Clackamas County People's Utility District

P.U.D. Feasibility Study

by D Hittle & Associates, electrical engineers and consultants with 35 years experience.

Study commissioned by:

Clackamas P.U.D. Feasibility
Study PAC
P.O. Box 614
West Linn, Oregon 97068

TEL: 503-786-0393
FAX: 503-656-9333

E-MAIL: info@cheappower.org
INTERNET: www.cheappower.org

Willamette Falls; Sullivan Hydroelectric Facility.

Estimated Comparative Savings with CPUD Under Alternative Power Supply Cases

Operation Year	Year	Estimated Savings with CPUD (100% Purchased Power) [1] ($000)	(¢/kWh)	(%)	Estimated Savings with CPUD (With Hydro Acquisition) [2] ($000)	(¢/kWh)	(%)
1	2006	$ 13,400	0.38	5.1%	$ 26,650	0.75	10.2%
2	2007	41,740	1.16	15.2%	54,640	1.52	19.8%
3	2008	51,100	1.40	17.6%	63,980	1.75	22.1%
4	2009	57,580	1.55	18.9%	71,200	1.91	23.3%
5	2010	68,180	1.80	21.2%	81,630	2.16	25.4%
6	2011	75,060	1.95	22.2%	89,260	2.32	26.4%
7	2012	87,650	2.24	24.6%	101,710	2.59	28.5%
8	2013	95,850	2.40	25.5%	110,660	2.77	29.5%
9	2014	109,460	2.70	27.7%	124,130	3.06	31.4%
10	2015	120,640	2.92	29.0%	136,000	3.29	32.7%
Total - First Ten Years		$ 720,660			$ 859,860		
Net Present Value [3]		$ 498,432			$ 600,040		

[1] See Table 13. Percent savings is relative to estimated PGE revenues.

[2] Based on CPUD Total Revenue Required assuming acquisition of hydroelectric facilities as shown in Table 11 compared to Estimated PGE Revenues shown in Table 13. Percent savings is relative to estimated PGE revenues.

[3] Cumulative present value to 2004 of estimated savings with CPUD over the first ten years of operation, 2006 through 2015. Assumes a 5% discount rate.

Source: ***Clackamas People's Utility District, Preliminary Feasibility Study***, **D. Hittle & Associates, Inc. (page 28)**

REPORT

Preliminary Feasibility Study
Clackamas People's Utility District
Electric Facilities Acquisition and
Establishment of New Electric Utility

April 25, 2004

Prepared for

Clackamas P.U.D. Feasibility Study PAC
West Linn, Oregon

by

DHITTLE & ASSOCIATES, INC.
Engineers and Consultants

Report

Clackamas People's Utility District

Preliminary Feasibility Study

Contents

Clackamas People's Utility District

Preliminary Feasibility Study
Acquisition of Electric System Facilities

Section 1
Introduction and Conclusions

Introduction

Most of the residents and businesses in Clackamas County, Oregon (County) presently receive electric service from Portland General Electric Company (PGE), an investor-owned electric utility owned by Enron Corporation. In addition to PGE, the City of Canby, through its municipally-owned utility system, provides service to electric consumers in Canby. Concern with ownership issues affecting PGE and the relatively high cost of electric service in the County, as well as an interest in more local control regarding electric service has prompted local citizens to investigate the technical and economic feasibility of establishing a People's Utility District (PUD) to provide electric service in the County, exclusive of the City of Canby.

A PUD is a body of local government that provides certain utility services, such as electricity, in a specified community area. As granted in the Oregon Constitution, PUDs are formed or exist in areas where a majority of the public has sought local ownership and control of the utility. A PUD can usually offer lower costs to its customers than investor-owned utilities because:

- A PUD's products and services are sold at cost-based rates;
- PUDs have access to loans bearing tax-exempt interest rates;
- PUDs are not subject to income taxes;
- PUDs have access to preference power from the federal Columbia River power system.

The PUD Board of Directors, elected by the consumer/owners of the PUD, is comprised of residents of the PUD community.

In March 2004, D. Hittle & Associates, Inc. was retained by the Clackamas PUD Feasibility Study Political Action Committee to provide a preliminary feasibility study of the proposed Clackamas PUD (CPUD). The purpose of this study is to provide a limited initial assessment of various technical and economic issues associated with the establishment of CPUD to acquire certain PGE-owned electric facilities and provide electric service in the County.

The proposed service territory of CPUD would initially comprise all areas of the County presently served by PGE. This area includes the entire county with the exception of the City of Canby, areas adjacent to Canby that receive electric service from the Canby Utility Board, and townships with less than 10 electors in which PGE power generation facilities are not located. Nearly all the electric load is located in the western half of the County with the highest concentrations of load in the northwest corner. In addition to the unincorporated portions of the County, CPUD, as proposed, would provide electric service in Barlow, Estacada, Gladstone, Happy Valley, Johnson City, part of Lake Oswego, Milwaukie, Molalla, Oregon City, part of Portland, Sandy, part of Tualatin, and West Linn. In total, CPUD would serve approximately 160,000 electric customers making it the largest PUD in Oregon and approximately the same size, but slightly smaller than Clark Public Utilities, the PUD[1] that serves Vancouver and Clark County, Washington.

A major element in establishing electric service by CPUD would be the acquisition of electric facilities in the County presently owned by PGE. These facilities would include certain transmission lines, substations, overhead and underground distribution lines, transformers, service drops, meters and streetlights. In addition, PGE owns and operates several hydroelectric generating facilities in the County that CPUD may be able to acquire and use to supply a portion of its total power supply requirement.

Although adjacent utilities will often have the capability to interconnect with each other at certain locations and under certain conditions, the wires of these utilities are generally physically separated from each other. PGE's electric system serves a multi-county territory in and around the greater Portland area and has not been configured to serve counties or cities as separate electric systems. Consequently, some reconfiguration of the existing transmission and distribution system, primarily in the vicinity of the County boundary, will eventually be needed to operate the PGE and CPUD systems separate of each other. Initially, however, separation of the systems could be accomplished administratively through a combination of wholesale and retail metering in conjunction with contractual arrangements for delivery of power over the other utility's lines[2]. This administrative approach to separation would be preferred as a lower cost alternative to accomplishing separation of the systems, particularly in the early years of CPUD operation.

As with most Pacific Northwest electric utilities, the most significant annual operating expense that CPUD will incur is the cost of wholesale power. Upon fulfillment of certain criteria primarily related to establishing ownership of its distribution system, CPUD will be entitled to purchase power from the Bonneville Power Administration (BPA). BPA markets the power generated by the federal Columbia River power system and as such, provides the

[1] PUDs in Washington are Public Utility Districts.
[2] Arrangements of this type were used extensively for a number of years following the formation of Emerald PUD in 1983 and were also used when the City of Hermiston acquired its electric system from PacifiCorp in 2001. In both of these cases, new facilities were constructed over a period of time to eventually obtain physical separation of the electric systems, although Emerald PUD and PacifiCorp still have a few of their respective customers served off the other utility's lines.

majority of the power used by the Northwest's publicly owned electric utilities[3] and approximately 45 percent of all electric power used in the Pacific Northwest.

In addition to BPA, a number of other opportunities for near-term power supply could be available to CPUD including power purchases from PGE, acquisition of hydroelectric facilities in the County and subsequent self-generation, and power purchases from other utilities, independent generating facilities and power marketers. In the future, CPUD will most likely continue to purchase power from BPA but will also be able to construct new generating facilities of its own, participate jointly with other utilities in new generation facilities and contract to purchase power from other suppliers. A significant advantage in establishing CPUD will be the opportunity for its elected Directors to establish conservation and power supply policies locally. The Directors can implement appropriate conservation programs and can choose to develop or pursue participation in development of any kind of power generation technology including wind, geothermal and other renewable energy generation systems, waste-to-energy systems, biomass-fueled generation systems, cogeneration and distributed generation.

Even with acquisition of PGE's hydroelectric generation facilities in the County, a significant portion of CPUD's total power supply will be generated outside the County. It is expected that CPUD will take delivery of bulk power over the BPA transmission system, which extends throughout the Northwest and is relied upon extensively by essentially all of the region's electric utilities.

Over the past decade, the electric utility industry has undergone significant changes as various deregulation and restructuring efforts have been undertaken around the country. Deregulation in California in the late 1990's dramatically impacted power prices throughout the western United States. Traditionally, electric utilities have had the obligation to provide generation, transmission and distribution services to the individual customers within their exclusive service territories. In some cases, these services were unbundled and potentially provided by one or more different companies. Many of the long-term investment risks previously undertaken by electric utilities, such as building power plants, are being made by other entities with the intention that the open market will establish the price of power output.

With the changes in the electric utility industry come both opportunities and potential risks. Many more wholesale power supply options now exist than were available to utilities just a few years ago. In the late 1990's, competition among power suppliers along with federally mandated wholesale transmission access lowered the cost of power to many utilities. However, in 2000 and 2001 power costs on the West Coast reached unprecedented heights due to a number of factors including market abuse and price fixing by wholesale marketers. This created significant concern about the future of deregulation of the electric utility industry and most deregulation efforts across the country were either curtailed or deferred. The State of Oregon implemented SB 1149 in March 2002 providing certain electric customers with access to power suppliers other than their connected distribution utility.

[3] Publicly owned electric utilities in the Pacific Northwest, referred to as BPA preference customers, purchasing all or a portion of their respective power supply requirement from BPA include 28 PUDs, 41 municipal electric utilities and 56 electric cooperatives.

It is important to note that restructuring of the electric utility industry in the United States prompted many utilities to evaluate their respective competitive positions. As a result, many utilities were sold, acquired or merged with other utilities. In the Pacific Northwest, Enron purchased PGE and is currently pursuing the sale of PGE to Texas Pacific Group. In 1999, PacifiCorp was acquired by Scottish Power. Following a 1997 deregulation bill passed by the Montana legislature, Montana Power Co. sold its hydroelectric generating facilities to Pennsylvania Power & Light Co. and eventually sold its transmission and distribution facilities to Northwestern Corporation[4] of Sioux Falls, South Dakota. The restructuring movement has prompted cities and other municipal entities nationwide to evaluate electric service in their communities. In order to assure reliable, cost effective electric service, as well as allow for community input as to how electric service is provided in their communities, many of these entities have studied the potential acquisition of the electric system facilities from the existing utility[5].

Methodology

The purpose of this study has been primarily to provide an initial assessment of the potential costs and benefits to the electric consumers in the County associated with the establishment of a publicly-owned electric utility to provide electric service. In general, the study estimated the costs of establishing and operating a PUD, determined what the PUD would need to charge for electric service to recover revenues sufficient to pay all of its costs and compared the PUD's estimated cost of electric service to continued service from PGE. Principal components of the effort included:

- Definition of the area to be served by CPUD and electric facilities to be acquired.
- Estimation of the value of the electric facilities to be acquired by CPUD from PGE.
- Estimation of the financing requirements associated with facility acquisition and CPUD startup.
- Estimation of the number of electric consumers in CPUD's service territory.
- Estimation of energy sales and power requirements of these consumers.
- Identification of potential power supply sources and costs.
- Projection of the annual costs of operation and annual revenue requirements of CPUD's electric system.
- Comparison of CPUD's necessary rates for electric service to estimated PGE rates.
- Preparation of a report summarizing the results of the study.

The study has relied almost entirely upon publicly available information and reports from PGE and other sources. For the most part, data found in PGE's filed reports pertain to its system as a whole and do not present detailed information with regard to municipal or county boundaries. As a result, it has been necessary to estimate what portion of PGE's total customer base, total power requirement and electric system facilities are located within the

[4] On Sept. 14, 2003, Northwestern Corporation filed a voluntary petition for reorganization under Chapter 11 of the U.S. Bankruptcy Code.
[5] Several Montana cities served by Northwestern Corporation are presently studying the feasibility of acquiring the electric distribution systems from Northwestern and establishing municipal electric systems.

County. A much more detailed assessment of these quantities would be derived in subsequent studies and analyses as the development of CPUD's electric utility proceeds and access to PGE's customer sales and facility inventory records can be obtained.

For the purpose of this study, the determination of electric facilities to be acquired was based on a cursory review of PGE's transmission and distribution system in and around the County primarily using large-scale system maps. The limited nature of this study did not allow for quantification and allocation of specific facilities; rather, PGE's average investment in its distribution and transmission systems on a per customer basis was applied to the number of customers estimated to be located in the County. This approach produced results reasonably close to system net book value estimates quoted by PGE representatives. It has been assumed that CPUD would finance the initial acquisition and startup costs with the issuance of a combination of taxable[6] and tax-exempt revenue bonds.

A detailed count of the number of electric customers located in CPUD's proposed service territory has not been made. Rather, the number of households in the County has been used as a representative estimate of the number of residential electric accounts. Typical relationships between the number of residential and general service accounts in PGE's system as a whole have been used to estimate the number of general service accounts in CPUD's service area. The total power requirements of the electric customers in the District have been estimated based on typical residential and commercial loads for the Company's total customer base. The actual number of electric customers in the District and energy sales for these customers should be obtainable from the Company at a later date.

The estimated costs for power purchases, system operation and maintenance, customer accounting and administration included in the analysis have been based on costs experienced by other publicly-owned electric utilities in the Pacific Northwest. It is assumed that CPUD would conduct its own billing and accounting activities and would provide in-person customer service for bill paying, hookup requests and other services. In addition to operating expenses, annual debt service payments and funds for annual capital improvement expenditures were included in the projected revenue requirements.

In 1999, the Bonneville Power Administration (BPA) defined its criteria for qualification to purchase power from BPA as a "preference customer". This criteria is presently in effect, however, significant discussion is underway in the region with regard to both BPA power availability and power sales rates following the current rate period ending September 30, 2006. BPA has indicated that it could provide power to a newly formed or significantly expanded electric utility prior to as well as after 2006.

For the purpose of estimating the cost of power to CPUD in this analysis, it has been assumed that CPUD would purchase either its entire power supply requirement from BPA as a preference customer or its net requirement upon acquiring the PGE hydroelectric generation facilities in the County. Prior to September 30, 2006, CPUD would most likely

[6] Although CPUD would normally be able to issue tax-exempt bonds, federal tax laws would preclude the use of tax-exempt financing to fund the acquisition of existing electric facilities previously owned by an investor owned utility.

need to pay a rate somewhat higher than the standard preference power rate paid by BPA's existing preference customers. Past history would indicate that all preference customers, new and old, are treated equally and as a result, for purposes of the projected costs after 2006, CPUD is assumed to purchase power at the preference rate. Prior to and during 2006, it is expected that CPUD would pay the preference power rate with applicable cost recovery adjustment charge (CRAC) surcharges[7] and the Targeted Adjustment Charge (TAC) applied to the base priority firm rates.

Other sources of power supply, possibly from PGE as well as others, should be available to CPUD if BPA power is not available. Market power rates were very high during 2001 but at the present time are comparable with BPA's preference rate with the CRAC and TAC adjustments applied.

Projections of operating costs, debt service and other costs for CPUD have been made on an annual basis for the first ten years of CPUD electric utility operation. For the purpose of this analysis, it has been assumed that the first year of operation would be 2006. Although specific projected values would change, it is not expected that the overall outcome of the analysis would vary significantly if the assumed first year of operation were different.

It should be noted that this study has not addressed legal issues that may affect CPUD's ability to pursue electric utility ownership.

Conclusions

The costs of establishing and operating a PUD-owned electric utility in Clackamas County have been estimated in accordance with the methodology and assumptions described in this report. Based on these estimated costs, the cost of power to electric consumers in the County with a PUD-owned electric utility has been projected and compared to the projected cost of continued electric service from PGE. Results of the study and the accompanying cost analysis are summarized as follows:

1. At present population levels, it is estimated that CPUD would have 156,690 electric customers in its proposed service territory and would have a total annual energy requirement of 3,680,000 MWh. The number of customers served by CPUD is estimated to increase at an average annual growth rate of approximately 1.7% per year. Peak demand is estimated to be 700 MW.
2. The estimated net book value of the electric facilities presently owned by PGE and needed by CPUD to provide electric service in its proposed service territory is $254 million. Combined with various startup costs and separation costs, the initial financing requirement of CPUD is estimated to be $359 million.
3. Certain costs may need to be incurred to separate CPUD's electric system from PGE's remaining system in the area around the County. It is presently expected that

[7] The current CRAC surcharge is 47% applied to all BPA preference power rate components. The CRAC surcharge is adjusted every 6 months.

to keep these costs at a minimal level, metering systems will be installed at various points where PGE's distribution lines outside the County are served through CPUD's system. Agreements would be needed between CPUD and PGE to "wheel" power over distribution lines owned by the other. CPUD would be expected to fund the costs of these metering systems as well as any other costs related to separation.

4. Although other alternatives exist for power supply, the projected cost of power from BPA has been used in this analysis as the basis for projecting the costs of operating a CPUD electric system. Most of the publicly-owned electric utilities in the Pacific Northwest rely upon BPA for much, if not all, of their power supply requirements. CPUD would be expected to pay a higher rate than other preference customers for power purchased from BPA through the end of the existing BPA rate period, 2006, but should pay the same rate as other preference customers after 2006.

5. The cost of purchased power and transmission, at estimated BPA rates, will represent approximately 54% of the total annual revenue requirement of CPUD's electric system after the first year of operation. A lower cost source of power could significantly reduce the estimated cost of power from CPUD's electric system to its customers.

6. In its initial year of operation, 2006 for purposes of this analysis, the average cost of power to consumers from CPUD is estimated to be approximately 7.0 cents per kWh, as compared to an average cost of 7.4 cents per kWh from PGE. In the second year of operation when the BPA rate to CPUD is expected to decrease, average electric charges from CPUD are estimated to be approximately 15.2 percent lower than those from PGE. Cumulative savings in total charges for electric service in the portion of the County to be served by CPUD over the first ten years of CPUD operation are estimated to be $720 million. The present value to 2004 of the cumulative savings over the first ten years of CPUD operation is estimated to be $498 million using a 5 percent discount rate. If CPUD acquires certain PGE hydroelectric facilities in the County and uses the output of these facilities to offset a portion of its total power purchases, the estimated savings over the first ten years of operation would increase to $859 million.

7. Alternative purchase power costs, system acquisition costs and financing costs can significantly affect the results of the analysis. A more detailed Engineer's Report should follow in the future if voter approval of CPUD is obtained. Additional information and alternative assumptions should be factored into any subsequent feasibility studies and engineering reports of CPUD.

Section 2
Estimated Cost of Electric Facilities

Description of Service Area

The proposed service territory of CPUD would comprise all areas of the County presently served by PGE. This area includes the entire county with the exception of the City of Canby, areas adjacent to Canby that receive electric service from the Canby Utility Board and townships with less than 10 electors in which PGE generating facilities are not located. Nearly all the electric load is located in the western half of the County with the highest concentrations of load in the northwest corner. In addition to the unincorporated portions of the County, CPUD, as proposed, would provide electric service in Barlow, Estacada, Gladstone, Happy Valley, Johnson City, part of Lake Oswego, Milwaukie, Molalla, Oregon City, part of Portland, Sandy, part of Tualatin, and West Linn.

Electric Facilities to be Acquired

The Electric facilities located within the proposed service territory of CPUD include transmission lines, substations, overhead and underground distribution lines, poles, transformers, vaults, service drops, meters, streetlights and any ancillary distribution system facilities. PGE's transmission system in and around the County includes 57-kilovolt (kV), 115-kV and 230-kV lines. There are approximately 30 substations in the County used for transmission system operation and to transform power from transmission voltage to distribution voltage. A significant interconnection point with BPA's transmission network exists at BPA's Oregon City substation near Wilsonville. It is expected that CPUD would take delivery of power from BPA at the Oregon City substation.

Although it is expected that most of the PGE electric transmission and distribution facilities would be acquired, with the exception of the 230-kV transmission system, as noted below, specific facilities to be acquired would be identified at a later time when engineers representing PGE and CPUD would determine how best to separate the CPUD system from the PGE system. It will be necessary to assure that both systems can function efficiently and reliably in the future. Typically, upon mutual agreement to proceed with the establishment of a new publicly-owned utility, an acceptable plan of separation can be developed relatively quickly by electric system engineers.

Based on a preliminary evaluation of the PGE transmission system in the County, the following general concepts have been preliminarily assumed:

- Transmission lines at 230-kV would remain the property of PGE. Interconnecting points for other voltages in the 230-kV yards would become the property of CPUD.

Power transformers in substations that have capacity and are needed to feed outside the CPUD service territory would require some form of joint ownership. Operations of these facilities would be performed through a contractual arrangement with PGE's Distribution Services Division. The City of Canby and PGE presently share ownership of a substation near Canby.

- All 115-kV transmission lines in the CPUD service territory will become the property of CPUD. Some lines outside the CPUD service territory may have to be part of the purchase of facilities from PGE. Most notable are the two lines between Carver and Gresham. There are no substations served in Multnomah County off these lines so the line would be purchased from terminal point to terminal point. Metering will be required at ownership terminal points to account for power flow into, out of and through the CPUD system. Load flow studies will show if open points established by PGE need to be changed for a utility that only serves the County. The load flow studies may show some power flow through CPUD service territory is required for PGE to serve customers outside the County.

- All 57-kV transmission in the CPUD service territory will become the property of CPUD. Some lines outside the CPUD service territory may have to be part of the purchase of facilities from PGE. There are five segments of line that exist in the County and tie to other substations. The lines would be purchased from terminal point to terminal point. Metering will be required at ownership terminal points to account for power flow into, out of and through the CPUD lines. Load flow studies will show if open points established by PGE need to be changed for a utility that only serves the county. The load flow studies may show some power flow through CPUD service territory is required for PGE to serve customers outside Clackamas County.

With the acquired transmission facilities, CPUD will be able to take delivery of bulk power and transmit it to its distribution substations around the County. From the substations, power would be distributed to all the homes and businesses served by CPUD. In the event that after further study, it is determined that all or portions of the transmission system in the County should remain with PGE, it might be necessary that CPUD take ownership of its system at the distribution substations. With this alternative approach, PGE would serve as a transmission provider to CPUD and BPA would contract with PGE for delivery of power to CPUD's distribution system. This would be a similar situation to that which currently exists between Canby Utility Board, PGE and BPA.

Estimated Cost of Electric Facilities

An appraisal of the value of electric facilities in the County to be acquired by CPUD for its electric system has not been conducted. Such an appraisal would rely upon a detailed description of the facilities to be acquired and will potentially be needed if CPUD proceeds towards acquisition of the PGE system in the County. For the purpose of this analysis, the original cost less depreciation (OCLD) value of the electric facilities to be acquired is assumed to be reasonably representative of the cost CPUD would pay for this property. OCLD is defined as the original cost of the property when it was first put into service as a public utility, less accrued depreciation. The OCLD value is an estimate of the net book value of property, which in general, is equivalent to the rate base value of the property for ratemaking purposes. For regulated properties such as the facilities to be acquired by CPUD, the rate base value generally is the portion of the original investment cost which the utility has not yet recovered through rate charges paid by its customers.

At the present time, Texas Pacific Group (TPG) has offered approximately $2.35 billion for PGE and review of the proposed sale is currently underway by the Oregon Public Utility Commission. At the proposed sales price, it appears that in effect, PGE's electric utility plant is to be sold at approximately net book value or OCLD. In this circumstance, the "market-defined" value of PGE's property is approximately the same as net book value which provides further reason to consider OCLD as the value of facilities to be acquired by CPUD.

For the purpose of this analysis, it has been assumed that PGE's total investment in transmission and distribution facilities in the County on a per customer basis is proportional with investment in these facilities throughout PGE's entire system. PGE's investment in electric plant as of December 31, 2003 is shown in the following table:

TABLE 1
PGE Total Electric Plant in Service as of December 31, 2003 [1]

Electric Plant in Service		
Intangible Plant	$	119,904,423
Production Plant		1,377,733,335
Transmission Plant		353,447,112
Distibution Plant		1,679,523,110
General Plant		256,561,340
Subtotal	$	3,787,169,320
Less: Adjustments	$	(42,690,684)
Total Electric Plant in Service	$	3,744,478,636

[1] Source: PGE FERC Form No. 1 for 2003. Calculated as Balance at beginning of year plus reported Additions during the year. Adjustments reflect the presumed value of facilities retired during the year.

In 2003, PGE reported 750,496 total electric customers. Based on this number of customers, the total investment in Transmission Plant and Distribution Plant at the end of 2003 is $471 and $2,238 per customer, respectively. Table 2 shows PGE's Net Utility Plant.

TABLE 2
PGE Net Utility Plant as of December 31, 2003 [1]

Utility Plant	$	3,744,478,636
Construction Work in Progress		89,583,408
Total Utility Plant	$	3,834,062,044
Less: Accumulated Depreciation		1,863,811,407
Net Utility Plant	$	1,970,250,637

[1] Source: PGE FERC Form No. 1 for 2003.

In total, the Accumulated Depreciation shown in Table 2 is 48.6% of the Total Utility Plant. It is not known what the actual accumulated depreciation is for transmission and distribution plant, however, it has been assumed that 40% should be a reasonable assumption based on data from previous PGE reports and experience with other utility systems. Based on the estimated plant investment per customer shown above and 40% accumulated depreciation, the OCLD value of the transmission and distribution facilities to be acquired by CPUD is shown in Table 3.

TABLE 3
Estimated Cost of Electric Facilities to be Acquired by CPUD [1]

Distribution Facilities		
Original Cost	$	350,650,000
Less: Accumulated Depreciation		(140,260,000)
Net Cost - Distribution	$	210,390,000
Transmission Facilities		
Original Cost	$	73,792,000
Less: Accumulated Depreciation		(29,517,000)
Net Cost - Transmission	$	44,275,000
Total Facilities - OCLD	$	254,665,000

[1] Based on estimated 156,700 total customers and assumed 40% accumulated depreciation on system facilities.

In total, the estimated cost of the facilities to be acquired based on the assumed OCLD, or net book value, method of valuation is $254.7 million. Statements made recently by PGE indicate that twice the book value of the assets CPUD would acquire is about $500 million[8]. This implies that PGE's estimate of the net book value of the facilities is about $250 million.

Separation Costs

Although CPUD would mostly acquire facilities located within its proposed service territory, some means of separation between the PGE's remaining system and the new CPUD system will need to be established. Rather than a complete immediate physical separation, which could require construction of certain new facilities, it is suggested that a metering system be installed at locations where the distribution feeders extend outside the County. The metering system may take two forms, a primary system on large loads or a distributed automatic metering system for residential and small commercial loads. The automatic metering data and primary metering data would be summed and totaled to establish the amounts of PGE power delivered over the CPUD system and vice versa. Agreements would need to be established to permit PGE to wheel power over portions of CPUD's distribution system to PGE customers located outside CPUD's service area. These agreements would compensate CPUD on an allocated basis for use of CPUD-owned distribution facilities. Agreements of this type have been and continue to be used at locations in Oregon where both utilities agree that it is not cost effective to construct new lines.

[8] PGE, "Why a PUD can't deliver on promises of lower rates: Purchase, start-up and severance costs."

A detailed separation plan will be needed to establish full physical separation of the PGE and CPUD systems. For this analysis, it was assumed that new lines will be required along portions of the County boundaries. Along the southeasterly border, the County line follows Butte Creek and the Pudding River. Rivers offer a natural barrier for most power lines. More concentrated, higher population areas along the west, northwest and northern boundaries of the County will require significant investment in larger overhead and underground distribution lines. In total, it is estimated that approximately 55 miles of new lines along the County boundaries would be needed to establish separation of the two systems. In addition, it is also assumed that three new substations will need to be constructed. An allowance of $25 million is assumed to accomplish this preliminary separation approach. It is further assumed that the new separation facilities will be constructed over a multi-year period with reliance upon the net metering approach until the new lines are built.

Section 3

Estimated Initial Financing Requirements

The estimated initial financing requirements for CPUD's electric system include the costs of acquiring the existing electric facilities from PGE, constructing certain new facilities related to separation of CPUD's system from that of PGE, legal and consulting fees, startup costs and working capital. It is assumed that CPUD would finance the initial acquisition costs with the issuance of revenue bonds that would not be tax-exempt. Costs of constructing new facilities for separation, purchases of equipment, inventories, supplies and other related costs are assumed to be financed with loans carrying tax-exempt interest rates. Certain costs associated with the issuance of revenue bonds, such as the funding of a bond reserve fund, would also be incurred.

Although bond issuance is assumed for the purpose of this analysis, there are other alternatives that may be more appropriate when factored in to the overall financial structure of CPUD. PUD's and municipally owned utilities generally use tax-exempt bonds and loans to fund the capital costs associated with their systems. Federal tax laws generally prohibit the use of tax-exempt loans for the funding of municipal acquisition of electric systems owned by investor-owned utilities. Taxable revenue bonds have a higher interest rate than tax-exempt rates. Further, the 30-year repayment period for the initial bond issuance, as assumed for this analysis, could be shortened if desired. A shorter repayment period would require higher annual debt service payments during the repayment period but would allow for earlier retirement of the bonds. It is important that legal and financial advisors be consulted with regard to the structuring of bond issues to fully evaluate financing alternatives. Various exceptions and special conditions could exist that would allow more access to tax-exempt securities to fund the initial financing requirement.

Table 4 shows the estimated initial financing requirements for CPUD's electric system assuming that the purchase price of the existing facilities is $254.7 million as shown in Table 3. Included in Table 4 is $26.5 million for startup costs to purchase vehicles, equipment, materials, stores, office and warehouse space, a customer information system, computer hardware and software, among other items including legal and engineering fees. Certain separation and startup costs shown in Table 4 will not necessarily be incurred at the outset of CPUD operations.

TABLE 4
Clackamas PUD
Estimated Total Initial Costs [1]

Initial System Acquisition	$ 254,665,000
Separation Costs	25,000,000
Startup Costs	26,500,000
Total Initial Costs	$ 306,165,000

[1] Certain separation and startup costs are expected to be incurred over a three year period following initial operation.

As CPUD proceeds towards acquisition of facilities and startup of electric utility operation, a detailed plan of finance will be developed in coordination with CPUD's legal and financial advisors. CPUD will most likely have multiple bond issues carrying different interest rates and different terms. Table 5 provides the estimated initial financing requirements for a taxable and tax-exempt revenue bond issuance. Both bond issues are assumed to have a 30 year term and include the funding of a debt service reserve fund equal to one-year's annual debt service. Financing costs at 1.5% of the bond size are also included. Recent interest rates reported for 30-year revenue bonds are approximately 6% for taxable debt and 5% for tax-exempt debt[9]. Although long-term, fixed rate debt has been assumed for this analysis, CPUD may want to use short-term borrowings with variable interest rates for a portion of its total financing requirement. Variable rate loans have proven very beneficial in some recent electric utility applications.

TABLE 5
Clackamas PUD
Estimated Total Initial Financing Requirements

	Bond Issue A (Taxable Rate)	Bond Issue B (Tax-exempt Rate)
Initial Acquistion Costs	$ 254,665,000	$ -
Separation, Startup, Legal Costs [1]	-	$ 23,900,000
Working Capital [2]	-	35,000,000
Contingency Reserve	-	15,000,000
Subtotal	$ 254,665,000	$ 73,900,000
Financing Expense [3]	4,187,000	1,215,000
Debt Service Reserve [4]	20,279,000	5,269,000
Total Financing Requirement	$ 279,131,000	$ 80,384,000

[1] Amount shown is for first year costs. Certain costs are expected to be incurred over a three year period following initial operation.
[2] Base on approximately two months estimated operating costs.
[3] Estimated at 1.5% of total bond issue.
[4] Based on one years level debt service assuming 6% taxable and 5% tax-exempt interest rates and 30 year repayment period.

[9] Representative interest rates as of April 2, 2004.

Section 4

Estimated Number of Customers, Energy Sales and Power Requirements

Electric utilities generally classify their customers based on general characteristics of service. Typical customer classifications are residential, commercial, industrial, irrigation and streetlights. The number of customers in CPUD's service territory has been estimated to serve as the basis for estimating energy sales and overall power requirements of the CPUD system.

The total number of households in the County in 2003 was approximately 135,200. The number of households is expected to increase to 147,000 by 2008 representing average annual growth of 1.68%. Applying an adjustment factor for the number of residential electric accounts per household and subtracting the number of County residences in Canby, the total number of residential customers to be served by CPUD is presently estimated to be 138,200. Using the relationship between the number of residential accounts and the number of other customer classifications as seen in PGE's system as a whole in 2003, the number of other customer accounts can also be estimated. It is estimated that at present levels, CPUD would serve 15,800 small commercial customers, 2,560 large commercial customers, 40 industrial customers and 110 streetlight customers. In total, CPUD would serve an estimated 156,700 customer accounts at present levels. This total number of customers is approximately 20.8% of PGE's total customer count.

It should be noted that the method of estimating customer counts as described is, at best, an approximation of the number of electric accounts. A more detailed estimate of the number of accounts, potentially available through PGE, will be needed if CPUD proceeds with further evaluation of the electric system.

Assuming average energy consumption per customer similar to that experienced by PGE as a whole in 2003, with adjustment for the presumed lower percentage of large industrial customers in the County compared to other areas of PGE's service territory, total energy sales of CPUD's electric system have been estimated. Total annual energy sales at present levels are estimated to be 3,409,500 megawatt-hours (MWh). This amount represents about 18% of PGE's total annual energy sales.

Assuming 6.0% energy losses, based on representative experience for PGE's system, and assumed annual load growth of 1.68%, the total annual energy requirement of CPUD's electric system is estimated to be 3,745,100 MWh (427.5 average megawatts) in 2006. Based on an assumed load factor (the ratio of average to peak demand) of 60%, the peak demand of the District's electric system is estimated to be 710 megawatts (MW) in 2006.

Table 6 shows the estimated number of electric customers, annual energy consumption per customer, annual energy sales, annual energy requirements and peak demand for the five-year period, 2006 through 2010. The number of customers shown in Table 4 is assumed to grow at a rate of 1.68% per year through 2008 and at a rate of 1.7% per year thereafter.

TABLE 6
Clackamas PUD
Estimated Number of Customers, Energy Sales and Power Requirements

	2006	2007	2008	2009	2010
Number of Customers					
Assumed Growth Factor	1.68%	1.68%	1.68%	1.70%	1.70%
Residential	142,852	145,251	147,690	150,201	152,754
Small Commercial	16,342	16,616	16,895	17,182	17,474
Large Commercial	2,644	2,688	2,733	2,779	2,826
Industrial	43	44	45	46	47
Streetlights	114	116	118	120	122
Total Customers	161,995	164,715	167,481	170,328	173,223
Annual Energy Use per Customer (kWh)					
Residential	10,860	10,860	10,860	10,860	10,860
Small Commercial	17,500	17,500	17,500	17,500	17,500
Large Commercial	461,000	461,000	461,000	461,000	461,000
Industrial	10,542,300	10,542,300	10,542,300	10,542,300	10,542,300
Streetlights	193,600	193,600	193,600	193,600	193,600
Energy Sales (MWh)					
Residential	1,551,400	1,577,400	1,603,900	1,631,200	1,658,900
Small Commercial	286,000	290,800	295,700	300,700	305,800
Large Commercial	1,218,900	1,239,200	1,259,900	1,281,100	1,302,800
Industrial	453,300	463,900	474,400	484,900	495,500
Streetlights	22,100	22,500	22,800	23,200	23,600
Total Energy Sales	3,531,700	3,593,800	3,656,700	3,721,100	3,786,600
Losses and Own Use	213,400	217,100	220,900	224,800	228,800
Total Energy Reqs. (MWh)	3,745,100	3,810,900	3,877,600	3,945,900	4,015,400
Loss % of Total Reqs.	5.7%	5.7%	5.7%	5.7%	5.7%
Annual Loadfactor	60%	60%	60%	60%	60%
Peak Demand (MW)	710	730	740	750	760

Section 5
Projected Revenue Requirements

Overview of Power Supply Options

A critical element of CPUD's ability to operate as an electric utility will be in obtaining a supply of power. Many of the publicly-owned electric utilities in the Pacific Northwest rely upon BPA for their power supply needs. BPA markets power to the region's utilities from federal hydroelectric projects and certain other facilities. The ability of BPA to continue to supply all the power demands placed on it by its customers in the future is uncertain. As a result, discussions are currently underway with regard to how the low cost power from the federal hydroelectric projects should best be allocated among BPA's customers, existing and new. In addition, BPA has contracted to purchase power at times to supplement the federal resources it has available.

BPA has established certain criteria that must be met before an entity may qualify for service from BPA[10]. To comply with the existing standards of service, an applicant must:

1. Be legally formed in accordance with state and federal laws;
2. Own a distribution system and be ready, willing and able to take power from BPA within a reasonable period of time;
3. Have a general utility responsibility within the service area;
4. Have the financial ability to pay BPA for the federal power it purchases;
5. Have adequate utility operations and structure; and
6. Be able to purchase power in wholesale, commercial amounts.

Upon compliance with these standards, CPUD will be entitled to purchase power from BPA as a preference customer. The cost of BPA power to CPUD will most likely be higher than that paid by other preference customers through September 30, 2006. New large loads placed on BPA's system during the current rate period are subject to the Targeted Adjustment Charge (TAC), a surcharge related to the cost of power supply, potentially at market rates, that BPA may need to acquire on behalf of the new load.

An important issue regarding the TAC is that CPUD should be able to avoid the TAC for a portion of its power purchases from BPA in proportion to the Regional Power Act residential exchange benefits that PGE currently obtains for residential and small farm loads in the County[11]. At the present time, the estimated cost of preference power to CPUD if it were a preference customer assuming a 46% CRAC, is approximately $33.00 per MWh or 3.3 cents

[10] Bonneville Power Administration, Final Policy on Standards for Service – Administrator's Record of Decision, December 22, 1999.
[11] At the present time, PGE receives power and payments equivalent to 490 average MW of energy annually through the Regional Power Act residential exchange program. It is estimated that approximately 105 average MW of this total amount would "transfer" to CPUD.

per kWh[12] on an annual basis. Over the next two years, BPA will be establishing new rates for service for the five-year period beginning October 1, 2006. Significant uncertainty exists with regard to what structure the new rates will use and what the actual rates will be. Preliminary discussions with BPA would indicate that a preference power rate in the range of $30-$32 per MWh is reasonable for planning purposes for the 2007-2011 time period.

In addition to BPA, CPUD could pursue purchases of power from other utilities, including PGE. The average cost of power for PGE's total supply of generation and power purchases in 2003 was $35.27 per MWh[13]. Power could also be purchased under short-term or long-term arrangements through power marketers or independent power producers. In the future, CPUD will most likely continue to purchase power from BPA but will also be able to construct new generating facilities of its own, participate jointly with other utilities in new generation facilities and contract to purchase power from other suppliers.

A significant advantage in establishing CPUD will be the opportunity for its elected Directors to establish conservation and power supply policies locally. The Directors can implement appropriate conservation programs and can choose to develop or pursue participation in development of any kind of power generation technology including wind, geothermal and other renewable energy generation systems, waste to energy systems, biomass-fueled generation systems, cogeneration and distributed generation.

PGE presently owns and operates several small to medium-sized hydroelectric generating facilities located in Clackamas County. The Clackamas River Hydroelectric Project (the "Clackamas Project") consists of four separate developments, Oak Grove, North Fork, Faraday and River Mill, licensed by the Federal Energy Regulatory Commission (FERC) as one project[14]. The Clackamas Project is located on the Oak Grove Fork Clackamas River and the Clackamas River and involves a number of dams, reservoirs, pipelines, powerhouses and related facilities extending from Timothy Lake to the River Mill Dam and Powerhouse near Estacada. The total rated capacity of the Clackamas Project is 167 MW, dependable capacity is 67 MW and average annual energy generation is 735,135 MWh[15]. The current FERC license for the Clackamas Project expires on August 31, 2006 and PGE is presently pursuing relicensing of the project. The net book value of the Clackamas Project is reported by PGE to be $63.0 million.

The Willamette Falls Hydroelectric Project, FERC No. 2233, is located on the Willamette River and is comprised of two separate hydroelectric developments located near Oregon City and West Linn. The T.W. Sullivan facility has a generating capacity of 16 MW and average annual energy generation of 122,028 MWh. The Willamette Falls Project also includes the 1.5 MW Blue Heron Paper Company development licensed to Blue Heron Paper Company. The net book value of the T.W. Sullivan Project is reported by PGE to be $8.6 million. PGE

[12] Cost shown is based on PF-02 rates for non-slice customers.
[13] Source: PGE 2003 FERC Form No. 1.
[14] The Clackamas River Hydroelectric Project is licensed as FERC Project No. 2195.
[15] Source: PGE, The Clackamas River Hydroelectric Project, draft license application dated September 30, 2003.

has proposed several measures to enhance downstream fish passage at the T.W. Sullivan development and Willamette Falls estimated by PGE to cost $4.1 million in 2001 dollars[16].

With acquisition of the existing PGE hydroelectric facilities located in the County, a significant portion of CPUD's total power supply would still be generated outside the County. It is expected that CPUD will take delivery of bulk power over the BPA transmission system, which extends throughout the Northwest and is relied upon extensively by essentially all of the region's electric utilities.

Estimated Cost of Power Supply and Transmission

For the purpose of this analysis, the cost of preference power from BPA is considered to be a reasonable estimate of power supply costs for CPUD. Through 2006, a TAC surcharge of $8.40 per MWh and a CRAC of 46% has been applied to the existing PF-02 power rates. Beginning October 1, 2006, it is assumed that PF-02 base rates will be adjusted to include the effect of the existing CRAC surcharge causing no net increase over the effective preference rate presently in place. After the 2006 adjustment, BPA power rates are assumed to increase 3% every two years. CPUD's energy requirement is assumed to occur 65% in heavy load hours and 35% in light load hours, a typical distribution for BPA preference customer loads. Estimated transmission costs are based on BPA's Network Integration 2004 (NT-04) rates with appropriate ancillary service charges. Transmission rates are assumed to increase 3% every three years. As additional information becomes available on the projected pricing and availability of BPA power in the future, CPUD should update its projections of total power cost.

The estimated cost of power and transmission to CPUD for the five year period, 2006 through 2010, is shown in the following table:

[16] Source: PGE, License Application for the Willamette Falls Hydroelectric Project, December 27, 2002.

TABLE 7
Clackamas PUD
Estimated Annual Cost of Power and Transmission Services
(Based on Full Requirement Supply from BPA)

	2006	2007	2008	2009	2010
Energy Required (MWh) [1]	3,745,100	3,810,900	3,877,600	3,945,900	4,015,400
Demand (MW)	710	730	740	750	760
Purchased Power					
BPA Base Rates					
Demand ($/kW-yr) [2]	22.20	32.19	32.19	33.16	33.16
Energy ($/MWh) [3]	18.39	26.67	26.67	27.47	27.47
Assumed Escalation	0.0%	45.0%	0.0%	3.0%	0.0%
CRAC [4]	46.0%	0.0%	0.0%	0.0%	0.0%
TAC ($/MWh) [5]	8.40	-	-	-	-
Annual Charges ($000)					
Base Cost [6]	$ 84,637	$ 125,123	$ 127,223	$ 133,247	$ 135,488
CRAC Charge [4]	38,933	-	-	-	-
TAC Charge	31,459	-	-	-	-
Total	$ 155,029	$ 125,123	$ 127,223	$ 133,247	$ 135,488
Total Cost ($/MWh)	41.40	32.83	32.81	33.77	33.74
Network Transmission (BPA)					
Base, Anc Srv ($/kW-yr) [7]	18.59	19.15	19.15	19.15	19.72
Anc Srv ($/MWh) [8]	0.73	0.75	0.75	0.75	0.77
Assumed Escalation	0.0%	3.0%	0.0%	0.0%	3.0%
Annual Charges ($000)	$ 15,933	$ 16,844	$ 17,085	$ 17,328	$ 18,099
Total Cost ($/MWh)	4.25	4.42	4.41	4.39	4.51

[1] See Table 6.

[2] Demand charge shown is reflective of estimated monthly load for CPUD and monthly variance in BPA demand charges. Base rate is adjusted by Assumed Escalation.

[3] Energy charge shown is weighted average annual charge based on BPA monthly charges and the estimated monthly load for CPUD. Assumes overall CPUD energy use is 65% during BPA-defined heavy load hours and 35% during light load hours. Includes Load Variance charge. Base rate is adjusted by Assumed Escalation.

[4] CRAC charge presumed to be absorbed into Base Rates October 1, 2006.

[5] Assumed Targeted Adjustment Charge based on estimates provided previously by BPA. Estimated to apply only through 2006.

[6] Includes energy, load variance and demand charges.

[7] Includes base charge and ancillary service charges for load shaping, scheduling, system control and dispatch services and reactive and voltage control services.

[8] Includes ancillary service charges for operating reserves and regulation and frequency response.

If CPUD were to acquire the Clackamas River hydroelectric project and the T.W. Sullivan hydroelectric project from PGE, it is expected that CPUD would use the power from these projects to offset purchases of power from BPA. The cost of ownership and operation of the hydroelectric facilities would primarily include debt service, operations and maintenance expenses and various administrative and general expenses. It is expected that CPUD would either contract for maintenance and operation of the facilities or perform this function with its own staff. Assuming a purchase price of $75.8 million (net book value plus $4.1 million for fish enhancements at the T.W. Sullivan Project and Willamette Falls) for the facilities, the annual costs of power from the hydroelectric projects is shown in Table 8.

TABLE 8
Clackamas PUD
Estimated Annual Cost of Power from Hydroelectric Resources Potentially to be Acquired
($000)

	Clackamas Project	T.W. Sullivan Project
Operation & Maintenance [1]	$ 4,317	583
FERC Fees [1]	292	73
Property Taxes [1]	899	149
A&G [2]	1,500	400
Subtotal	$ 7,008	$ 1,205
Debt Service [3]	5,020	1,010
Renewals & Replacements [4]	1,261	173
Total Annual Cost	$ 13,289	$ 2,388
Energy Generation (MWh) [5]	735,173	122,028
Cost of Power ($/MWh)	18.1	19.6

[1] Based on PGE experienced costs as shown in the Draft License Application for the Clackamas Project and the Final License Application for the T.W. Sullivan project.
[2] Assumed costs of CPUD to administer the projects.
[3] Based on 6% interest rate, 30 year repayment period, 1.5% financing expense and reserve fund with one year's debt service.
[4] Estimated at 2% annually of assumed acquisition cost of the hydroelectric facilities.
[5] Based on average energy generation over the past few years as provided in the PGE License Applications for each facility.

Projected Revenue Requirements

Publicly-owned electric utilities generally establish rates to recover revenues through the sale of power sufficient to pay all operating expenses, taxes, and debt service as well as provide a margin from which to fund renewals, replacements and additions to the system. The total of all these cost obligations on an annual basis are referred to as the annual revenue requirement. Operating expenses of the electric system will include purchased power, purchased transmission services, transmission and distribution system operations and maintenance (O&M), customer accounting, and administrative and general expenses.

Many publicly-owned electric systems also collect additional revenues through their electric rates to make tax payments, franchise fee payments and payments in lieu of taxes to local governmental agencies. In acquiring a system that has been paying franchise fees and other taxes, CPUD will continue to pay property taxes, franchise fees or equivalent to local government agencies. PGE reported that it paid $4.8 million in property taxes and $5.0

million in franchise fees in the County in 2002. CPUD would also likely collect amounts through its rates for various public purposes and low income energy assistance programs.

Operating expenses for CPUD's electric system, other than power supply costs, have been estimated based on recent experience of other regional PUD's. It is expected that CPUD will either contract for O&M services or hire its own staff to perform these functions. At the time of initial operation it would most likely be necessary to contract at least some of the O&M services to other utilities or regional electrical contractors used by other PUDs and by investor owned utilities. In the past, when new publicly-owned utilities have acquired electric facilities from an existing utility, some of the employees of the acquired utility have been hired by the new utility. This provides both continued local employment for the workers and provides the new utility with necessary skilled workers familiar with the local electric system.

At present cost levels, the assumed operating costs for CPUD are as shown in the following table:

TABLE 9
Clackamas PUD
Assumed Unit Operating Costs (2006 Cost Levels)

Transmission O&M ($/MWh)	$	0.75
Distribution O&M ($/MWh)	$	3.25
Customer Accounts ($/customer per year)	$	70.00
Energy and Customer Services ($/customer per year)	$	12.00
Admin. & General ($/MWh)	$	4.00

Annual debt service requirements are based on level debt repayment of bonds issued to finance initial acquisition and startup costs at an assumed annual interest rate of 6.0% and 5.0% for taxable and tax-exempt debt over a 30 year repayment period. CPUD will incur annual expenses for renewals, replacements and additions to the system, assumed to be $20 million per year. Annual expenditures for capital replacements and additions are projected to be financed 50% out of annual revenues and 50% from new debt. In developing CPUD's estimated annual revenue requirement, it has been assumed that CPUD will pay 4.0% of its total revenues in franchise fees and taxes. The projected annual revenue requirements for CPUD for the first five years of operation, assuming a startup date of January 2006 are shown in the following table:

TABLE 10
Clackamas PUD
Projected Annual Revenue Requirements
(Assuming 100% Purchased Power)
($000)

	2006	2007	2008	2009	2010
Cost Escalation Factor [1]	1.50%	1.50%	1.50%	1.50%	1.50%
Operating Expenses					
Power Production [2]	$ -	$ -	$ -	$ -	$ -
Purchased Power [3]	155,030	125,120	127,220	133,250	135,490
Network Transmission [4]	15,930	16,840	17,090	17,330	18,100
Trans. Oper. & Maint. [5]	2,650	2,740	2,830	2,920	3,010
Dist. Oper. & Maint. [5]	11,480	11,860	12,240	12,650	13,060
Customer Accounts [5]	11,340	11,700	12,080	12,470	12,870
Energy & Cust. Services [5]	1,940	2,010	2,070	2,140	2,210
Admin. & General [5]	14,130	14,590	15,070	15,560	16,080
Low Inc. & Public Purpose [6]	2,400	2,200	2,300	2,400	2,400
Taxes, Franchise Fees [7]	9,500	8,900	9,100	9,500	9,700
Total Operating Exp.	$ 224,400	$ 195,960	$ 200,000	$ 208,220	$ 212,920
Debt Service					
Initial Loans [8]	$ 20,800	$ 25,500	$ 25,500	$ 25,500	$ 25,500
Subsequent Loans [9]	1,600	3,100	4,100	4,800	5,500
Total Debt Service	$ 22,400	$ 28,600	$ 29,600	$ 30,300	$ 31,000
Renewals, Repl. & Adds.					
Funded from Revenues [10]	$ 10,000	$ 10,100	$ 10,300	$ 10,400	$ 10,600
Funded from Debt	10,000	10,200	10,300	10,500	10,600
Total Ren., Repl, Adds.	$ 20,000	$ 20,300	$ 20,600	$ 20,900	$ 21,200
Less: BPA Credits [11]	$ (7,700)	$ -	$ -	$ -	$ -
Less: Interest Earnings [12]	$ (1,000)	$ (1,100)	$ (1,100)	$ (1,200)	$ (1,200)
Total Revenue Required [13]	$ 248,100	$ 233,560	$ 238,800	$ 247,720	$ 253,320
Total Energy Sales (MWh) [14]	3,531,700	3,593,800	3,656,700	3,721,100	3,786,600
Unit Revenue Req. (¢/kWh) [15]	7.0	6.5	6.5	6.7	6.7
Debt Service Coverage	1.45	1.35	1.35	1.34	1.34

[1] Estimated at 60% of assumed annual inflation of 2.5%.
[2] No power production expenses are included in this case.
[3] Estimated cost of power purchases. See Table 7.
[4] Estimated cost of BPA network transmission services. See Table 7.
[5] Based on unit costs shown in Table 9 with assumed cost escalation included.
[6] Estimated at approximately 1.0% of total revenue requirement.
[7] Estimated at approximately 4.0% of total revenue requirement.
[8] Interest and principal on initial acquisition bond issues shown in Table 5. Assumes level debt service, 6% taxable and 5% tax-exempt interest rates and a 30 year repayment period with interest only in the first year of operation.
[9] Interest and principal on bond issues used to fund a portion of annual Renewals, Replacements and Additions. Assumes level debt service, a 5% tax-exempt interest rate and a 30 year repayment period.
[10] Assumed to be 50% of total annual Renewal, Replacement and Additions expenditures.

[11] Estimated savings in BPA purchased power TAC charges resulting from transfer of PGE Regional Power Act residential exchange credits to CPUD.

[12] Estimated interest earnings on invested reserve fund balances at a 4% interest earnings rate.

[13] Sum of Total Operating Expenses, Total Debt Service, Total Renewals, Replacements and Additions funded from Revenues less BPA Credits.

[14] See Table 6.

[15] Total Revenue Required divided by Total Energy Sales.

Debt service coverage is required by bond underwriters and is typically set at a minimum of between 1.25 and 1.35 of annual debt service for publicly-owned electric utilities. Publicly-owned utilities usually establish policy concerning the percentage of capital improvements to be funded from borrowings and the amount to be funded from current revenues. The policy may be driven to some extent by limits on the amount of debt that banks and financial institutions will reasonably allow particular utilities to incur.

Aside from minor amounts received as other operating revenues and interest income, CPUD's main source of revenue for the electric utility will be through the sale of power to its customers. Table 10 shows the estimated revenue requirements for the period, 2006 through 2010. As can be seen in Table 10, the total unit revenue requirement in the first year (2006) of the projections is estimated to be 7.0 cents per kWh. This unit revenue requirement drops to 6.5 cents per kWh in the next year when the TAC charge would be expected to be dropped from CPUD's BPA power charge. This is the average unit revenue that CPUD would need to collect through energy sales to its customers.

Rates could be established that would reflect the actual cost to serve certain customer classifications (i.e. residential, commercial and industrial). The rates could also include multiple components such as monthly customer charges (e.g. $7.00 per month), demand charges and energy charges. The total amount received through these various rate components, however, would need to total the Total Revenue Required shown in Table 10 on an annual basis.

Assuming that CPUD were to acquire PGE's hydroelectric generating facilities in the County at costs shown in Table 9, the projected revenue requirements for CPUD would be as shown in Table 11.

TABLE 11
Clackamas PUD
Projected Annual Revenue Requirements
(Assuming Acquisition of PGE Hydroelectric Generating Facilities)
($000)

	2006	2007	2008	2009	2010
Operating Expenses					
Power Production [1]	$ 15,920	$ 16,050	$ 16,180	$ 16,310	$ 16,440
Purchased Power [2]	129,390	99,660	101,760	107,020	109,260
Other Operating Expenses [3]	65,840	67,350	69,180	71,270	73,770
Total Operating Expenses	$ 211,150	$ 183,060	$ 187,120	$ 194,600	$ 199,470
Net Other Costs [4]	$ 23,700	$ 37,600	$ 38,800	$ 39,500	$ 40,400
Total Revenue Required [5]	$ 234,850	$ 220,660	$ 225,920	$ 234,100	$ 239,870
Total Energy Sales (MWh) [6]	3,531,700	3,593,800	3,656,700	3,721,100	3,786,600
Unit Revenue Req. (¢/kWh) [7]	6.6	6.1	6.2	6.3	6.3

[1] Estimated cost of operation, maintenance, administration, debt service, renewals, replacements and additions related to the Clackamas Project and the T.W. Sullivan Project with CPUD ownership. Assumes level debt service on $83.1 million of hydroelectric facility acquisition revenue bonds, a 6% annual interest rate and 30 year repayment. Total estimated financing requirement assumes deposit to debt service reserve fund and 1.5% financing expense.

[2] Estimated cost of purchased power from BPA to supply CPUD's net power supply requirement.

[3] Includes all other estimated CPUD operating costs as shown in Table 10.

[4] Includes Debt Service, Renewals, Replacements and Additions, BPA Credits and Interest Earnings as shown in Table 10.

[5] Estimated Total Revenue Required from Sales of Power to CPUD customers.

[6] See Table 6.

[7] Total Revenue Required divided by Total Energy Sales.

Section 6
Comparison of Costs

At the present time, electric consumers in the County are receiving electric service from PGE. PGE's FERC Form No.1 for 2003 indicates that the average unit revenue from its customer classes in 2003 were as follows:

TABLE 12
PGE Average Unit Revenue in 2003 for Representative Customer Classes
(Source: PGE 2003 FERC Form No. 1)

	Revenue (¢/kWh)
Residential [1]	7.82
Small Commercial [2]	7.95
Large Commercial [3]	6.61
Industrial - 83T	5.27
Industrial - 83P	5.64
Street and Highway Lights [4]	13.71
Total for all Sales [5]	6.96

[1] Includes Residential Service, Outdoor Area Lighting and Residential unbilled revenues. Average revenues for Residential Service alone were 7.90 cents per kWh.

[2] Schedule 32, Small Non-Residential customers.

[3] Schedule 83-S, Large Non-Residential customers.

[4] Includes Street Lighting and Street Lighting unbilled revenues.

[5] Total for all retail customers. Includes effect of unbilled revenues. Note that with the $45 million of Accrued Revenues indicated in PGE Form 10K filed with the US Securities and Exchange Commission for 2003, the total average unit revenue from retail sales for 2003 would be 7.20 cents per kWh.

Based on the unit revenues shown in Table 12 and the estimated energy sales in the CPUD service area as shown in Table 6, the total cost of electric service to residents and businesses in the County with continued service from PGE has been estimated for a ten year projection period. We are unaware of any published projections of PGE retail rates so, for the purpose of this comparison, PGE average rates have been assumed to increase at 3.5% per year beginning in 2006. This rate of increase is essentially the same average annual increase in PGE total average unit revenues between 1992 and 2003. The cost of continued electric service with PGE is compared to the cost of electric service from CPUD assuming CPUD were to establish rates to recover the estimated revenue requirement shown in Table 10. The comparison of charges is shown in Table 13 for the five year period, 2006 through 2010. It is important to note that the average unit revenues shown in Table 13 for PGE are reflective of the estimated sales by customer class. Further, no attempt has been made to adjust estimated PGE revenues for potential reductions in BPA Residential Exchange credits that could occur in the future. If the Exchange credits decrease, the unit revenues estimated for PGE in Table 13 would show a corresponding increase.

TABLE 13
Comparative Charges for Electric Service and Estimated Savings with CPUD
(Assuming 100% Purchased Power by CPUD)

	2006	2007	2008	2009	2010
Estimated PGE Revenues from Energy Sales in Clackamas County					
Assumed Increase in Rates	3.50%	3.50%	3.50%	3.50%	3.50%
Revenues ($000) [1]	$ 261,500	$ 275,300	$ 289,900	$ 305,300	$ 321,500
Unit Revenues (¢/kWh) [2]	7.40	7.66	7.93	8.20	8.49
Estimated CPUD Revenues from Energy Sales					
Revenues ($000) [3]	$ 248,100	$ 233,560	$ 238,800	$ 247,720	$ 253,320
Unit Revenues (c/kWh) [2]	7.02	6.50	6.53	6.66	6.69
Savings with PUD ($000)	$ 13,400	$ 41,740	$ 51,100	$ 57,580	$ 68,180
Savings with PUD (¢/kWh)	0.38	1.16	1.40	1.55	1.80
Savings with PUD (%) [4]	5.1%	15.2%	17.6%	18.9%	21.2%
Cumulative Savings with CPUD - First 10 Years ($000)			$ 720,660		
Net Present Value of Savings - First 10 Years ($000) [5]			$ 498,432		

[1] Calculated using average customer class revenue and estimated customer class loads with assumed increase in rates applied uniformly to each customer class.

[2] Revenues divided by Total Energy Sales.

[3] Estimated Total Revenue Required for CPUD as shown in Table 10.

[4] Relative to estimated PGE revenues.

[5] Cumulative present value to 2004 of estimated savings with CPUD over the first ten years of operation, 2006 through 2015. Assumes a 5% discount rate.

Table 13 shows that the residents and businesses served by PGE in the County would collectively save $13.4 million or 0.38 cents per kWh in total costs of electric service in 2006. The total savings increase to $41.7 million or 15.2% in 2007. The total present value savings in total charges for electric service with CPUD over the first ten years of CPUD operation is $498.4 million assuming a 5% annual discount rate.

With acquisition of the Clackamas and T.W. Sullivan hydroelectric facilities, the total estimated savings with CPUD would be as shown in Table 14.

TABLE 14
Estimated Comparative Savings with CPUD Under Alternative Power Supply Cases

Operation Year	Year	Estimated Savings with CPUD (100% Purchased Power)[1] ($000)	(¢/kWh)	(%)	Estimated Savings with CPUD (With Hydro Acquisition)[2] ($000)	(¢/kWh)	(%)
1	2006	$ 13,400	0.38	5.1%	$ 26,650	0.75	10.2%
2	2007	41,740	1.16	15.2%	54,640	1.52	19.8%
3	2008	51,100	1.40	17.6%	63,980	1.75	22.1%
4	2009	57,580	1.55	18.9%	71,200	1.91	23.3%
5	2010	68,180	1.80	21.2%	81,630	2.16	25.4%
6	2011	75,060	1.95	22.2%	89,260	2.32	26.4%
7	2012	87,650	2.24	24.6%	101,710	2.59	28.5%
8	2013	95,850	2.40	25.5%	110,660	2.77	29.5%
9	2014	109,460	2.70	27.7%	124,130	3.06	31.4%
10	2015	120,640	2.92	29.0%	136,000	3.29	32.7%
Total - First Ten Years		$ 720,660			$ 859,860		
Net Present Value[3]		$ 498,432			$ 600,040		

[1] See Table 13. Percent savings is relative to estimated PGE revenues.

[2] Based on CPUD Total Revenue Required assuming acquisition of hydroelectric facilities as shown in Table 11 compared to Estimated PGE Revenues shown in Table 13. Percent savings is relative to estimated PGE revenues.

[3] Cumulative present value to 2004 of estimated savings with CPUD over the first ten years of operation, 2006 through 2015. Assumes a 5% discount rate.