



**Portland General Electric Company**  
Trojan Nuclear Plant  
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March 31, 2005

VPN-012-2005

Trojan Nuclear Plant  
Docket 50-344  
License NPF-1

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555-0001

Annual Report of the Status of Decommissioning Funding for the  
Trojan Nuclear Plant in Accordance with 10 CFR 50.75(f)(1)

In accordance with 10 CFR 50.75(f)(1), this letter transmits the Trojan Nuclear Plant co-owners' annual report of the status of decommissioning funding for Calendar Year 2004. The report, which is provided in Enclosure I to this letter, is based on the most recent analysis of the Trojan Nuclear Plant decommissioning cost estimate and funding plan as incorporated into Revision 21 of PGE-1061, "Trojan Nuclear Plant Defueled Safety Analysis Report and License Termination Plan (PGE-1078)."

For convenience, a copy of Section 5, "Update of Site-Specific Decommissioning Costs," of PGE-1061, Revision 21, is provided in Enclosure II to this letter. The decommissioning cost estimate and funding plan is updated to reflect actual expenditures and fund balances through December 31, 2004. The cost estimate revision also incorporates the actual inflation rate for 2004, which had been estimated in the previous cost estimate revision, and reflects current projections associated with staffing, radiological waste burial volumes, and work schedules.

If you have any questions regarding this correspondence, please contact Mr. Jerry D. Reid of my staff at (503) 556-7013.

Sincerely,

Stephen M. Quennoz  
Vice President, Generation

Enclosures

c: J. T. Buckley, NRC, NMSS  
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NMSS01

Annual Report of the Status of Decommissioning Funding for the  
Trojan Nuclear Plant (TNP) in Accordance with 10 CFR 50.75(f)(1)

As required by 10 CFR 50.75(f)(1), this report constitutes the TNP co-owners' annual report of the status of decommissioning funding for the TNP for Calendar Year 2004. The information provided herein is based on the most recent analysis of the TNP decommissioning cost estimate and funding plan as detailed in Section 5 of PGE-1061, "Trojan Nuclear Plant Defueled Safety Analysis Report and License Termination Plan (PGE-1078)," Revision 21. For convenience, a copy of Section 5, "Update of Site-Specific Decommissioning Costs," of PGE-1061, Revision 21, is provided in Enclosure II to this letter concurrently with this report.

10 CFR 50.75(f)(1) states, in part:

*Each power reactor licensee shall report, on a calendar-year basis, to the NRC...on the status of its decommissioning funding for each reactor or part of a reactor that it owns. The information in this report must include, at a minimum:*

*the amount of decommissioning funds estimated to be required pursuant to 10 CFR 50.75(b) and (c);*

*the amount accumulated to the end of the calendar year preceding the date of the report;*

*a schedule of the annual amounts remaining to be collected;*

*the assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections;*

*any contracts upon which the licensee is relying pursuant to paragraph (e)(1)(v) of this section;*

*any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report; and*

*any material changes to trust agreements.*

...

*Any licensee for a plant that...has already closed (before the end of its licensed life), or for plants involved in mergers or acquisitions shall submit this report annually.*

This report addresses the requirements of 10 CFR 50.75(f)(1) for the TNP for Calendar Year 2004 as follows:

1. *The amount of decommissioning funds estimated to be required pursuant to 10 CFR 50.75(b) and (c).*

The amount of funds estimated to be required to decommission the TNP has been determined based on a TNP-specific cost estimate prepared by Portland General Electric Company (PGE). As indicated in PGE-1061, Section 5.1 and Table 5-1, the total costs in 1997 dollars are estimated to be approximately \$211,670,000 for radiological decommissioning activities, approximately \$40,228,000 for nonradiological decommissioning activities (site restoration), and approximately \$169,951,000 for spent fuel management. Costs associated with securing and maintaining decommissioning financial assurance and bridging funds totaled approximately \$16,000. A detailed schedule of the decommissioning and spent fuel management costs, totaling approximately \$421,865,000 of decommissioning trust fund-related expenditures, is provided in Section 5.1 and Table 5-2 of PGE-1061.

2. *The amount accumulated to the end of the calendar year preceding the date of the report.*

The following table reflects the amount of decommissioning funds accumulated by the TNP co-owners through December 31, 2004. Each of the co-owners separately collect, through rates, the funds for decommissioning. Two of the three TNP co-owners (PGE and Pacific Power and Light [PP&L]) deposit these funds in external trust funds in accordance with 10 CFR 50.75(e)(1)(ii). As a federal government agency fulfilling the decommissioning funding obligations of the Eugene Water and Electric Board (EWEB), the third TNP co-owner and licensee, the Bonneville Power Administration (BPA), has provided a statement of intent as allowed by 10 CFR 50.75(e)(1)(iv). The BPA statement of intent states that decommissioning funding will be provided as such funds are needed. Thus, BPA is not required to accumulate funds in an external trust.<sup>1</sup> Additional details of the TNP decommissioning funding plans and schedules for each of the co-owners are provided in Section 5.2 of PGE-1061.

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<sup>1</sup> A copy of the BPA's Statement of Intent, dated March 21, 2001, was forwarded to the NRC on March 29, 2001, as Enclosure III to PGE letter VPN-016-2001.

Status of Decommissioning Trust Funds  
As of December 31, 2004

TNP Co-Owner	Fund Balance as of 12/31/2004
Portland General Electric Company	\$19,259,000 <sup>a</sup>
Eugene Water & Electric Board/ Bonneville Power Administration	N/A <sup>b</sup>
Pacific Power & Light	\$1,223,000 <sup>a</sup>
<b>Total</b>	<b>\$20,482,000</b>

<sup>a</sup> The 2004 end-of-year trust fund balance includes an adjustment for trust expenditures incurred in November and December 2004 that were not paid out of the trust in 2004.

<sup>b</sup> BPA provides decommissioning funding from its operating budget as such funds are needed. Financial assurance is provided by a Statement of Intent dated March 21, 2001. Therefore, no external trust fund is required.

3. *A schedule of the annual amounts remaining to be collected.*

The decommissioning funding cash flow for each of the TNP co-owners is described in Section 5.2 and quantified in Tables 5-4 through 5-6 of PGE-1061. As detailed in Section 5.2.2 of PGE-1061, each of the co-owners maintains a collection schedule that ensures that each co-owner's portion of the total decommissioning activity expenditures will be fully funded. These funding schedules are based on funding requirements for both radiological and nonradiological decommissioning costs, as well as financing costs and specific spent fuel management costs.

4. *The assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds, and rates of other factors used in funding projections.*

The following table provides the TNP co-owners' assumptions regarding escalation rates, earnings rates, and rates of other factors used to project the decommissioning cost and funding schedules as reflected in Section 5 of PGE-1061.

Assumptions Regarding  
 Escalation, Earnings, and Interest Rates

TNP Co-Owner	Escalation Factor <sup>a</sup> (%)	Trust Fund Earnings Rate <sup>b</sup> (%)	Line of Credit Fees <sup>c</sup> (%)
PGE	2.31	<sup>d</sup> 5.6 <sup>e</sup> 4.21	0.55
BPA/EWEB	2.31	<sup>f</sup> N/A	N/A
PP&L	2.31	1.21	N/A

<sup>a</sup> The escalation rate assumption of 2.31 percent represents the average of WEFA projected inflation rates for 2005 through 2024.

<sup>b</sup> Each TNP co-owner assumed a trust fund earnings rate based on recent fund earning performance with consideration for projected near-term growth and conservatism.

<sup>c</sup> BPA will continue to use a Statement of Intent, rather than secure a line of credit, to provide financial assurance in accordance with 10 CFR 50.75(e)(1)(iv). PP&L avoids the expense associated with a letter of credit by ensuring that the PP&L external trust fund is fully funded to cover PP&L's portion of radiological decommissioning costs.

<sup>d</sup> This rate is applied to the qualified portion of PGE's trust fund.

<sup>e</sup> This rate is applied to the non-qualified portion of PGE's trust fund.

<sup>f</sup> BPA provides decommissioning funding from its operating budget as such funds are needed. Financial assurance is provided by a Statement of Intent dated March 21, 2001. Therefore, no external trust fund is required.

5. *Any contracts upon which the licensee is relying pursuant to paragraph (e)(1)(v) of this section.*

The TNP co-owners do not rely on contractual obligations from customers to satisfy the financial assurance stipulations of 10 CFR 50.75(e)(1).

6. *Any modifications occurring to a licensee's current method of providing financial assurance since the last submitted report.*

Since the last submitted report, no modifications have been made to the TNP co-owners' current methods of providing financial assurance that adequate funds will be available to complete radiological decommissioning of the TNP site. Specifically, both PGE and PP&L continue to maintain financial assurance in the form of an external trust fund in accordance with

10 CFR 50.75(e)(1)(ii)<sup>2</sup>, and BPA continues to maintain financial assurance in the form of a Statement of Intent in accordance with 10 CFR 50.75(e)(1)(iv).

7. *Any material changes to trust agreements.*

PGE and PP&L have not made any material changes to the decommissioning trust agreements since the last funding plan submittal. As stated previously, BPA provides financial assurance in the form of a statement of intent, and thus is not required to maintain trust agreements to provide financial assurance for TNP decommissioning.

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<sup>2</sup> As required in Section 5.2 of PGE-1061, during any period prior to Trojan Nuclear Plant license termination that PGE's or PP&L's external trust does not contain the funds necessary for completion of radiological decommissioning, PGE or PP&L, as appropriate, would be required to secure a letter of credit as an additional financial assurance mechanism allowed by 10 CFR 50.75(e).

**Enclosure II to VPN-012-2005**

**Section 5, "Update of Site-Specific Decommissioning Costs," of  
PGE-1061, "Trojan Nuclear Plant Defueled Safety Analysis Report and  
License Termination Plan (PGE-1078)," Revision 21**

## 5. UPDATE OF SITE-SPECIFIC DECOMMISSIONING COSTS

In accordance with Paragraphs (a)(4) and (a)(9)(ii)(F) of 10 CFR 50.82 (Reference 5-1), and consistent with the guidance of Regulatory Guide 1.179 (Reference 5-2), the TNP-specific cost estimate and funding plan as incorporated into this section provides:

1. An updated estimate of total and remaining TNP decommissioning costs;
2. A comparison of the estimated costs with present funds set aside for decommissioning; and
3. The plan for assuring the availability of adequate funds for completion of decommissioning and release of the TNP site for unrestricted use.

### 5.1 DECOMMISSIONING COST ESTIMATE

This section provides the results of and basis for a site-specific cost estimate for the decommissioning of TNP. Incorporated into this cost estimate are costs of activities involved in radiological decommissioning necessary for termination of TNP's Part 50 license, as well as expenditures necessary to complete nonradiological site restoration activities. The costs of removal and disposal of nonradioactive structures and materials beyond that necessary for license termination have been identified separately from radiological decommissioning costs.

Also separately identified are costs incurred for construction of the Trojan Independent Spent Fuel Storage Installation (ISFSI), and cost projections and funding requirements for ISFSI storage operations and maintenance (O&M) until possession and title of the irradiated fuel is transferred to DOE for ultimate disposal. ISFSI decommissioning costs and associated funding and financial assurance requirements are provided in PGE-1069, Trojan ISFSI Safety Analysis Report.

#### 5.1.1 COST ESTIMATE RESULTS

Summarizing the results of the TNP cost estimate, Table 5-1 provides estimates of total decommissioning costs as well as decommissioning costs that remain as of January 1, 2005. As indicated in Table 5-1, the costs (in 1997 dollars) for the selected decommissioning alternative are estimated to total approximately \$211,670,000 for radiological decommissioning activities, approximately \$40,228,000 for nonradiological decommissioning activities (site restoration), and approximately \$169,951,000 for ISFSI construction and storage O&M (hereafter referred to as spent fuel management). Costs associated with securing and maintaining decommissioning financial assurance and bridging funds are projected to total approximately \$16,000. A detailed schedule of TNP's decommissioning and spent fuel management costs, totaling approximately \$421,865,000 of decommissioning fund-related expenditures, is provided in Table 5-2 and described in Section 5.1.2.



### 5.1.2 COST ESTIMATE DESCRIPTION

The initial Decommissioning Plan decommissioning cost estimate was based largely on the TNP-specific cost estimate performed for PGE by TLG Services, Inc. in May 1994. The methodology used to develop the cost estimate followed the approach presented in AIF/NESP-036, "Guidelines to Producing Decommissioning Cost Estimates" (Reference 5-3) and the DOE "Decommissioning Handbook" (Reference 5-4). These guidance documents utilize a unit cost factor method for estimating decommissioning activity costs. Unit cost factors incorporate site-specific considerations whenever practicable. Using plant drawings and inventory documents, quantities and volumes of the equipment and material to be removed during decommissioning were estimated. Unit cost factors were applied to the volumes and quantities to estimate the "activity dependent" costs. "Period dependent" costs were determined from a critical path schedule based on the removal activity duration.

At the end of each year, PGE updates the TNP decommissioning cost estimate based on actual decommissioning progress and with an estimate of remaining costs based on the best available information about the remaining scope of the decommissioning effort. The update generally results in changes to the timing of fund expenditures, and may reflect changes to the scope of major projects. The cost estimate reflects updated staffing requirements and work/activity schedules, remaining scheduled decommissioning equipment removal efforts, adjustments for current radioactive waste disposal volumes and costs, and an update of the estimate to disposition non-radiological hazards.

The results of PGE's decommissioning cost estimate have been incorporated into Table 5-2, which provides a comprehensive expenditure schedule for the decommissioning of TNP. This table incorporates an annual breakdown of projected costs associated with radiological and nonradiological decommissioning, spent fuel management, and decommissioning expenditure financing activities. The decommissioning cost estimate expenditure schedule contained in Table 5-2 is described in the remainder of this section.

#### 5.1.2.1 Radiological Decommissioning Costs

The cost schedule for radiological decommissioning activities is incorporated into Table 5-2, which reflects the results of the decommissioning cost estimate for TNP. Consistent with current NRC policy, the TNP decommissioning cost estimate considers radiological decommissioning costs to be only those costs associated with normal decommissioning activities necessary for termination of the Part 50 license and release of the site for unrestricted use. The decommissioning cost estimate does not include in radiological decommissioning costs those costs associated with spent fuel management or the disposal of nonradioactive structures and materials beyond that necessary to terminate TNP's Part 50 license.

Radiological decommissioning activity costs are separately identified in Table 5-2. Burial costs were derived from PGE modeling and analysis of low-level radioactive waste disposal costs as updated in early 1999, which more conservatively reflect projected burial rates. Contingencies were applied to each area of the cost estimate (i.e., decontamination and dismantlement, waste

disposal, final survey, etc.) at appropriate rates. No credit was taken for equipment salvage value.

Standard ongoing financial controls have been established and executed to ensure funds are expended consistent with the provisions of 10 CFR 50.82(a)(8) and 10 CFR 50.75(h)(2) (Reference 5-5). Throughout the budgetary process and budget year, costs associated with new projects or activities are evaluated to determine their correct cost classification, i.e., spent fuel management, radiological decommissioning, nonradiological decommissioning, capital, etc. As a result, only costs that meet the intent of this TNP Decommissioning Plan and the established decommissioning trust fund are submitted for reimbursement from the decommissioning trust. Periodically, variances between the estimate and actual costs are reviewed as they relate to the total cost estimate to provide assurance that the cost estimate continues to be reasonable. This complies with 10 CFR 50.82(a)(8)(i)(A). In addition, PGE corporate finance personnel review the TNP co-owners' trust fund activity and balance periodically, as applicable. Any significant activity which is inconsistent with this TNP Decommissioning Plan would be brought to the attention of TNP management.

The decommissioning cost estimate reflects costs in 1997 dollars, and has been updated to account for work performed through 2004 where TNP expended funds for decommissioning activities. The decommissioning cost estimate reflects updated staffing requirements and work/activity schedules, remaining scheduled decommissioning equipment removal efforts, and adjustments for radioactive waste disposal volumes and costs.

In accordance with 10 CFR 50.82(a)(8)(i)(C) and 10 CFR 50.75(e) (Reference 5-5), the TNP co-owners periodically assess the financial assurance amount required to complete radiological decommissioning. The established financial assurance mechanisms (e.g., external trust fund, statement of intent, and/or letter of credit, as applicable) are adjusted as necessary to ensure the completion of radiological decommissioning. Financial assurance is described in Section 5.2. "Bridge" funds are also described in Section 5.2.

#### 5.1.2.2 Nonradiological Decommissioning Costs

Although not required by NRC regulations, the decommissioning cost estimate for TNP incorporates nonradiological decommissioning costs, as indicated in Table 5-2. The TNP decommissioning cost estimate considers nonradiological decommissioning costs to be those costs associated with site remediation and demolition and removal of uncontaminated structures. The decommissioning cost estimate does not include in nonradiological decommissioning costs those costs associated with spent fuel management or radiological decommissioning activities.

#### 5.1.2.3 Spent Fuel Management Costs

Implementation costs associated with spent fuel management, including ISFSI construction and O&M, are reflected in the projected cost schedule detailed in Table 5-2. With ISFSI construction completed and the spent nuclear fuel now transferred from the TNP Spent Fuel Pool to the Trojan ISFSI, the remaining spent fuel management costs consist of expenditures associated with ongoing Trojan ISFSI storage O&M. Trojan ISFSI storage O&M will continue

until possession and title of the irradiated fuel is transferred to the DOE for ultimate disposal (due to DOE delays, the revised estimate for completion is 2023). Costs and associated funding necessary for ISFSI decommissioning activities are detailed in PGE-1069, Trojan ISFSI Safety Analysis Report.

5.1.2.4 Financial Activity Costs

Additional costs may be incurred by each TNP co-owner as necessary during decommissioning to secure and maintain assurance that adequate funds will be available to complete radiological decommissioning of the TNP site, and to secure loans or other “bridging” mechanisms to augment existing funds to cover near-term decommissioning costs. Financial assurance costs indicated in Table 5-2 were the costs associated with securing a letter of credit until PGE could pre-fund the external trust fund.

## 5.2 DECOMMISSIONING FUNDING PLAN

### 5.2.1 CURRENT DECOMMISSIONING FUNDING CAPABILITIES

Each of the TNP co-owners separately collect through rates the funds for the decommissioning of TNP. PGE and PP&L deposit these funds in external trust funds in accordance with 10 CFR 50.75(e), while the BPA provides EWEB's portion of TNP decommissioning funds as necessary as described in Section 5.2.2.2. Because the TNP was shut down prematurely, the external trust funds established by PGE and PP&L may contain during some periods only a portion of the total amount needed for site radiological decommissioning. Table 5-3 summarizes the status of PGE's and PP&L's decommissioning trust funds as of December 31, 2004.

As indicated above, there may be periods during which the trusts established by PGE and PP&L for decommissioning do not contain the funds necessary for completion of radiological decommissioning. During such periods, PGE and PP&L are required to secure an additional financial assurance mechanism allowed by 10 CFR 50.75(e). If required, PGE and PP&L have each elected to use a letter of credit as the additional financial assurance mechanism. During any period prior to TNP license termination that a co-owner's external decommissioning trust fund does not contain the funds necessary to complete radiological decommissioning, the affected co-owner must maintain this additional financial assurance.

Furthermore, a decommissioning trust fund balance may be reduced to a point where it will be necessary in certain instances to borrow or otherwise provide "bridging" funds to complete decontamination activities and allow scheduled collections to restore the decommissioning trust fund balance.

### 5.2.2 TNP CO-OWNERS' DECOMMISSIONING FUNDING PLANS

Each TNP co-owner maintains a decommissioning fund collection schedule which ensures that each co-owner's portion of the decommissioning activity expenditures will be fully funded. These funding schedules are based on funding requirements for both radiological and nonradiological decommissioning costs, as well as financing costs and specific spent fuel management costs as discussed in Section 5.1.2. The decommissioning funding cash flow for each of the TNP co-owners, based on the expenditure schedule in Table 5-2 and the co-owner contribution schedules, is described below.

#### 5.2.2.1 PGE Funding

Table 5-4 provides PGE's decommissioning funding cash flow in nominal dollars (2.31% escalation) during decommissioning. Funded from an external trust fund, the expenditures described in this table are PGE's share (67.5%) of the expenditures described in Table 5-2. The funding schedule described in Table 5-4 ensures that PGE's portion of the decommissioning activity expenditures will be fully funded. This decommissioning funding schedule reflects projected needs, if any, and associated costs and funding for bridging funds and/or a letter of credit, if required.

As indicated in Section 5.2.1, during any period prior to TNP license termination that PGE's external trust fund does not contain the funds necessary for completion of radiological decommissioning, PGE must secure a letter of credit as an additional financial assurance mechanism for radiological decommissioning costs as allowed by 10 CFR 50.75. The methodology used to determine the size of the letter of credit ensures that if a given amount of the decommissioning trust fund is used for purposes other than radiological decommissioning activities during a current year, the portion of the financial assurance provided by the letter of credit must be increased by the same amount. This methodology can be summarized as follows:

$$L_{fa} = T_1 - T_2 + T_3 \quad \text{where}$$

$L_{fa}$  = Letter of Credit Portion of Financial Assurance Needed for Current Year

$T_1$  = Total costs of remaining radiological decommissioning activities

$T_2$  = Current decommissioning trust fund balance

$T_3$  = Portion of trust balance planned for purposes other than radiological decommissioning costs during current year

Financial assurance for remaining radiological decommissioning activities will be calculated at the beginning of each year and will be periodically reviewed during each year to ensure that an adequate level of financial assurance is maintained.

#### 5.2.2.2 EWEB/BPA Funding

BPA is obligated through Net Billing Agreements to pay costs associated with EWEB's share of TNP, including decommissioning and spent fuel management costs. BPA fulfills the decommissioning funding obligations of EWEB, including providing financial assurance for EWEB's portion of decommissioning costs in a manner stipulated in 10 CFR 50.75(e)(1)(iv) for Federal government licensees as detailed further below. Table 5-5 provides BPA/EWEB's decommissioning funding cash flow in nominal dollars (2.31% escalation) during decommissioning. The expenditures described in this table are BPA/EWEB's share (30%) of the expenditures described in Table 5-2. The funding schedule described in Table 5-5 ensures that BPA/EWEB's portion of the decommissioning activity expenditures will be fully funded.

As allowed by 10 CFR 50.75(e)(1)(iv), BPA, as a Federal government entity fulfilling the decommissioning funding obligations of EWEB, a licensee, provides financial assurance in the form of a statement of intent. The statement of intent contains a reference to the TNP decommissioning cost estimate described in Section 5.1, indicating that funds for radiological decommissioning of the TNP will be obtained when necessary.

5.2.2.3 PP&L Funding

Table 5-6 provides PP&L's decommissioning funding cash flow in nominal dollars (2.31% escalation) during decommissioning. Funded from an external trust fund, the expenditures described in this table are PP&L's share (2.5%) of the expenditures described in Table 5-2. The funding schedule described in Table 5-6 ensures that PP&L's portion of the decommissioning activity expenditures will be fully funded. This decommissioning funding schedule reflects projected needs, if any, and associated costs and funding for bridging funds and/or a letter of credit, if required.

As indicated in Section 5.2.1, during any period prior to TNP license termination that PP&L's external trust fund does not contain the funds necessary for completion of radiological decommissioning, PP&L must secure a letter of credit as an additional financial assurance mechanism for radiological decommissioning costs as allowed by 10 CFR 50.75. The methodology for determining the size of the letter of credit is as described in Section 5.2.2.1, "PGE Funding."

5.3 REFERENCES FOR SECTION 5

- 5-1 Code of Federal Regulations, Title 10, Part 50.82, "Application for Termination of License," August 28, 1996.
- 5-2 Regulatory Guide 1.179, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors," January 1999.
- 5-3 AIF/NESP-036, "Guidelines to Producing Decommissioning Cost Estimates."
- 5-4 U. S. Department of Energy DOE/EV/10128-1, "Decommissioning Handbook," November 1980.
- 5-5 Code of Federal Regulations, Title 10, Part 50.75, "Reporting and Recordkeeping for Decommissioning Planning."

Table 5-1

**Estimate of Decommissioning Costs  
(1997 dollars)**

	Total (Start-to-Finish) Costs	Total Costs Remaining As of January 1, 2005
<b>Radiological (NRC) Decommissioning Costs</b>		
Reactor Vessel and Internals Removal and Disposal	21,495,000	0
Dismantlement, Decontamination, and Remediation	143,207,000	6,315,000
Waste Disposal	39,391,000	61,000
Final Survey	7,577,000	0
Total	211,670,000	6,376,000
<b>Nonradiological Decommissioning Costs</b>		
Site Restoration	40,228,000	36,474,000
Total	40,228,000	36,474,000
<b>Dry Spent Fuel Management Costs</b>		
ISFSI Construction	74,161,000	0
ISFSI Operation and Maintenance	95,790,000	88,768,000
Total	169,951,000	88,768,000
<b>Financing Costs</b>		
Financial Assurance	16,000	0
Total	16,000	0
<b>Total Decommissioning Expenditures</b>	<b>\$ 421,865,000</b>	<b>\$ 131,618,000</b>



Table 5-2

**Decommissioning Cost estimate for Trojan Nuclear Plant  
Itemized Decommissioning Expenditure Schedule  
(1997 \$ x 1000)**

<b>Total Decommissioning Expenditures</b>					
Year	Total Radiological Decommissioning Costs	Total Nonradiological Decommissioning Costs	Total Spent Fuel Management Costs	Total Financing Activity Costs	Total Combined Decommissioning Costs
1993	2,673	0	0	0	2,673
1994	5,320	68	0	0	5,388
1995	15,896	45	1,100	0	17,041
1996	9,087	243	3,144	0	12,474
1997	19,238	350	7,974	0	27,562
1998	34,321	62	9,703	0	44,086
1999	37,970	1,313	17,980	0	57,263
2000	33,172	777	3,354	0	37,303
2001	8,383	198	6,731	0	15,312
2002	8,329	(46)	15,608	0	23,891
2003	13,876	244	12,896	0	27,016
2004	17,030	500	2,692	16	20,238
2005	6,375	3,383	4,760	0	14,518
2006	0	186	3,970	0	4,156
2007	0	0	3,676	0	3,676
2008	0	0	3,849	0	3,849
2009	0	0	3,799	0	3,799
2010	0	0	3,750	0	3,750
2011	0	0	3,693	0	3,693
2012	0	0	3,704	0	3,704
2013	0	0	3,693	0	3,693
2014	0	0	3,693	0	3,693
2015	0	0	3,693	0	3,693
2016	0	0	3,669	0	3,669
2017	0	0	3,693	0	3,693
2018	0	0	3,693	0	3,693
2019	0	0	3,693	0	3,693
2020	0	0	3,693	0	3,693
2021	0	0	3,693	0	3,693
2022	0	0	3,693	0	3,693
2023	0	18,687	20,662	0	39,349
2024	0	14,218	0	0	14,218
Total	211,670	40,228	169,951	16	421,865

Table 5-3

**Status of Decommissioning Trust Funds  
As of December 31, 2004**

Trojan Co-Owner	Fund Balance as of 12/31/04
Portland General Electric (PGE)	\$19,259,000 <sup>a</sup>
Eugene Water & Electric (EWEB)/ Bonneville Power Administration (BPA)	N/A <sup>b</sup>
Pacific Power & Light (PP&L)	\$1,223,000 <sup>a</sup>
Total	\$20,482,000

<sup>a</sup> The 2004 end-of-year trust fund balance includes an adjustment for trust expenditures incurred in November and December 2004 that were not paid out of the trust in 2004.

<sup>b</sup> BPA provides decommissioning funding from its operating budget as such funds are needed. Financial assurance is provided by a Statement of Intent, dated March 21, 2001. Therefore, no external trust fund is required.

Table 5-4

**Portland General Electric  
Decommissioning Funding Cash Flow  
(Nominal \$ x 1000)**

Year	PGE Trust Fund Expenditures A	PGE Trust Fund Contributions B	PGE Trust Fund Net Earnings C	PGE Trust Fund EOY Balance D	Prefund Refund E	Bridge Funds Interest F	Letter of Credit G	Letter of Credit Fee H
1996								
1997								
1998								
1999								
2000								
2001								
2002								
2003								
2004				19,259				
2005	(11,810)	13,343	835	21,627				
2006	(3,458)	13,343	1,266	32,778				
2007	(3,130)	13,343	1,726	44,717				
2008	(3,352)	13,343	2,550	57,258				
2009	(3,385)	13,343	3,135	70,351				
2010	(3,420)	6,934	3,442	77,307				
2011	(3,446)		3,432	77,293				
2012	(3,534)		3,420	77,179				
2013	(3,607)		3,411	76,983				
2014	(3,690)		2,945	76,238				
2015	(3,775)		2,912	75,375				
2016	(3,837)		2,875	74,413				
2017	(3,952)		2,832	73,293				
2018	(4,043)		2,784	72,034				
2019	(4,136)		2,730	70,628				
2020	(4,232)		2,669	69,065				
2021	(4,330)		2,603	67,338				
2022	(4,430)		2,530	65,438				
2023	(48,280)		692	17,850				
2024	(17,850)		0	0				
Total	(141,697)	73,649	48,789		0	0		0

NOTE 1 : Positive numbers indicate cash flow into trust fund; negative numbers indicate cash flow out of trust fund.

NOTE 2 : Current EOY balance = previous year EOY balance + current year A + B + C + E + H.

Table 5-5

**EWEB / BPA  
Decommissioning Funding Annual Cash Obligations  
(Nominal \$ x 1000)**

Year	Eugene Water and Electric Board / Bonneville Power Administration Decommissioning Obligations
1996	
1997	
1998	
1999	
2000	
2001	
2002	
2003	
2004	
2005	5,249
2006	1,537
2007	1,391
2008	1,490
2009	1,505
2010	1,520
2011	1,531
2012	1,571
2013	1,603
2014	1,640
2015	1,678
2016	1,705
2017	1,756
2018	1,797
2019	1,838
2020	1,881
2021	1,924
2022	1,969
2023	21,459
2024	7,933
Total	62,977

Note 1:

BPA provides decommissioning funding from its operating budget as such funds are needed. Financial assurance is provided by a Statement of Intent, dated March 21, 2001. Therefore, no external trust fund is required.

Table 5-6

**Pacific Power & Light  
Decommissioning Funding Cash Flow  
(Nominal \$ x 1000)**

Year	PP & L Trust Fund Expenditures A	PP & L Trust Fund Contributions B	PP & L Trust Fund Net Earnings C	PP & L Trust Fund EOY Balance D	Bridge Funds E	Bridge Funds Interest F	Letter of Credit G	Letter of Credit Fee H
1996								
1997								
1998								
1999								
2000								
2001								
2002								
2003								
2004				1,223				
2005	(437)	349	25	1,160				
2006	(128)	349	34	1,415				
2007	(116)	349	50	1,698				
2008	(124)	349	61	1,984				
2009	(125)	349	72	2,280				
2010	(127)	349	83	2,585				
2011	(128)	350	95	2,902				
2012	(131)		107	2,878				
2013	(134)		105	2,849				
2014	(137)		104	2,816				
2015	(140)		103	2,779				
2016	(142)		101	2,738				
2017	(146)		100	2,692				
2018	(150)		98	2,640				
2019	(153)		96	2,583				
2020	(157)		94	2,520				
2021	(160)		91	2,451				
2022	(164)		88	2,375				
2023	(1,788)		62	649				
2024	(661)		12	0				
Total	(5,248)	2,672	1,581					0

NOTE 1 : Positive numbers indicate cash flow into trust fund; negative numbers indicate cash flow out of trust fund.

NOTE 2 : Current EOY balance = previous year EOY balance + current year A + B + C