumptions are based on the most current decommissioning methodologies and site-specific considerations.

1. **Component quantities** were developed from actual plant listings.
2. **Concrete volumes** were developed from plant drawings.
3. **The oversight staff** is assumed to be the similar size and configuration as it is currently.
4. **The oversight staff positions and costs** were supplied by the Company and represent July, 2012 salary and benefit data.
5. **Subcontractor base labor rates and fringe benefits** were taken directly from the 2012 R. S. Means Heavy Construction Cost Data and adjusted to Maine based on the City Cost Indexes for Augusta, ME.
6. **Activity labor** costs do not include any allowance for delays between activities, nor is there any cost allowance for craft labor retained on-site while waiting for work to become available.
7. All **skilled laborers** will be supplied locally and hired by the Decommissioning General Contractor (DGC).
8. The cost for **Utility personnel** assisting the DGC to develop decommissioning activity specifications is included in the Utility Staff costs.
9. **The separate DGC staff salaries**, including overhead and profit, were determined by KCES.
10. **Transportation** costs are based on actual mileage from MY to Memphis, TN processing facility utilized in the estimate.
11. **The ISFSI Concrete Pad, VCC exterior concrete and VCC liner steel** are assumed to be Class A waste. This waste will be disposed of at the Studsvik processing facility in Tennessee. A disposal rate of \$0.13 per pound has been used in this estimate and is based on information provided by Studsvik.
12. **The following buildings are disposed of as Clean waste** in local landfill. A disposal rate of \$91.80 per ton has been used in this estimate and is based on information provided in the 2012 R. S. Means Building Construction Cost Data.

Compacted gravel around pads
Security Fence

Light Towers
Security/Operations Building
Paved area inside nuisance fence
Nuisance fence
Miscellaneous Pads
Miscellaneous structures
Buried utilities
SOB electrical service
Road inside licensed area
Vehicle barriers

13. **All costs** used in these calculations were current on July, 2012.
14. The costs of all **required safety analyses and safety measures** for the protection of the general public, the environment, and decommissioning workers are included in the cost estimates.
15. It is assumed that all **UMS canisters containing both spent fuel and GTCC will have been removed from site** prior to the start of decommissioning.
16. **Property taxes** are included in the estimate at the current cost of \$1,003,100 per year.
17. **Fees** are included in the estimate at the current cost of \$687,000 per year.
18. **Insurance** costs are included in the estimate at the current cost of \$604,500 per year.
19. **Legal** costs are included in the estimate at the current cost of \$200,000 per year.
20. The decommissioning will be performed under the **current regulations**.
21. Removal of the pad and concrete overpacks will be performed in Tyvek coveralls. **Productivity rates** have been adjusted to account for this.
22. The removal of the **berm** is not included in the estimate.
23. No **subsurface material** is assumed to require remediation regarding radionuclides. This assumption is justified because: 1) the ISFSI area was confirmed to be clean of radiological contaminants prior to the construction of the ISFSI; 2) the ISFSI area will be maintained clean of loose radiological contaminants during the storage period; 3) the irradiated fuel and GTCC waste are stored in sealed canisters; 4) nuclear activation of the VCCs, VCCs liners, and ISFSI pad are anticipated; the activation products will remain fixed during the storage period; and 5) if contamination of subsurface material occurs during decommissioning activities, the contamination is expected to remain below the decommissioning criteria of 25 millirem per year Total Effective Dose Equivalent

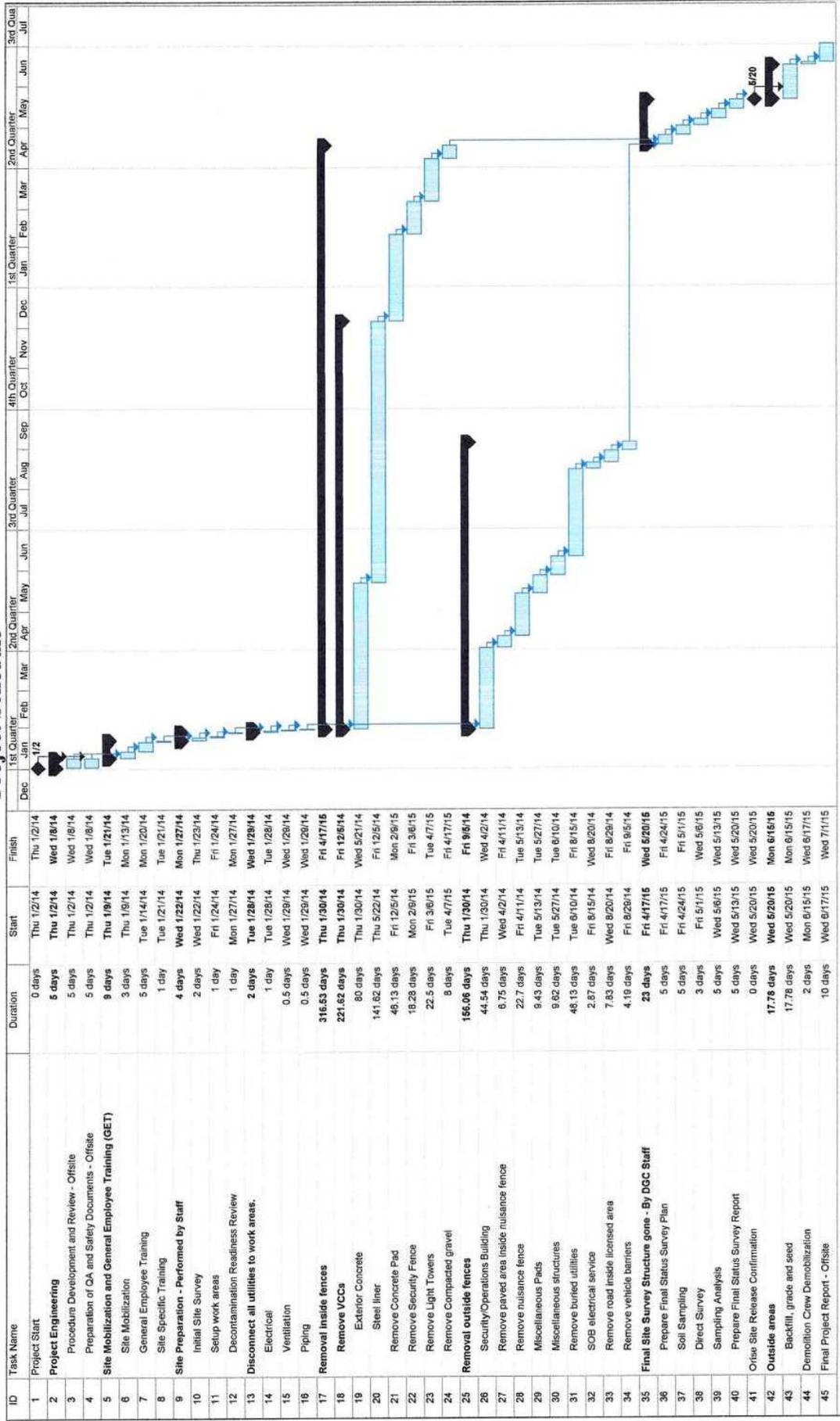
5.0 SCHEDULE

A scenario-specific schedule has been developed for estimate.

Activity durations were determined based on the unit cost factor approach. Plant material inventory quantities were developed from site specific material. Unit rates for cost, man hours and schedule hours were applied to the material quantities. From this calculation the removal or decontamination cost, total man hours and total schedule hours were determined for an activity. The schedule hours are then entered into the schedule to determine project duration. Two work crews are assumed for the concrete pad and concrete overpacks. All other work was assumed to be performed by one crew. Work outside of the security fence will be performed in parallel with the work inside the fence. The total project duration is **17.97** months.

Figure 5-1 provides the detailed decommissioning schedule.

Figure 5-1
Project Schedule



6.0 PROJECT MANAGEMENT

There are three components to project management during decommissioning, Oversight Staff (staff), Decommissioning General Contractor Staff (DGC) and Security. The person levels for each are identified below.

6.1 OVERSIGHT STAFF

The staff size is currently at a level of 19 and is assumed to be maintained at this level and at a similar configuration during the decommissioning. In addition, one final status survey resource will be added and one licensing person will be added to assist in the decommissioning. The staff will provide DGC oversight as well as maintain license compliance. Table 7-1 provides a summary of this staff.

**TABLE 6-1
OVERSIGHT STAFF**

<u>Staff</u>	<u>Number</u>
Chief Nuclear Officer	1
Cask Relicensing Project Manager	1
Workers Concerns Manager	1
Business Manager	1
ISFSI Manager	2
ISFSI QA Manager	1
Regulatory Affairs	1
Public/Government Affairs	1
General Counsel	1
Business Administrator	1
Treasurer	1
Accountant	1
Benefits Manager	1
IT Services	1
ISFSI Operations Specialist	2
Program Manager	1
ISFSI Administrator	1
Licensing Engineer	1
Security Manager	<u>1</u>
	21

6.2 DECOMMISSIONING GENERAL CONTRACTOR

The DGC will be responsible for all of the physical work. The staff will oversee the work crews., schedule work and supply HP support. The DGC will be responsible for finishing the project on time and on budget. Table 7-2 provides a summary of the DGC staff.

TABLE 6-2
DGC STAFF

<u>Position</u>	2012 Base <u>Salary</u>	Person <u>Level</u>
Project Superintendent	\$148,000	1.00
QA Auditor/Inspector	\$70,000	1.00
Health & Safety Supervisor	\$117,000	1.00
Packaging/Shipping Specialist	\$70,000	1.00
Cost Control Accountant	\$55,000	1.00
Scheduler II	\$60,000	1.00
Demolition Specialist	\$86,000	1.00
Industrial Safety	\$86,000	1.00
Engineering Supervisor	\$117,000	1.00
Project Supervisor	\$79,000	1.00
Decontamination Tech	\$55,000	2.00
Instrumentation Tech	\$55,000	1.00
Tool Crib Attendant	\$43,000	1.00
		14.00

6.3 SECURITY

Once spent fuel has been removed from the site the security force will be significantly reduced. This estimate assumes a force of 13 guards and one manager. This will allow a security person level of 5 guards during work time and two guards all other times. The guard force was assumed to consist of various levels of guards and the rate used has been adjusted accordingly.

7.0 References

1. R.S. Means, Inc, *Building Construction Cost Data*, Kingston, Massachusetts, 2012.
2. Regulatory Guide 1.202, "Standard Format and Content of Decommissioning Cost Estimates for Nuclear Power Reactors"
3. NUREG-1713, "Standard Review Plan for Decommissioning Cost Estimates for Nuclear Power Reactors"
4. NUREG-1757, "Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping and Timeliness"

APPENDIX A

