



Portland General Electric Company

Trojan Nuclear Plant
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Trojan Nuclear Plant
Docket 50-344
License NPF-1

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

PGE-1061, "Trojan Nuclear Plant Decommissioning Plan
and License Termination Plan (PGE-1078)," Revision 16

The Enclosure to this letter provides Revision 16 to Portland General Electric Company's PGE-1061, "Trojan Nuclear Plant Decommissioning Plan and License Termination Plan (PGE-1078)." The Decommissioning Cost Estimate and Funding Plan in Section 5 are updated to include actual expenditures during 2002 and adjustments based on work performed and projected work schedules. Sections 1, 2, and 4 are revised to reflect current projected work schedules for decommissioning and site restoration. The changes were evaluated and determined to not require prior NRC approval pursuant to 10 CFR 50.59. Revised portions of the Decommissioning Plan and License Termination Plan are denoted by sidebars.

Any questions concerning this revision can be directed to Mr. Lansing G. Dusek, of my staff, at (503) 556-7409.

Sincerely,

Lansing G. Dusek for
Stephen M. Quennoz
Vice President,
Power Supply/Generation

Enclosure

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NMSS01
A001

Add: Michael Lusaniwsky's

**PGE-1061, "Trojan Nuclear Plant Decommissioning Plan
and License Termination Plan (PGE-1078)"**

Revision 16

Pages to your Controlled Copy of PGE-1061, "Trojan Nuclear Plant Decommissioning Plan and License Termination Plan (PGE-1078)," are to be replaced as indicated below:

Remove

Pages xiv and xv

Pages 1-3 and 1-4

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1.3 SUMMARY OF MAJOR ACTIVITIES AND SCHEDULE

TNP decommissioning is divided into two broad periods: a Transition Period and a Decontamination and Dismantlement Period. Decommissioning will be followed by site restoration. This section provides a brief description of these activities. Details are provided in Sections 2.2 and 2.3.

1.3.1 DESCRIPTION OF MAJOR ACTIVITIES

The Transition Period began with permanent plant shutdown in January 1993 and will continue until spent fuel is transferred to an Independent Spent Fuel Storage Installation (ISFSI). The Decontamination and Dismantlement Period will begin once the spent fuel is transferred to the ISFSI. Site restoration will begin following termination of the 10 CFR 50 license and involves the final disposition of structures, systems, and components.

Storing fuel at TNP during and after plant decommissioning significantly impacts both the process and costs associated with decommissioning. The TNP contract with DOE, "Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste," provides the basis for the schedule forecast in DOE's annual acceptance priority ranking for receipt of spent fuel and/or high level waste. The published schedule specifies the first TNP shipment to be in 2002, and the final shipment is projected for 2018. Recognizing the uncertainty, but with no better formal estimate, the contract dates for fuel shipment are currently being used for planning purposes. The spent fuel management plan is discussed in Section 3.3.

1.3.1.1 Transition Period

The Transition Period of TNP decommissioning is nearing completion. PGE continues to maintain systems and components required to support decommissioning and spent fuel storage in accordance with the Facility Operating (Possession Only) License NPF-1 and administrative procedures. The facility currently is maintaining its spent fuel in the spent fuel pool (SFP) and undergoing active decontamination and dismantlement and activities in accordance with the approved TNP DSAR and this Decommissioning Plan and License Termination Plan. Final survey of areas for which remediation has been completed may also begin towards the end of the Transition Period.

Fuel transfer to the ISFSI began in late 2002. The completion of fuel transfer to the ISFSI will allow the removal or decontamination in place of systems and components that support the SFP or wet fuel storage, including the SFP itself.

1.3.1.2 Decontamination and Dismantlement

Once the spent fuel is transferred to the ISFSI, the Transition Period ends and the Decontamination and Dismantlement Period begins. Major activities planned during the Decontamination and Dismantlement Period include removing the remaining contaminated

systems and components, and continuing the decontamination of structures and final radiation surveys. The final survey, described in Section 4, is performed to demonstrate that radiological conditions at TNP satisfy the final site release criteria of 10 CFR 20.1402 (Reference 1-15) to support unrestricted release of the TNP site and license termination. Upon completion of the final survey, a final survey report will be submitted to the NRC.

Site Restoration

Nonradiological site remediation activities are scheduled to be completed following termination of the Facility Operating (Possession Only) License NPF-1. The primary nonradiological site remediation effort is scheduled to begin around 2018 and conclude in 2019. Some site restoration activities have been completed, and some may continue to be conducted during the Transition and Decontamination and Dismantlement Periods of decommissioning.

A listing and schedule of remaining major license termination activities is provided in Sections 2.2 and 2.3. According to this schedule, PGE anticipates the completion of decommissioning activities, including the final survey and license termination, by mid 2005.

1.3.2 FINAL RELEASE CRITERIA

TNP decommissioning will safely reduce radioactivity at the site to levels meeting the unrestricted release criteria of 10 CFR 20.1402. The TNP final survey plan provided in Section 4 describes the scope and methodology of the final survey process, quality assurance measures, access control procedures, and how implementation of the plan will demonstrate that the plant and site will meet the 10 CFR 20.1402 criteria for unrestricted release of the site.

1.3.3 SCHEDULE FOR DECOMMISSIONING/SITE RESTORATION ACTIVITIES

A detailed schedule for decommissioning/site restoration activities is discussed in Section 2.2. The following is an overview of the current TNP decommissioning/site restoration project schedule.

January 1993 - Mid 2003	Transition Period
Late 1994 - Late 1995	Large Component Removal Project
Late 1996 - Mid 2002	Complete planning/building an ISFSI
Early 1997 - Late 1999	Reactor Vessel and Internals Removal
Late 2002 - Late 2003	Transfer spent nuclear fuel to the ISFSI
Late 2003 - Mid 2005	Decontamination and Dismantlement Period
Early 2005	Complete final radiation survey
Early 2005	Submit application for license termination
Mid 2005	License Termination
Mid 2005 - Mid 2018	Caretaking
Mid 2018 - Late 2019	Demolish buildings

2.2 DECOMMISSIONING ACTIVITIES, TASKS, AND SCHEDULES

2.2.1 INTRODUCTION

In accordance with 10 CFR 50.82(a)(9)(ii)(B), this section identifies the major dismantlement and decontamination activities that remain at TNP as of early-1999. This information details those areas and equipment that need further remediation to allow an estimation of the radiological conditions that may be encountered during remediation. Included herein are schedules for implementation of decommissioning and dismantlement activities, estimates of associated occupational radiation dose, and projected volumes of radioactive waste.

TNP decommissioning is divided into two broad periods: a Transition Period and a Decontamination and Dismantlement Period. Figure 2-11 illustrates how these periods are incorporated into the overall decommissioning schedule. This schedule was used in the preparation of the decommissioning cost estimate and funding plan discussed in Section 5. More detailed scheduling is prepared as part of pre-job planning.

The Transition Period began with permanent plant closure in January 1993 and will continue until the spent fuel is transferred to the ISFSI. Decontamination and dismantlement of the remaining facility radioactive systems, components, and structures are scheduled to be conducted upon completion of the transfer of spent fuel to the ISFSI, which is currently scheduled for around late 2003. Some decontamination and dismantlement activities have occurred and will continue to occur during the Transition Period. Major activities completed or planned during the Transition Period are described in Section 0.

Following the Transition Period, the remaining decontamination and dismantlement activities are expected to last from late 2003 through mid 2005. Major activities planned during the Decontamination and Dismantlement Period are discussed in Section 2.2.2.

Nonradiological site restoration activities involving the final disposition of structures, systems, and components are scheduled to be completed following the termination of Facility Operating (Possession Only) License NPF-1. Some site restoration activities have been completed and others may continue to be conducted during the Transition and Decontamination and Dismantlement Periods.

2.2.2 TRANSITION PERIOD

Plant closure activities were initiated following the decision to permanently cease TNP power operations in January 1993. These activities culminated with the plant in a safe transition state awaiting decontamination and dismantlement. Detailed project planning and engineering activities for the Decontamination and Dismantlement Period, as discussed in Section 2.2.2.2, will continue during the Transition Period. Plant activities will continue to be implemented in compliance with the existing possession-only license and other regulatory requirements.

1. Overview and objectives of this plan;
2. Procedures governing the conduct of the final survey;
3. Operation of the appropriate field and laboratory instrumentation;
4. Collection of final survey measurements and samples; and
5. Survey data evaluation.

The extent of training and qualifications is commensurate with the education, experience, and proficiency of the individual and the scope, complexity, and nature of the activity. Records of training are maintained in accordance with approved plant procedures.

4.2.6.7 Schedule

Final survey activities are planned, scheduled, and tracked as a part of the overall decommissioning planning process. The schedule is dependent upon the progress and completion of several decommissioning activities. Presently, survey data collection is estimated to be completed in early 2005. Final survey activities are planned and discussed with the NRC and the OOE sufficiently in advance to allow the scheduling of inspection activities.

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 cost estimate prepared by PGE with assistance from TLG 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 cost projections and funding requirements for the onsite management of irradiated fuel until possession and title of the irradiated fuel is transferred to DOE for ultimate disposal. The description of the spent fuel management costs and associated funding plan provided in this section, together with the description of the spent fuel management program in Section 3.3.1, fulfill the requirements of 10 CFR 50.54(bb).

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, 2003. As indicated in Table 5-1, the costs (in 1997 dollars) for the selected decommissioning alternative are estimated to total approximately \$238,957,000 for radiological decommissioning activities, approximately \$42,263,000 for nonradiological decommissioning activities (site restoration), and approximately \$146,985,000 for dry spent fuel storage. Costs associated with securing and maintaining decommissioning financial assurance and bridging funds are projected to total approximately \$1,514,000. A detailed schedule of TNP's decommissioning and spent fuel management costs, totaling approximately \$429,719,000 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

Decommissioning Plan and License Termination Plan are submitted for reimbursement from the decommissioning trust. Periodically, variances between the estimate and actual costs will be 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 Decommissioning Plan and License Termination 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 2002 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.

Costs required to maintain spent fuel in a safe storage condition are funded by Operation and Maintenance (O&M) funds rather than by decommissioning funds while the spent fuel remains in wet storage. Once the spent fuel is transferred to dry storage, there are sufficient decommissioning fund annual contributions to cover annual costs. This is described in Sections 5.2 and 5.3.2 and Table 5-2. This complies with 10 CFR 50.82(a)(8)(i)(B).

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 and/or letter of credit) are adjusted as necessary to ensure the completion of radiological decommissioning. Financial assurance is described in Section 5.3. "Bridge" funds are also described in Section 5.3.

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 are reflected in the projected cost schedule for the onsite management of irradiated fuel detailed in Table 5-2. Spent fuel management costs begin with ongoing spent fuel pool operation, surveillance, and maintenance activity costs, and continue through ISFSI planning, construction, and operation until possession and title of the irradiated fuel is transferred to the DOE for ultimate disposal (assumed in this estimate to be completed in 2018). As indicated in Table 5-2, spent fuel pool operation expenditures are projected to end upon transfer of the spent fuel pool contents to the ISFSI. Costs associated with onsite management of the spent fuel will then involve ISFSI operation, maintenance, and surveillance expenditures. Finally, upon transfer of the ISFSI contents to an

5.3 DECOMMISSIONING FUNDING PLAN

5.3.1 CURRENT DECOMMISSIONING FUNDING CAPABILITIES

Each of the TNP co-owners separately collect through rates the funds for the decommissioning of TNP and the Trojan ISFSI. 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 and Trojan ISFSI decommissioning funds as necessary as described in Section 5.3.2.2. Because the TNP was shut down prematurely, the external trust funds established by PGE and PP&L currently contain 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, 2002.

The NRC's general policy requires, prior to the start of the Decontamination and Dismantlement Period, either funds needed for decommissioning (as the term "decommission" is defined in 10 CFR 50.2, "Definitions") to be available or an appropriate financial vehicle to be secured and maintained that will assure the availability of adequate funds for completion of radiological decommissioning. As indicated above, the trusts established by PGE and PP&L for decommissioning will not contain the funds necessary for completion of radiological decommissioning prior to the start of the Decontamination and Dismantlement Period. Thus prior to commencing this period, PGE and PP&L are required to secure an additional financial assurance mechanism allowed by 10 CFR 50.75(e). This financial assurance must be maintained until termination of TNP's Part 50 license. Furthermore, during the Decontamination and Dismantlement Period, 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.

5.3.2 TNP CO-OWNERS' DECOMMISSIONING FUNDING PLANS

Each of the TNP co-owners has established a program in conjunction with specified goals for the collection of funds for the decommissioning of TNP. 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 including planning, design, construction, O&M, and decommissioning of an ISFSI. These collection schedules do not include funding for spent fuel pool O&M costs since these costs are being paid with O&M budget funds rather than decommissioning funds. 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.

5.3.2.1 PGE Funding

Table 5-4 provides PGE's decommissioning funding cash flow in nominal dollars (2.79% 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, with the exception of spent fuel pool O&M costs since these costs are being paid with

O&M budget funds rather than decommissioning funds. The funding schedule described in Table 5-4 ensures that PGE's portion of the decommissioning activity expenditures will be fully funded.

Projected requirements for bridging funds have been incorporated into PGE's decommissioning funding cash flow. As previously discussed, PGE's external trust fund currently contains only a portion of the total amount needed for PGE's share of site radiological decommissioning costs. Based on the decommissioning fund cash flow analysis presented in Table 5-4, bridging funds are anticipated to be required in the year 2004 to complete decontamination activities and allow scheduled collections to restore the decommissioning trust fund balance. Projected interest on bridging funds has been incorporated into PGE's decommissioning funding cash flow as indicated in Table 5-4.

In addition, because the trust established for decommissioning will not contain the funds necessary for completion of radiological decommissioning prior to the start of the Decontamination and Dismantlement Period, PGE must secure an additional financial assurance mechanism allowed by 10 CFR 50.75, and maintain this assurance until termination of TNP's Part 50 license. Therefore, upon commencement of the Decontamination and Dismantlement Period, PGE's financial assurance mechanism will consist of the decommissioning trust fund balance together with a letter of credit. Because financial assurance will be maintained only for radiological decommissioning activities, 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 non-radiological 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.

5.3.2.2 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 (2.79% escalation) during decommissioning. The expenditures described in this table are BPA/EWEB's share (30%) of the expenditures described in Table 5-2, with the exception of spent fuel pool O&M costs since these costs are being paid with O&M budget funds rather than decommissioning funds. 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 and Trojan ISFSI will be obtained when necessary.

5.3.2.3 PP&L Funding

Table 5-6 provides PP&L's decommissioning funding cash flow in nominal dollars (2.79% 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, with the exception of spent fuel pool O&M costs since these costs are being paid with O&M budget funds rather than decommissioning funds. The funding schedule described in Table 5-6 ensures that PP&L's portion of the decommissioning activity expenditures will be fully funded.

Based on the decommissioning funding cash flow analysis presented in Table 5-6, PP&L's decommissioning trust balance will remain adequately funded during decommissioning such that bridging funds will not be required. However, because the trust established for decommissioning will not contain the funds necessary for completion of radiological decommissioning prior to the start of the Decontamination and Dismantlement Period, PP&L must secure an additional financial assurance mechanism allowed by 10 CFR 50.75, and maintain this assurance until termination of TNP's Part 50 license. Therefore, upon commencement of the Decontamination and Dismantlement Period, PP&L's financial assurance mechanism will consist of the decommissioning trust fund balance together with a letter of credit. The methodology for determining the size of the letter of credit is as described in Section 5.3.2.1, "PGE Funding."

Table 5-1

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

	Total (Start-to-Finish) Costs	Total Costs Remaining As of January 1, 2003	
Radiological (NRC) Decommissioning Costs			
Reactor Vessel and Internals Removal and Disposal	21,495,000	0	
Dismantlement, Decontamination, and Remediation	162,828,000	46,837,000	
Waste Disposal	41,878,000	9,059,000	
Final Survey	12,756,000	8,784,000	
Total	238,957,000	64,680,000	
Nonradiological Decommissioning Costs			
Site Restoration	42,263,000	39,253,000	
Total	42,263,000	39,253,000	
Dry Spent Fuel Management Costs			
ISFSI Construction and Decommissioning	86,683,000	23,407,000	
ISFSI Operation and Maintenance	60,302,000	58,170,000	
Total	146,985,000	81,577,000	
Financing Costs			
Financial Assurance	209,000	209,000	
Decommissioning Bridge Loans	1,305,000	1,305,000	
Total	1,514,000	1,514,000	
Total Decommissioning Expenditures	\$ 429,719,000	\$ 187,024,000	

Table 5-2
Decommissioning Cost Estimate for Trojan Nuclear Plant
Itemized Decommissioning Expenditure Schedule
(1997 \$ x 1000)

Total Decommissioning Expenditures						Radiological Decommissioning	Nonradiological Decommissioning	Spent Fuel Management			Financing Activities	
Year	Total Radiological Decommissioning Expenditures	Total Nonradiological Decommissioning Expenditures	Total Spent Fuel Management Expenditures	Total Financing Activity Expenditures	Total Combined Decommissioning Expenditures	DECON / License Termination	Remediation Activities / Site Restoration	SFP	Dry Storage		Costs for Maintaining Financial Assurance	Costs of Loans
								Spent Fuel Pool O & M	ISFSI Construction & Decommissioning	ISFSI O & M		
1993	2,673	0	0	0	2,673	2,673	0		0	0		
1994	5,320	68	0	0	5,388	5,320	68		0	0		
1995	15,896	45	1,100	0	17,041	15,896	45		1,100	0		
1996	9,087	243	3,144	0	12,474	9,087	243		3,144	0		
1997	19,238	350	7,974	0	27,562	19,238	350		7,974	0		
1998	34,321	62	9,703	0	44,086	34,321	62		9,596	107		
1999	37,970	1,313	17,979	0	57,262	37,970	1,313		17,255	724		
2000	33,180	777	3,354	0	37,311	33,180	777		3,040	314		
2001	8,363	198	6,725	0	15,286	8,363	198		6,274	451		
2002	8,230	(46)	15,429	0	23,613	8,230	(46)		14,893	536		
2003	20,211	1,213	19,516	0	40,940	20,211	1,213	11,524	15,554	3,962		
2004	33,442	4,270	3,919	417	42,048	33,442	4,270			3,919	152	265
2005	11,026	216	3,894	592	15,728	11,026	216			3,894	57	535
2006	0	0	3,872	471	4,343		0			3,872		471
2007	0	0	3,846	32	3,878		0			3,846		32
2008	0	0	3,670	2	3,672		0			3,670		2
2009	0	0	3,621	0	3,621		0			3,621		
2010	0	0	3,573	0	3,573		0			3,573		
2011	0	0	3,516	0	3,516		0			3,516		
2012	0	0	3,525	0	3,525		0			3,525		
2013	0	0	3,516	0	3,516		0			3,516		
2014	0	0	3,516	0	3,516		0			3,516		
2015	0	0	3,516	0	3,516		0			3,516		
2016	0	0	3,491	0	3,491		0			3,491		
2017	0	0	3,516	0	3,516		0			3,516		
2018	0	17,258	11,070	0	28,328		17,258		7,853	3,217		
2019	0	16,296	0	0	16,296		16,296					
2020	0	0	0	0	0							
2021	0	0	0	0	0							
2022	0	0	0	0	0							
2023	0	0	0	0	0							
Total	238,957	42,263	146,985	1,514	429,719	238,957	42,263		86,683	60,302	209	1,305

Table 5-3

**Status of Decommissioning Trust Funds
as of December 31, 2002**

Trojan Co-Owner	Fund Balance as of 12/31/02
Portland General Electric (PGE)	\$27,941,000 ^a
Eugene Water & Electric (EWEB)/ Bonneville Power Administration (BPA)	N/A ^b
Pacific Power & Light (PP&L)	\$1,734,000 ^a
Total	\$29,675,000

^a The 2002 end-of-year trust fund balance includes an adjustment for trust expenditures incurred in November and December 2002 that were not paid out of the trust in 2002.

^b 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	Bridge Funds E	Bridge Funds Interest F	Letter of Credit G	Letter of Credit Fee H
1996								
1997								
1998								
1999								
2000								
2001								
2002				27,941				
2003	(31,853)	14,041	387	10,516				
2004	(33,295)	14,041	0	0	8,913	314	31,844	(175)
2005	(12,443)	14,041	0	0	(1,530)	651	12,443	(68)
2006	(3,273)	14,041	93	2,513	(8,348)	589		
2007	(3,340)	14,041	487	13,112	(589)	41		
2008	(3,277)	14,041	923	24,758	(41)	3		
2009	(3,323)	14,041	1,375	36,848	(3)			
2010	(3,371)	14,041	1,844	49,362				
2011	(3,409)	13,924	2,324	62,201				
2012	(3,513)		2,265	60,953				
2013	(3,602)		2,200	59,551				
2014	(3,703)		2,135	57,983				
2015	(3,806)		2,071	56,248				
2016	(3,884)		2,002	54,366				
2017	(4,021)		1,925	52,270				
2018	(33,303)		725	19,692				
2019	(19,692)			0				
2020								
2021								
2022								
2023								
Total	(173,108)	126,252	20,756		(1,598)	1,598		(243)

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	14,157
2004	14,798
2005	5,530
2006	1,454
2007	1,485
2008	1,456
2009	1,477
2010	1,498
2011	1,515
2012	1,562
2013	1,601
2014	1,646
2015	1,691
2016	1,727
2017	1,787
2018	14,801
2019	8,752
2020	
2021	
2022	
2023	
Total	76,937

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.

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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				1,734				
2003	(1,179)	438	41	1,034				
2004	(1,232)	438	19	254			535	(5)
2005	(462)	438	7	235			209	(2)
2006	(121)	438	12	564				
2007	(124)	438	22	900				
2008	(121)	438	32	1,249				
2009	(123)	438	42	1,606				
2010	(125)	438	53	1,972				
2011	(126)	437	64	2,347				
2012	(130)		68	2,285				
2013	(134)		67	2,218				
2014	(137)		64	2,145				
2015	(141)		62	2,066				
2016	(144)		60	1,982				
2017	(149)		57	1,890				
2018	(1,234)		38	694				
2019	(704)		10	0				
2020								
2021								
2022								
2023								
Total	(6,386)	3,941	718					(7)

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.