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DPG 11-566

October 19, 2011

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

Docket No.50-312
Rancho Seco Independent Spent Fuel Storage Insta1lation
License No. DPR-54

RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION ON DECOMMISSIONING FUNDING STATUS

Attention: John Hickman

This letter is in response to the request for additional information (RAI) dated September 22, 2011. Attached for your information is the 2010 Decommissioning Cost Estimate.

It is understood that this information is required to be submitted per the regulations referenced in the RAI, and the 2011 Decommissioning Cost Estimate will be modified to include all required information to preclude the need for future RAI's.

RAI #1:

On March 29, 2011, SMUD provided the following radiological decommissioning costs associated with the license termination for Rancho Seco:

> The total decommissioning costs are now estimated to be $504.3 million, with an estimated $22.2 million in remaining costs.

Per 10 CFR 50.75(f)(1),

> The information in this report must include, at a minimum, the amount of decommissioning funds estimated to be required under 10 CFR 50.75(b) and (c);

FSME20

Provide the amount of decommissioning funds estimated to be required under 10 CFR 50.75 (b) and (c).

Response to RAI #1:

10 CFR 50.75(b) by reference to 50.33(k) requires submittal of information to demonstrate reasonable assurance that decommissioning funds will be available and 10 CFR 50.75(c) provides the basis for establishing a minimum amount of funding.

Per the calculation required by 10 CFR 50.75(c), the minimum estimated amount required for decommissioning Rancho Seco (2,770 MW thermal) is:

$445.7 Million

As a comparison, San Onofre Units 1 and 2, which are each rated at 3,448 MW thermal, declare a minimum decommissioning estimate per 10 CFR 75(c) to be $470.9 million as of December 31, 2010 (ADAMS Accession Number ML110900660).

The site-specific estimate for Rancho Seco is $504.3 million, but includes the following costs which may be considered non-Decommissioning costs:

- Part 72 License Termination: $1.88 million

This would result in an estimate of $502.4 million, which exceeds the minimum amount required by 10 CFR 50.75(c) for Rancho Seco as well as exceeding the minimum amount required for a facility with a higher power rating.

RAI #2:

On March 29, 2011, SMUD referenced a site-specific cost estimate for the amount of decommissioning funds estimated to be required.

Per 10 CFR 75(e)(1)(i) and (ii),

> The licensee must specifically describe the safe storage period in order to take credit for projected future earnings when it uses a site-specific estimate as the basis for using the prepayment or external sinking fund methods of financial assurance.

Provide the most recent site-specific cost estimate for Rancho Seco, unless it was previously submitted to NRC. If the cost estimate was previously submitted to NRC, then provide a reference to its submittal. The site-specific cost estimate should include a summary schedule of annual expenses,

projected earnings, and end-of-year fund balances. Pursuant to 10 CFR 50.75(b), the cost estimate shall be in an amount that may be more, but not less, than the amount estimated to be required under 10 CFR 50.75(b) and (c).

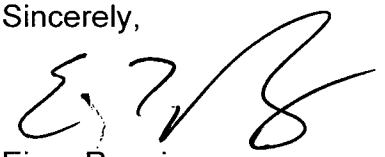
Response to RAI #2:

The 2010 Decommissioning Cost Estimate for Rancho Seco is attached. Additional information is provided as follows:

- End-of-year Fund Balance: as reported in the Decommissioning Funding Status Report, the Trust Fund contained $30.2 million at the end of 2010. This exceeds the estimated Total Remaining Costs of $22.2 million.
- Identification of Non-Decommissioning Costs: the following costs are included in the Decommissioning Cost Estimate, but are not required to be included:
  - Part 72 License Termination $1.88 million
  - This reduces the remaining decommissioning costs to $20.4 million, well below the existing Fund Balance.
- Projected earnings: since the Decommissioning Trust Fund is fully funded (actually, currently estimated to be over-funded), projected earnings are not providing a basis for assuring sufficient decommissioning funding. Therefore, no information on projected earnings is provided.
- The safe storage period as described in the Decommissioning Cost Estimate lasts until 2028 when the low-level radioactive waste in storage will be disposed. Since sufficient funds are available, SMUD may choose to accelerate the process which does not affect the Estimate nor Funding since future earnings are not required to provide funding assurance.

If you or members of your staff have questions requiring additional information or clarification, please contact me at (916) 732-4817.

Sincerely,

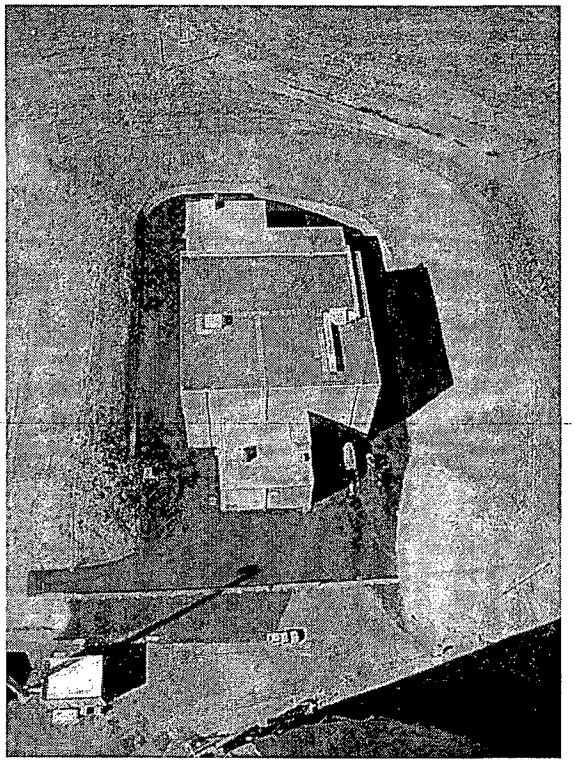


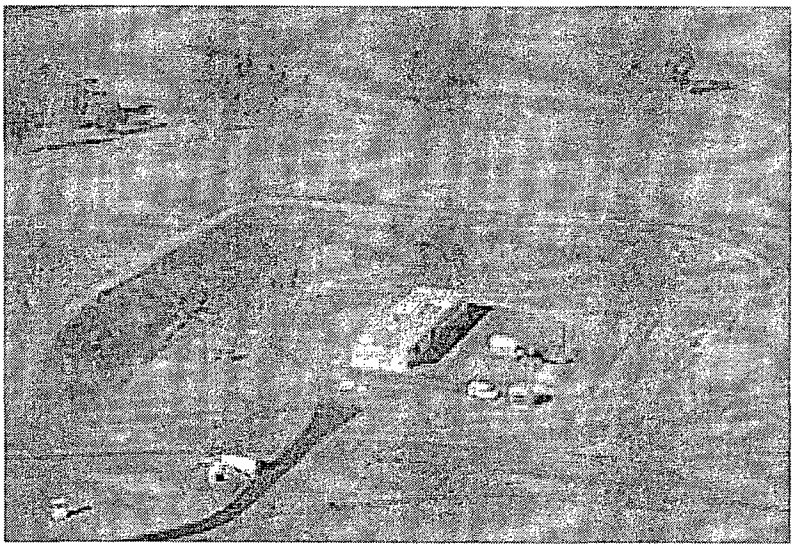
Einar Ronningen
Superintendent, Rancho Seco Assets

Attachment

2010 DECOMMISSIONING COST ESTIMATE

RANCHO SECO DECOMMISSIONING





APPROVALS

Approved by:
Superintendent, Rancho Seco Assets

Einar T. Ronningen

On the cover: IOSB – regulated by Part 50 license
ISFIS – regulated by Part 72 license

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REVISION LOG

Revision 0: 12/15/10

2010 DECOMMISSIONING COST ESTIMATE

SUMMARY

The remaining cost projected to complete the decommissioning of The Rancho Seco Nuclear Generating Station (Rancho Seco) is $22.2 million. This includes all projected costs to terminate both the Part 50 and Part 72 licenses. In 2009, Phase I license termination activities were completed and modification of the Part 50 license was approved by the Nuclear Regulatory Commission (NRC). Phase I costs (completed in 2009) totaled $482.0 million. As of 2010, Phase II expenditures totaled $0.1 million, with costs for remaining activities total $22.2 making the total 2010 Decommissioning Cost Estimate $504.3 million. Remaining activities include: the transfer of stored fuel and Greater Than Class "C" (GTCC) Radioactive Waste to the Department of Energy (DOE)[1] in 2027; disposal of Class B & C waste (resins and reactor vessel internal components) in 2028 and oversight of that waste until disposal; and license termination activities following transfer of the stored materials. A summary of the major remaining decommissioning cost contributors is provided in Table 1. The cost estimate includes nuclear fuel storage costs only through 2008. Beginning in 2009, fuel costs are considered a normal operation and maintenance (O&M) expense and are not included in the Decommissioning Cost Estimate.

Cost changes in this estimate are based on inflation of the previous estimate. The costs for the decommissioning line items by category and as a schedule of expenditures are provided in Tables 2 and 3: Table 2 contains the information for Phase II actual and future expenditures and Table 3 outlines the actual costs for Phase I of decommissioning.

With Phase I of radiological decommissioning complete, the single largest remaining cost is waste disposal. The GTCC disposal is now a significant portion of the remaining cost representing 15% of the total. The Class B & C waste produced during Phase I of the license termination process remains in storage until a suitable disposal facility becomes available, conservatively estimated to occur just after the DOE takes possession of the waste stored at the Independent Spent Fuel Storage Installation (ISFSI). The projected costs for disposal of all Class B & C wastes represent 53% of the total. Oversight of the stored Class B & C waste accounts for 10%, while the License Termination costs for both licenses represent 22% of the remaining costs.

BACKGROUND

Rancho Seco is located approximately 25 miles southeast of Sacramento, California. The industrial facility is 87 acres and sits within a 2,480-acre plot of land that is owned by the

[1] SMUD believes that the DOE has been paid for and is responsible for the GTCC disposal under the terms of the Standard Contract. However the DOE does not agree, thus, as a prudent business contingency, funds are set aside in the Cost Estimate and Trust Fund.

Sacramento Municipal Utility District (SMUD). The station was comprised of a single B&W-designed generation unit with support facilities.

Rancho Seco commenced reactor operations September 16, 1974, and began commercial operation April 18, 1975. SMUD permanently terminated operations at Rancho Seco on June 7, 1989 following passage of a public referendum June 6, 1989. The reactor was completely defueled on December 8, 1989 and a Possession Only License,a long with Permanently Defueled Technical Specifications,be came effective April 28, 1992.

On May 20, 1991, SMUD submitted a proposed Decommissioning Plan to the NRC that outlined the decommissioning option of Hardened SAFSTOR. This alternative put the fuel in dry storage and placed the plant in a safe, dormant condition with a small site maintenance staff until 2008 when a Decommissioning Operations Contractor would be brought in to complete decommissioning. This allowed for the Decommissioning Trust Fund to be fully funded before dismantlement began. The NRC issued a decommissioning order and approved the Rancho Seco decommissioning funding plan on March 20, 1995.

Beginning in 1995, TLG Services, Inc. (TLG) provided SMUD with alternative cost estimates that included options for the decommissioning of the facility. Delays in the Fuel Dry Storage project caused increases in projected costs, and the alternatives were provided to take advantage of the available opportunities, including: availability of SMUD Staff on site to support dismantlement due to delays in the Fuel Dry Storage project, and; availability of Envirocare's Clive, Utah disposal facility (Envirocare is now EnergySolutions) as an appealing option for low level radioactive waste (LLW) disposal. Transfer of fuel to dry storage in the Part 72 licensed ISFSI was completed August 22, 2002.

In January of 1997, SMUD Board of Directors (the Board) approved the Incremental Decommissioning Project, and dismantlement of the facility began in earnest. In 1999, the Board approved expansion of the Incremental project to include all activities necessary for license termination. In April of 2006, SMUD submitted the License Termination Plan (LTP) to the NRC, outlining the activities necessary for the NRC to allow license termination. The LTP was approved by the NRC in November 2007. In September 2009 the NRC approved the request for modification of the Part 50 license. Only the Interim Onsight Storage Building (IOSB) and the land enclosed by the exterior fence (approximately 1 acre) remains licensed under Part 50.

With the closure of the Barnwell, S.C. waste disposal facility, there are no options for disposition of Class B and Class C LLW available to SMUD. EnergySolutions is currently pursuing licensing of a process that would allow disposal of the stored resin at their Clive, Utah facility. Waste Control Specialists (WCS) was awarded a license for disposal of all classifications of LLW in 2009 and has begun construction of their LLW facility in Andrews, Texas. The facility is currently scheduled to begin operations in late 2011 and will initially accept in-compact waste only. However, WCS is working with

the newly formed Texas Low Level Waste Compact Commission to allow importation of waste from other compacts in the future.

This cost estimate assumes the following: DOE acceptance of the used fuel and GTCC waste in 2027; disposal of the Class B & C radioactive waste in 2028.

INTRODUCTION

This decommissioning cost estimate is prepared to satisfy the requirements of Title 10 of the Code of Federal Regulations, Part 50.75. The origin of this cost estimate is the area-based decommissioning cost estimate prepared in 1999 and later updated in the year 2000 by TLG. Subsequently, SMUD staff updated the estimate in the years 2001 through 2005. Each of these updates prepared by SMUD staff was reviewed by TLG. Since 2006, updates are performed by SMUD staff without outside agency review. SMUD staff has determined that outside review is not necessary because all activities involving significant cost and/or schedule risk have been completed. This cost estimate updates the 2009 estimate. The current cost estimate for decommissioning Rancho Seco is $504.3 million.

The technical portion of the TLG cost estimate was based on system and component removal and facility decontamination which is complete and the remaining waste is stored in containers ready for shipment: there is little technical basis to the remaining costs. In addition, the decommissioning costs to date have all been well within the estimated costs, and the small scope of work remaining poses little risk of changing the historical trend. The largest risk factor is the cost of disposal of the waste currently stored at Rancho Seco. These costs will be readily quantified when a suitable facility becomes available, and staff has used available industry knowledge to estimate these future costs. Therefore, staff has determined that outside review would not provide additional confidence in the cost basis.

This document is based upon the latest information available including actual costs to date, projections for the work remaining, and projections of SMUD overhead costs. Updated information was used to make this cost estimate as accurate as possible, and revisions to costs were made in the following areas:

- the actual withdrawals from the Trust Fund for work completed through June 2010
- projected costs for the Stored Waste Oversight
- projected costs for license termination activities
- projected costs for future waste disposal

History of Rancho Seco Decommissioning and Cost Estimates

After the cessation of plant operations on June 7, 1989, the initial decommissioning alternative chosen was a modified SAFSTOR option identified as Hardened SAFSTOR. The facility was to be placed into a safe, stable condition including transferring of the used nuclear fuel from wet to dry storage. Because of the premature shutdown, the Decommissioning Trust Fund had not collected adequate funds for decommissioning. SMUD proposed a plan, which the NRC approved, to continue annual contributions to the Decommissioning Trust Fund over the time period of the original operating license, extending through 2008, at which time the Trust would be fully funded. This allowed

collection of funds while minimizing the overall financial impact to SMUD operations. Dismantlement activities were to commence once the funding was complete.

This original plan was the basis for the 1991 cost estimate, and was the baseline used for comparison when TLG prepared the 1995 cost estimate that included several decommissioning options. The two critical bases for these cost estimates were the use of a Decommissioning Operations Contractor to perform decommissioning, and the use of the then-proposed Ward Valley Low Level Waste Disposal Site (Ward Valley) as the cost basis for radioactive waste disposal.

Difficulties in the Fuel Dry Storage project caused delays over several years. The delays resulted in increases in overall decommissioning costs. The increases were reflected in the cost estimate updates and required increasing annual contributions to the Trust Fund, impacting SMUD's annual operating budget. Because of the financial impact, options were sought to mitigate the consequences of the increased costs. TLG was tasked with estimating the cost of several decommissioning options when preparing the 1995 update, and several options were evaluated.

Shortly after the 1995 decommissioning cost estimate update was prepared, EnergySolutions (then Envirocare) began accepting LLW from nuclear utilities. EnergySolutions did not (and currently does not) accept the full spectrum of waste that is categorized as LLW, but the waste they do accept represents the vast majority of waste generated during a power reactor decommissioning project. The Ward Valley cost basis was over \$400 per ft^3 of LLW, while the EnergySolutions cost was under \$100 per ft^3. With over 200,000 ft^3 of material estimated to be generated during Rancho Seco decommissioning that would be acceptable for disposal at EnergySolutions, the opportunity to favorably impact the overall cost of decommissioning became possible.

In the original basis for the cost estimate, after Hardened SAFSTOR was achieved a staffing reduction was planned to correspond with the reduced need to maintain plant systems and facilities. Delays in the fuel project resulted in maintaining site staff at a higher level longer than originally planned. While this caused increases to the annual contributions to the Trust Fund, it also maintained a large talent pool on site with considerable process knowledge of operating history and radiological conditions within the facility.

The availability of EnergySolutions combined with the presence of a large talent pool within the available staff presented an opportunity to begin the dismantlement process early. In 1996, a plan was developed to take advantage of both circumstances and perform dismantlement of the majority of the secondary systems in the Turbine Building. This was proposed to the Board as the Incremental Decommissioning Project, which they subsequently approved as a 3-year project in January 1997.

The Incremental Decommissioning Project was successful in helping to mitigate the impacts of the delay in the fuel project, and the work was completed ahead of schedule

and below projected costs. The Incremental project was so successful that the scope was expanded to include systems in the Tank Farm and other outside areas.

During the time period of Incremental Decommissioning, additional circumstances outside of SMUD's control resulted in further delays in the fuel project and additional impacts to the cost estimate and the annual Trust Fund contribution. Based upon the success of the Incremental project and the need to mitigate additional increases to the annual Trust Fund contribution, the decommissioning staff proposed a plan for continuing decommissioning through license termination, with an end-date to complete decommissioning in 2008. The Board approved this plan in July 1999, and SMUD shifted from Incremental Decommissioning to Decommissioning.

Early cost estimates throughout the industry were based upon plant inventories by system. Based upon the experiences gained at Rancho Seco and at other decommissioning nuclear utilities, TLG shifted the performance of cost estimating from a system-based approach to an area-based approach. To facilitate shifting the Rancho Seco cost estimate to the area-based approach, staff performed an area-by-area inventory of the systems in the Auxiliary and Reactor Buildings. The cost estimate prepared by TLG in 1999 represented both the shift to the area-based approach and the schedule change of completing decommissioning in 2008. (An additional cost estimate representing an update to the 1995 system-based estimate was also performed by TLG in 1999 for comparison purposes. 1999 was the last year the system-based estimate was updated.)

With the commencement of active Decommissioning came the requirement to perform annual updates to the cost estimate. In 2000, TLG prepared an update to the 1999 area-based cost estimate. By this time, relatively long-term contracts were in place to provide labor, technical staff, transportation, radwaste packaging materials, radwaste processing, and radwaste disposal to support the decommissioning process. TLG used this actual information when preparing the 2000 cost estimate.

The date of January 1, 2000 is defined as the dividing line between Incremental Decommissioning and Decommissioning. The demarcation between the two projects may be defined as that point where the planned Turbine Building work was completed, and work in the Auxiliary Building was begun. In actuality, there was some overlap between the projects, with work occurring simultaneously on both projects for 1-2 months before and after 1/1/2000. Defining 1/1/2000 as both the end of Incremental Decommissioning (completion of work defined as within Incremental Decommissioning scope) and the beginning of Decommissioning (no work yet begun defined as within Decommissioning scope) has negligible impact on cost. However, it would be difficult to carry forward a demarcation point other than the beginning of the calendar year because Trust Fund calculations, the budget process, and the scheduling of costs over the duration of the project are all based upon calendar year.

Phased Decommissioning

By 2001, after Decommissioning had begun, SMUD decided not to send any LLW to the Barnwell, SC disposal facility, having never sent any material there for disposal. This decision precluded the ability to complete Decommissioning and termination of the Part 50 license. At that time, the plan to decommission in phases was implemented. During Phase I, the majority of the identified activities would be completed, including large component removal and decontamination of the facility to meet NRC release criteria. Class B & C LLW resulting from these activities would be stored in the IOSB. With Phase I complete, the Part 50 license would be modified to include only the IOSB and 1-acre surrounding it. Phase II would include the stored waste oversight, shipping of the stored waste for disposal, and completion of all license termination activities at the IOSB resulting in termination of the Part 50 license. Decommissioning of the ISFSI, resulting in termination of the Part 72 license, is included in this cost estimate, but is a separate project not considered in the phased decommissioning of the former reactor facility.

All physical system removal and building decontamination was complete by the end of 2008, with Final Status Surveys completed in June 2009. In September 2009, the NRC approved SMUD's request to modify the Part 50 license, releasing all of the facility from the license except for the 1-acre area encompassing the IOSB. This completed Phase I of Decommissioning. In 2010, and for the foreseeable future, the facility remains in a SAFSTOR mode.

METHODOLOGY AND APPROACH

This cost estimate reflects the actual costs of Phase I (defined as all costs of the dismantlement effort including some license termination activities that resulted in the modification of the part 50 license), and provides actual and estimated costs for Phase II (defined as costs beginning in 2009 with the oversight of stored waste through termination of both Part 50 and Part 72 licenses). The technical basis for previous estimates included detailed calculations for: system and component removal; extensive building and outside area decontamination, and; determination of radioactive waste volumes and packaging requirements. While some radioactive waste is expected to result from future license termination activities, these costs are very small in comparison to previous expenditures.

Details on the methods used by TLG in preparing the historical cost estimates are contained in the respective cost estimate documents. The methods used unique to this latest update are included in the discussion below.

Update Methodology

Previous updates to the cost estimate utilized actual cost bases to update ongoing activities. In 2009, the future costs were reevaluated and a new baseline was established based on the limited scope of the remaining work and reflecting the need to re-establish a decommissioning organization when physical work resumes. This update includes actual costs of waste oversight and inflates future costs. The major cost categories are: "Oversight, Shipping and Burial for Waste Disposal and Contract Staff".

Overview of Decommissioning Cost Estimate Components

The cost estimate provides an overall cost for the duration of the project including all costs incurred after transitioning from O&M-financed expenses after plant shutdown through 10 CFR 50 & 72 license terminations, plus an amount to cover SMUD costs anticipated for disposal of the GTCC material.

The previously expended funds include all expenditures for Phase I and actual costs for Phase II through 2009. This data is based upon the certified amounts withdrawn from the Trust Fund each year. The annual amounts withdrawn from the Trust Fund are meant to be the same as the actual expenditures in any given year, but for logistical reasons, the withdrawal is based upon actual expenditures through the 3rd quarter and a Budget Forecast for the 4th quarter in any given year. Because the withdrawal is based upon a forecast, there is invariably a difference between the amount withdrawn and the actual costs incurred. The amount withdrawn is over or under the actual expenditure for the calendar year, and the difference is corrected the following year. This results in a history of actual costs by year, represented by Trust Fund withdrawal amounts. Actual costs prior to 2000 are provided in a lump sum, demarcating the shift from Incremental

Decommissioning to Decommissioning. Actual costs from 2000 and forward are carried in the cost estimate by year.

Oversight represents the costs necessary to ensure safe storage of the Class B & C waste until disposal. These are annually recurring costs for monitoring and maintaining the IOSB.

Waste disposal costs for the Class B and C LLW are based on industry standard projections with some contingency due to the uncertainty of future costs with no disposal option currently available. The cost for the GTCC waste disposal is carried forward from previous estimates. The disposal of the GTCC material is tied to the fuel storage because it is assumed the GTCC material would be placed into the same repository as the fuel when the DOE develops the repository.

Staff costs include the cost for contract staff to support LLW shipping activities and ultimately perform the remaining license termination activities including limited decontamination of the IOSB and performance of Final Status Surveys at the ISOB and ISFSI. Also included are staff costs required to oversee the radioactive waste stored in the IOSB until shipped for disposal.

FINANCIAL COMPONENTS OF THE COST MODEL

The decommissioning cost estimate in total is defined as the funding required to complete decommissioning through license termination. Historically, the estimate consisted of a large number of calculated costs based on cost factors, and the cost assigned to a given line item within the estimate was not as rigorously defended as the total. A basic assumption of the estimating process has been that when specific line items have been over-estimated, the unspent funds will be required to cover the costs associated with other line items that have been under-estimated. The historical costs captured in this estimate for Phase I of decommissioning reflect that the cost of the work completed was, in general, over-estimated.

The remaining future costs within this estimate were rigorously reviewed and/or refined. The format was changed in the 2009 update for ease of performing future updates. The estimate is divided into costs by license for the Part 50 stored LLW, and for the Part 72 stored used fuel and GTCC waste. The Stored Waste Oversight costs are carried forward from the last update. The cost for LLW disposal has been split between the resins and the reactor vessel internals components, with the possibility of near-term resin disposal. The cost model has been updated to reflect the actual activity and dose rates for the waste in storage. Since the Barnwell, SC disposal facility that was the cost model for the LLW disposal costs was closed in 2008; additional contingency has been added due to the uncertainty of future disposal costs. The GTCC disposal costs are carried forward from the last update. The Part 72 License termination costs were added to reflect the anticipated costs for ISFSI license termination. This information is taken from an estimate previously performed by TLG and is based on ISFSI materials activation calculations performed by staff in the mid-1990's.

The 1999 decommissioning cost estimate prepared by TLG was comprised of a detailed list of activities to which the unit cost factor methodology was applied. This provided a sound basis for determining overall costs, but contingencies were also added. The contingency provides additional funds to cover unforeseeable costs that are within the defined scope of the decommissioning project. It is important to note that contingency funds are an important part of the decommissioning cost estimate, and represent funds that are expected to be completely expended through the decommissioning process.

All of the activities which presented significant cost risk were completed in Phase I of Decommissioning, including dispositioning of the reactor vessel, reactor vessel internals, and all interior structures in the containment building. The reactor vessel and its internal components became radioactive as a result of activation during plant operation. Portions of the internals are highly radioactive and do not qualify as LLW, but are classified as GTCC waste and are currently in storage at the ISFSI. The radioactive waste Class B and Class C internals are in storage at the IOSB.

Examples of remaining contingencies include changes in the regulatory environment and projected radioactive waste disposal costs (e.g., Class B & C waste disposition options and costs or regulatory changes that would impact remaining license termination activities). The cost impacts of these uncertainties have been defined by TLG in previous estimates under the term "financial risk". To date, financial risk has not been specifically addressed within any Rancho Seco decommissioning cost estimate. Outside of the scope of the cost estimate itself, staff deals with these uncertainties on a project-by-project basis. An overall risk assessment taking into account any anticipated risk factor would typically be addressed through a probability analysis, perhaps utilizing a Monte Carlo-type probability simulation. Such a detailed risk analysis is considered to be outside of the scope of the decommissioning cost estimate. However, contingency is included as a component of the estimate where prudent.

ASSUMPTIONS

The following are the assumptions used in developing the Rancho Seco cost estimate. Some assumptions are generic in nature, and some are specific to the Rancho Seco site.

Used Fuel

1. The cost to remove and dispose of the used fuel from the site is not reflected within the estimate to decommission Rancho Seco. The Nuclear Waste Policy Act assigns responsibility to the DOE's Waste Management System.

2. The ISFSI will remain operational under the 10 CFR 72 license until the DOE takes possession of, or accepts responsibility for, the fuel. The cost for maintenance of the fuel is considered O&M and is not included in this cost estimate.

3. DOE acceptance of fuel in 2027 is carried forward from previous estimates. This will be reviewed for each subsequent estimate as there is currently great uncertainty with the acceptance date.

Reactor Vessel Internal Components

1. The reactor vessel internal components are removed and packaged. Resulting Class B and Class C radioactive waste is stored in the IOSB until a suitable option for the material becomes available. The resulting GTCC material is stored in the ISFSI until the DOE takes possession of the material. However, the DOE has not yet established an acceptance criteria or a disposition schedule for this material. Therefore, this cost estimate is based upon industry-accepted assumptions regarding DOE schedules. Industry assumptions for the acceptance criteria are modeled on

the packaging for the used nuclear fuel: the GTCC is stored in a canister with the same outer geometry as the used fuel canisters.

2. The cost to dispose of the GTCC material stored in the ISFSI is reflected in this cost estimate. The cost for maintenance and transfer of the GTCC material is not included in this cost estimate.

Transportation Methods

1. Contaminated materials resulting from remaining decommissioning activities will qualify under Title 49 of the Code of Federal Regulations Part 173 as LSA –I, –II, or –III, or SCO–I or –II.

2. Transportation of Class A LLW is by truck or rail to EnergySolutions. Class B & C LLW transportation costs are modeled on the cost of transportation of that material by truck to the Barnwell facility, which, due to the distance from the Rancho Seco facility, is considered bounding. Transportation assumes a normal maximum road weight limit of 80,000 lbs. Cask shipments may exceed 95,000 pounds.

Low-Level Radioactive Waste Disposal

1. The majority of the LLW generated during decommissioning has been disposed at EnergySolutions. Future disposal rates used in the estimate are based upon current contractual rates and potential future rate impacts based on over 10-years of historical trends. EnergySolutions considers contract disposal rates proprietary.

2. Waste not suitable for disposal at EnergySolutions (class B & C) is being stored in the IOSB until a suitable disposal facility becomes available. No facility currently exists that is available to SMUD for the disposal of this material.

3. Barnwell disposal rates are used as the model for waste not suitable for disposal at EnergySolutions. The basis for this cost model is the rate schedule published in NUREG-1307. Because the Barnwell facility is no longer available, a contingency of 15% of the disposal costs is included due to the uncertainty of future rates.

Estimating Basis

1. Future decommissioning costs are in general reported in the current year's currency regardless of the scheduled year of the expenditure; therefore, changes in schedule do not impact the cost estimate.

2. Remaining costs are based upon an estimate of the remaining activities including contract staff to perform the activities and other costs such as waste disposal.

Labor Costs

1. The craft labor required to complete decommissioning is obtained through standard SMUD contracting practices.

2. Future activities such as waste shipments and license termination activities will be performed by contracted staff.

3. Costs for stored waste oversight are based upon current salary information obtained through the current budget process, and estimates of future changes in SMUD overhead costs.

4. Engineering services for such items as writing activity specifications, detailed procedures, and work procedures are assumed to be performed by contracted staff.

General

1. Only the 1-acre facility encompassing the IOSB remains under the Part 50 license. The Class B & Class C waste will be stored in the IOSB through 2028.

2. The approximately 10-acre ISFSI remains under the Part 72 license. The used fuel will be completely transferred to the DOE by the end of 2027.

3. Phase I of the LTP is complete. Phase II of the LTP will be completed after the Class B & C waste is shipped for disposal and the used fuel and GTCC has been shipped to a DOE facility. Completion of Phase II of the LTP will result in complete termination of both the Part 50 and Part 72 licenses.

4. Equipment such as administrative equipment (desks, chairs, etc.), forklifts, trucks, other mobile equipment and items of personal property owned by SMUD will be easily removed without the use of special equipment at no cost or credit to the project.

5. The decommissioning activities are performed in accordance with applicable regulations.

6. The principles of ALARA used in determining work duration adjustment factors are minimal for the remaining work scope, but remain an element in the cost estimate.

7. SMUD provides the electrical power required for the decommissioning project at no cost to the project.

GLOSSARY INCLUDING ACRONYMS AND ABBREVIATIONS

1. ALARA: As Low As Reasonably Achievable
2. Barnwell: The Barnwell, SC LLW Disposal Facility
3. DOE: Department of Energy
4. Energy Solutions: Formerly Envirocare of Utah, Inc. - headquartered in Salt Lake City that operates the LLW disposal facility in Clive, UT and is developing a resin processing technique in TN
5. GTCC: Greater Than Class "C" Waste - disposal of this waste is the responsibility of the DOE
6. IOSB: Interim Onsight Storage Building
7. ISFSI: Independent Spent Fuel Storage Installation
8. LLW: Low Level Radioactive Waste
9. LTP: License Termination Plan
10. NRC: Nuclear Regulatory Commission
11. O & M: Operation and Maintenance
12. Part 50: Title 10 of the Code of Federal Regulations, Part 50 – regulations governing the former operating plant license now applicable to the IOSB
13. Part 72: Title 10 of the Code of Federal Regulations, Part 72 – regulations governing the license for the ISFSI
14. Rancho Seco: Used in reference to both facilities licensed by the NRC, Rancho Seco Nuclear Generating Station (Part 50) and Rancho Seco ISFSI (Part 72)
15. SMUD: Sacramento Municipal Utility District
16. TLG: TLG Services, Inc
17. Ward Valley: The proposed Ward Valley Low Level Waste Disposal Site in Needles, CA
18. WCS: Waste Control Specialist, Inc. - operates the LLW disposal facility being constructed in Andrews, TX

REFERENCES

1. "2009 Decommissioning Cost Estimate for the Rancho Seco Nuclear Generating Station", November 30, 2008, Document No DPG 09-329, Rev 0
2. Rancho Seco Stored Waste Oversight cost basis, Post 2008 ARO Costs, 2003; ARO Response to Data Request and Assumptions, Attachment S11-1481-0302
3. Rancho Seco Part 72 License Termination cost basis, TLG Services, Inc "Independent Spent Fuel Storage Installation Decommissioning" Cost Summary, 2003; ARO Response to Data Request and Assumptions, Attachment S11-1481-0302
4. Rancho Seco Resin Disposal cost basis,
5. Rancho Seco Reactor Vessel Internals Disposal cost basis,

TABLE 1
SUMMARY OF DECOMMISSIONING COST CONTRIBUTORS

Work Category	Cost in 2010$ (2010 & beyond)	Percent of Remaining Costs
Stored Waste Oversight	2,201	10%
Future LLW Disposal	11,831	53%
GTCC Disposal	3,278	15%
Final License Termination Activities	4,882	22%
Total	22,192	100%

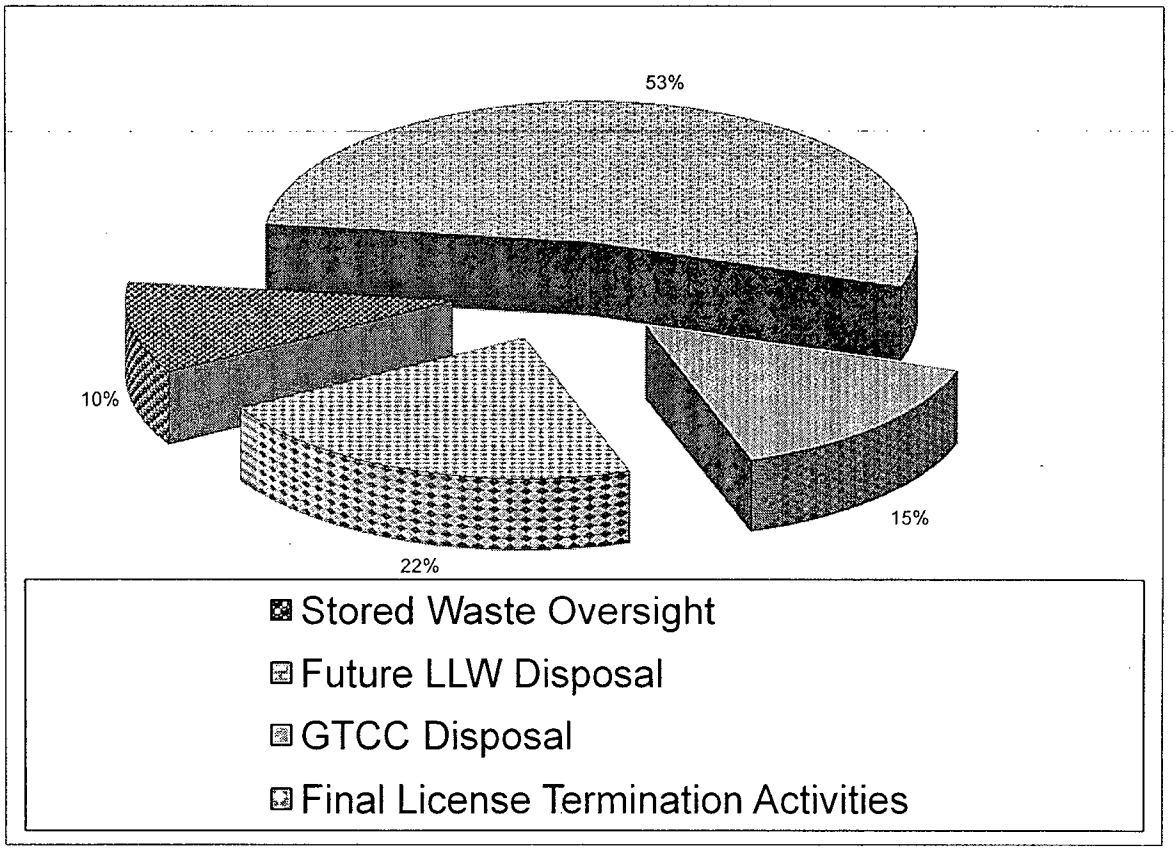

Table 2
Decommissioning Cost Estimate - Phase II
(Thousands of 2010 Dollars)

DESC	OVERSIGHT	Waste Disposal SHIP	Waste Disposal BURY	Contract STAFF	CNTGCY	% CNTGCY	TOTAL	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020-2026	2027	2028	TOTAL
IOSB (part 50 license)																					
Stored Waste Oversight	2,250						2,250	165	116	116	116	116	116	116	116	116	116	811	116	116	2,250
Resin Disposal		118	3,094	147			3,359													3,359	3,359
RVI Disposal		346	6,714	406	1,007	13%	8,472													8,472	8,472
Part 50 License termination		4	27	2,829	141	5%	3,001													3,001	3,001
Totals	2,250	468	9,834	3,382	1,148		17,082	165	116	116	116	116	116	116	116	116	116	811	11614,	948	17,082
ISFSI (part 72 license)																					
GTCC Disposal			2,447		829	34%	3,278												3,278		3,278
Part 72 License termination		15	294	1,573			1,881												941	941	1,881
TOTAL COST (CE 2010)	2,250	468	12,281	3,382	1,977	10%	20,360	165	116	116	116	116	116	116	116	116	116	811	3,393	14,948	22,241
Phase I Costs							482,002														482,002
Phase II Actual Pre-2010	63						63														63
Total Decom Cost Pre-2010							482,064														482,064

Total Decommissioning Cost 504,305

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	DECON	REMOVE	PACKSHIP		BURY	OTHER	Surcharges MATERIAL	Surcharges CONTRACT	Surcharges WASTE	CNTGCY	% CNTGCY	TOTAL
Decomm Funds expended through 1999						156,310						156,310
Reactor Building												
Rx - RX00 Building System Removal		486	24	7	139							656
Rx - RX01 Building System Removal		1,064	167	50	975							2,256
Rx - RX02 Building System Removal		2,728	248	74	1,445					15		4,509
Rx - RX03 Building System Removal		3,192	316	94	1,844					279		5,725
Rx - RX04 Building System Removal	27	524	45	15	271					494		1,375
Rx - RX05 Building System Removal		241	4	0	155				0	130		530
RPSB - Pack Ship Bury Activities		9	28	113	895				3	105		1,153
X411 - Liner Preparation										28		28
ERM Efficiency Removal Method (25% of Removal Costs)		-1,754										-1,754
LEM Correction (inflation of prior work performed)	-3	-1,154	-112	-40	-705				0	-96		-2,110
Totals	24	5,336	720	312	5,019				3	955		12,369
Auxiliary Building												
Aux -AX00 Building System Removal		2,804	217	87	2,432					28		5,568
Aux -AX01 Building System Removal		3,469	277	104	2,718					83		6,650
Aux -AX02 Building System Removal	37	1,501	142	67	1,801					65		3,612
Aux -AX03 Building System Removal	14	723	73	35	1,000					93		1,938
Aux -AX04 Building System Removal	10	542	66	25	553					16		1,212
Aux -AX05 Building System Removal		244	38	12	237					42		574
Aux -AX06 Building System Removal		51	3	1	28					2		85
Aux -AX07 Building System Removal	87	86	12	4	73	205			17	11		496
Aux 211 Ventilation Equipment Room												
APSB & BPSB - Pack Ship Bury Activities		194	96	88	429	101	8	1	12	282		1,210
TSM1 - Remove Temporary Stack												
ERM Efficiency Removal Method (25% of Removal Costs)		-2,122										-2,122
LEM Correction (inflation of prior work performed)	-44	-2,130	-259	-115	-2,996	-3	0		-2	-37		-5,586
Totals	104	5,363	665	307	6,276	303	8	1	26	584		13,637
Auxiliary Building - Non Controlled Area												
350 AB Non Controlled		8										8
350A +40' Elevation		210										210
350B +20' Elevation		440										440
350C Grade & Below Elevation		222								7		229
LEM Correction (inflation of prior work performed)		-82								-1		-83
Totals		797								6		803
Tank Farms												
Tank Farm - Above Ground	45	1,699	103	38	599	10			2	83		2,580
Tank Farm - Below Ground		882		26	69					6		984
LEM Correction (inflation of prior work performed)	-3	-240	-11	-7	-76				0	-9		-347
Totals	41	2,341	92	58	592	10			2	80		3,216

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	DECON	REMOVE	PACKSHIP		BURY	OTHER	Surcharges MATERIAL	Surcharges CONTRACT	Surcharges WASTE	CNTGCY	% CNTGCY	TOTAL
Additional Costs												
Asbestos Removal		514	117	4	28		5	12	3	77		759
Lead Remediation		623						2		40		666
LEM Correction (inflation of prior work performed)		-60	-6	0	-1		0	-1	0	-7		-75
Totals		1,076	111	4	27		5	14	2	111		1,350
Embedded Piping												
Preparation Steps		68				40			3	59		170
Reactor Building		161				65						226
Auxiliary Building	284	305				107		5				701
Turbine Building		192			1	10				46		249
Spent Fuel Building	105	20				73		0				199
Embedded Pipe Final Status Surveys (F00-F134)						436						436
LEM Correction (inflation of prior work performed)	-16	-46			0	-21		0	0	-5		-89
Totals	374	701			1	709		4	3	100		1,892
Spent Fuel Building												
Spent Fuel Bldg Roof		138								22		159
Mechanical & Electrical Equip	23	536	106	68	1,311		5	11	26	223		2,308
Drain & Process Wate										9		9
Removal of Fuel Rack	58	246	122									426
Complete SFP C/U & R		581	108	32	277					203		1,200
LEM Correction (inflation of prior work performed)	-8	-200	-42	-13	-202		-1	-1	-3	-61		-531
Totals	74	1,300	293	87	1,385		5	10	23	395		3,572
Nuclear Steam Supply System Removal												
RCP Motors		34	155	38	389							617
Incore Instrumentation	66	33	11	6	55	80						252
RC Pumps	87	92	198	49	495					252		1,172
Control Rod Drive	66	33	11	6	55	80						252
Service Structure	66	47	12	6	59	80						270
Pressurizer	139	295	254	33	254					166		1,142
Steam Generators		2,339	289	624	3,591					86		6,928
Reactor Vessel Internals	83	14,276	1,251	207	1,272	542	87	261	36	298		18,313
Reactor Vessel		3,099	429	142	1,255	44				72		5,041
Reactor Coolant Piping	143	214	6	3	21							386
LEM Correction (inflation of prior work performed)	-62	-1,532	-225	-89	-586	-81	-7	-19	-2	-77		-2,681
Totals	589	18,929	2,390	1,024	6,862	746	80	242	34	796		31,691
Turbine Building												
Turbine Building		1,025	8	2	32	1	1	8	1	110		1,189
Area Between DG Room & SFB		150		4	5							159
LEM Correction (inflation of prior work performed)		-67	-1	0	-3	0	0	0	0	-6		-78
Totals		1,109	7	6	34	1	0	7	1	104		1,269

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	DECON	REMOVE	PACKSHIP		BURY	OTHER	Surcharges MATERIAL	Surcharges CONTRACT	Surcharges WASTE	CNTGCY	% CNTGCY	TOTAL
IOSB Project												
IOSB Project		15			0	528						543
LEM Correction (inflation of prior work performed)		-1				-8						-9
Totals		14			0	520						534
Waste Water Disposal System												
RHUT Area		568	40	17	150	58	2	6		25		867
Discharge Lines		172								3		175
Retention Basin Area		476			1,075	1,026	39	145	94	41		2,897
LEM Correction (inflation of prior work performed)		-75	-4	-2	-43	-29	-1	-4	-2	-3		-164
Totals		1,141	36	15	1,182	1,056	40	147	91	65		3,775
Remediation of Site Buildings												
Reactor Building	349					561		4		80		994
Auxiliary Building	1,417	1,609	153	23	1,249	1,217		31	176	1,109		6,984
Turbine Building	9	44				524				10		588
Out-Building Demolition		57				53				70		180
Spent Fuel Building	303	854			264	359	1	2	3	266		2,052
Retention Basin Area						8						8
Tank Farm		22										22
Pack, Ship, Bury			65	65	381	75	107	105		346		1,143
LEM Correction (inflation of prior work performed)	-57	-76	-4	-5	-41	-43	0	-1	-4	-22		-254
Totals	2,021	2,509	214	83	1,853	2,753	107	142	175	1,860		11,718
Rx Bldg Concrete/Steel Removal												
Rx Bldg Concrete/Steel Removal		10,950	0	0	19,044	708		765				31,467
LEM Correction (inflation of prior work performed)		-146	0	0	-501	-9		-17				-673
Totals		10,804	0	0	18,543	699		748				30,794
Final Status Survey & License Termination												
Reactor Building		20				216				9		246
Auxiliary Building						1,765				7		1,772
Auxiliary Building - Non Controlled						143						143
Turbine Building						244						244
Spent Fuel Building						240						240
Tank Farm						166						166
Waste Water Disposal						78		19				97
OutBuiildings		23			128	799				657		1,607
Other Outside Areas		6				788				278		1,072
Other Licenses Term Activities						819				31		850
LEM Correction (inflation of prior work performed)		-2			-3	-179		0		-128		-313
Totals		48			124	5,078		18		854		6,123

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	DECON	REMOVE	PACKSHIP		BURY	OTHER	Surcharges MATERIAL	Surcharges CONTRACT	Surcharges WASTE	CNTGCY	% CNTGCY	TOTAL
Undistributed Costs												
Decon Equipment	542					546	22			81		1,192
Decon Supplies	613					430	13			49		1,105
LLRW Processing Equipment	627					868	37			457		1,989
Process Liquid Waste	136		20	90	665	1,125	6	11	8	249		2,309
Insurance						3,362				182		3,543
Health Physics Supplies		1,400				642	57			350		2,448
Heavy Equipment Rent		4,685				2,254	192			703		7,835
Small Tools Allowance		383				221	16			57		677
Pipe Cutting Equipment		407				640	17			61		1,125
Disposal of DAW Geneerated			66	8	385	456	3	6	28	104		1,056
Purchased Material						4,588	136			332		5,056
Dues & Publication						1,757				124		1,882
Rent & Leases						11				1		11
Licenses						4,625				363		4,989
Other						1,543				6		1,549
Training Expenses						328				25		353
Air - Travel						398				18		416
Consultants						516				32		547
Outside Services						6,576		62		413		7,050
LEM Correction (inflation of prior work performed)	-123	-465	-5	-6	-67	-2,638	-27	-4	-2	-241		-3,578
Totals	1,795	6,410	80	91	983	28,248	473	75	34	3,366		41,555
Planned Staff Costs												
SMUD Staff Support						92,595						92,595
Other SMUD Staff						6,038						6,038
Contractor Staff Support						22,727						22,727
Other Cost						6,735						6,735
Totals						128,095						128,095
Spent Fuel Removal/GTCC Disposal												
Spent Fuel Project						33,294						33,294
Totals						33,294						33,294
Sewer Plant												
Construct Sewer System						4						4
LEM Correction (inflation of prior work performed)												
Totals						4						4
TOTAL PHASE I COSTS (THRU 2009)	5,021	57,879	4,609	1,988	42,882	357,825	718	1,409	396	9,276		482,002

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	TOTAL
Decomm Funds expended through 1999	156,310											156,310
Reactor Building												
Rx - RX00 Building System Removal		656										656
Rx - RX01 Building System Removal			2,256									2,256
Rx - RX02 Building System Removal				4,509								4,509
Rx - RX03 Building System Removal					5,725							5,725
Rx - RX04 Building System Removal						1,375						1,375
Rx - RX05 Building System Removal							530					530
RPSB - Pack Ship Bury Activities							256	897				1,153
X411 - Liner Preparation									28			28
ERM Efficiency Removal Method (25% of Removal		-95	-326	-450	-647	-235						-1,754
LEM Correction (inflation of prior work performed)		-74	-252	-599	-858	-219	-61	-46	-1			-2,110
Totals		487	1,678	3,459	4,219	922	725	851	28			12,369
Auxiliary Building												
Aux -AX00 Building System Removal		5,568										5,568
Aux -AX01 Building System Removal			6,650									6,650
Aux -AX02 Building System Removal				3,612								3,612
Aux -AX03 Building System Removal					1,938							1,938
Aux -AX04 Building System Removal						1,212						1,212
Aux -AX05 Building System Removal							574					574
Aux -AX06 Building System Removal								85				85
Aux -AX07 Building System Removal								14	142	340	0	496
Aux 211 Ventilation Equipment Room												
APSB & BPSB - Pack Ship Bury Activities								513	258	438	0	1,210
TSM1 - Remove Temporary Stack												
ERM Efficiency Removal Method (25% of Removal		-612	-888	-404	-204	-14						-2,122
LEM Correction (inflation of prior work performed)		-563	-3,870	-483	-306	-298	-39	-19	-8			-5,586
Totals		4,394	1,892	2,725	1,429	900	535	593	392	778		13,637
Auxiliary Building - Non Controlled Area												
350 AB Non Controlled				8								8
350A +40' Elevation				6	23	18	60	3	94	6		210
350B +20' Elevation				68	76	166	68	43	11	8		440
350C Grade & Below Elevation				2	22	62	74	52	10	5		229
LEM Correction (inflation of prior work performed)				-11	-17	-31	-16	-5	-3			-83
Totals				73	104	214	187	93	113	18		803
Tank Farms												
Tank Farm - Above Ground					1,485	185	691	126	83	10		2,580
Tank Farm - Below Ground						435	376	172				984
LEM Correction (inflation of prior work performed)					-178	-71	-82	-15	-2			-347
Totals					1,307	549	986	283	81	10		3,216

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	TOTAL
Additional Costs												
Asbestos Removal							234	221	232	72		759
Lead Remediation							381	132	112	41		666
LEM Correction (inflation of prior work performed)							-49	-18	-8			-75
Totals							566	336	335	114		1,350
Embedded Piping												
Preparation Steps							87	72	0	10		170
Reactor Building							2	225				226
Auxiliary Building							203	438	60			701
Turbine Building							147	5	98			249
Spent Fuel Building							9	0	138	51		199
Embedded Pipe Final Status Surveys (F00-F134)								22	256	158		436
LEM Correction (inflation of prior work performed)							-35	-40	-14			-89
Totals							414	722	537	219		1,892
Spent Fuel Building												
Spent Fuel Bldg Roof							145	1	14			159
Mechanical & Electrical Equip				926	1,045	82	209	13	33			2,308
Drain & Process Wate				9								9
Removal of Fuel Rack				168	258							426
Complete SFP C/U & R				2	534	530	134					1,200
LEM Correction (inflation of prior work performed)				-126	-276	-91	-36	0	-1			-531
Totals				979	1,561	522	452	13	46			3,572
Nuclear Steam Supply System Removal												
RCP Motors			617									617
Incore Instrumentation			16	236								252
RC Pumps				1,172								1,172
Control Rod Drive				15	237							252
Service Structure				2	268							270
Pressurizer					18	1,123						1,142
Steam Generators					32	4,157	2,738					6,928
Reactor Vessel Internals					80	2,356	9,252	6,625				18,313
Reactor Vessel					124	299	356	2,586	1,676			5,041
Reactor Coolant Piping				383	4							386
LEM Correction (inflation of prior work performed)			-79	-227	-96	-808	-953	-474	-44			-2,681
Totals			554	1,580	667	7,127	11,394	8,737	1,633			31,691
Turbine Building												
Turbine Building				9	52	74	202	355	390	108		1,189
Area Between DG Room & SFB							159					159
LEM Correction (inflation of prior work performed)				-1	-5	-14	-30	-19	-9			-78
Totals				7	46	60	332	336	381	108		1,269

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	TOTAL
IOSB Project												
IOSB Project							43	44	78	378	0	543
LEM Correction (inflation of prior work performed)							-5	-2	-2			-9
Totals							38	42	76	378	0	534
Waste Water Disposal System												
RHUT Area					298	304	162	46	57			867
Discharge Lines							44	131				175
Retention Basin Area									2,897			2,897
LEM Correction (inflation of prior work performed)					-30	-31	-16	-9	-78			-164
Totals					268	273	190	167	2,876			3,775
Remediation of Site Buildings												
Reactor Building									17	977		994
Auxiliary Building							101	1,333	3,534	2,016		6,984
Turbine Building									260	328		588
Out-Building Demolition								63	84	34		180
Spent Fuel Building						273	17	475	742	546		2,052
Retention Basin Area								8				8
Tank Farm										22		22
Pack, Ship, Bury							49	143	386	565		1,143
LEM Correction (inflation of prior work performed)						-14	-11	-108	-120			-254
Totals						259	155	1,914	4,903	4,489		11,718
Rx Bldg Concrete/Steel Removal												
Rx Bldg Concrete/Steel Removal								0	25,621	5,846		31,467
LEM Correction (inflation of prior work performed)									-673			-673
Totals								0	24,947	5,846		30,794
Final Status Survey & License Termination												
Reactor Building							81	60	47	58		246
Auxiliary Building						335	749	164	274	248		1,772
Auxiliary Building - Non Controlled									133	10		143
Turbine Building										244		244
Spent Fuel Building								28	84	128		240
Tank Farm							21	83		63		166
Waste Water Disposal							27	28	34	8		97
OutBuiildings				11	160	248	98	272	768	50		1,607
Other Outside Areas					34	56	516	229	166	70		1,072
Other Licenses Term Activities							136	231	222	261		850
LEM Correction (inflation of prior work performed)				-1	-23	-62	-127	-54	-45			-313
Totals				10	172	577	1,501	1,040	1,684	1,139		6,123

Table 3
Decommissioning Cost Estimate
(Thousands of 2010 Dollars)

DESC	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	TOTAL
Undistributed Costs												
Decon Equipment		266	280			131	131	131	131	120		1,192
Decon Supplies		166	131	133	137		137	137	137	126		1,105
LLRW Processing Equipment		325	271	272			286	286	286	262		1,989
Process Liquid Waste		656	235	234		241	241	241	241	221		2,309
Insurance		563	616	366		407	407	407	407	372		3,543
Health Physics Supplies		185	457			368	368	368	368	337		2,448
Heavy Equipment Rent		873	1,381			1,135	1,135	1,135	1,135	1,040		7,835
Small Tools Allowance		47	93	80		93	93	93	93	85		677
Pipe Cutting Equipment			595	46	82	82	82	82	82	75		1,125
Disposal of DAW Geneerated		102	205	149			153	153	153	140		1,056
Purchased Material		140	603	529	639	639	639	639	639	586		5,056
Dues & Publication			266	246		278	278	278	278	255		1,882
Rent & Leases			2			2	2	2	2	2		11
Licenses		87	903			813	813	813	813	745		4,989
Other		900	579		12	12	12	12	12	11		1,549
Training Expenses			38	44	46	46	46	46	46	42		353
Air - Travel		103	76	40		40	40	40	40	37		416
Consultants		43	84	71		71	71	71	71	65		547
Outside Services		480	987	983		936	936	936	936	857		7,050
LEM Correction (inflation of prior work performed)		-596	-974	-446	-116	-535	-451	-305	-154			-3,578
Totals		4,340	6,829	2,746	800	4,759	5,420	5,566	5,716	5,378		41,555
Planned Staff Costs												
SMUD Staff Support		15,272	16,060	13,346	10,804	8,578	5,659	10,030	6,653	6,193		92,595
Other SMUD Staff						3,824	2,214		0	0		6,038
Contractor Staff Support		2,129	2,028	2,539	2,337	2,597	2,408	3,038	2,848	2,803		22,727
Other Cost					2,212		2,516				2,007	6,735
Totals		17,401	18,088	15,885	15,353	14,998	12,798	13,069	9,501	8,996	2,007	128,095
Spent Fuel Removal/GTCC Disposal												
Spent Fuel Project		13,013	9,015	11,266								33,294
Totals		13,013	9,015	11,266								33,294
Sewer Plant												
Construct Sewer System										4		4
LEM Correction (inflation of prior work performed)												
Totals										4		4
TOTAL PHASE I COSTS (THRU 2009)	156,310	39,636	38,055	38,731	25,928	31,159	35,689	33,761	53,249	27,476	2,007	482,002