

DISTRIBUTION ACCOUNTS

Account 36100 - Structures and Improvements

Average Service Life

Simulation	R1.5 52
Currently prescribed	R3 59

Account 36100, Distribution Structures, contains assets such as fencing, small buildings, station lighting, and concrete foundations. The Company currently has a prescribed curve life combination of R3 59. Over the years, simulation studies have yielded stable life estimates in the 50-year range. Over the period from 1991 through 1999, simulation results gradually increased from the mid-50's to our prescribed life of 59. However, in the last study, the best fitting curve life combination reverted back to historical levels to R1.5 52. Industry statistics range from 37 to 60 years with an average of 49 years. The dispersion and life combination of R1.5 52, based on the most recent simulation analysis, is recommended for this account.

Recommended curve and life R1.5 52

	Salvage	
Currently Prescribed		-5
Study Statistics	Gross Salvage	27
	Cost of Removal	65
	Net	-38

Net salvage statistics for Account 36100 have fluctuated over the years, with values negative more often than positive. The history of the account is characterized by both high positive and negative salvage years. The cumulative weighted average net salvage rate of -38 percent is influenced by high cost of removal years in 1999 and 2000. In the past 4 years the statistics have stabilized somewhat with a weighted average of -12 percent. Industry statistics range from 0 to -20 percent, averaging -9 percent. Since statistics since the last depreciation study align with industry statistics, it is recommended that a net salvage rate of -10 percent be implemented.

Recommended	Net Salvage Rate	-10
	Gross Salvage	0
	Cost of Removal	10

Account 36200 - Station Equipment

Average Service Life

Simulation	L0 54
Currently prescribed	R0.5 47

Simulation-based service life estimates for distribution station equipment have been relatively consistent over the years, with low modal results in the mid 40's to the mid 50's. The current estimate of L0 54 is consistent with historical results. Industry statistics range from 35 years to 55 years, with an average of 45 years. Even though Company results are towards the high end of the spectrum, they are supported by consistent statistics over the years. A curve life combination of L0 54 is recommended for this account.

Recommended curve and life L0 54

	Salvage	
Currently Prescribed		-5
Study Statistics	Gross Salvage	14
	Cost of Removal	18
	Net	-4

The Company is currently using a net salvage rate of -5 percent for Account 36200. The actual net salvage ratios for this account fluctuated between positive and negative throughout for much of the period 1971 through 1993. Since 1994, however, the results have been consistently negative. The cumulative weighted average net salvage ratio for years 1971 through 2004 is -4 percent. However, the average for the past 10 years is -13 percent. Industry statistics range from 0 to -30 percent with an average of -11 percent. Based upon the latest 10-year average and industry statistics, the Company recommends a net salvage rate of -10 percent be adopted for this account.

Recommended	Net Salvage Rate	-10
	Gross Salvage	10
	Cost of Removal	20

Account 36400 - Poles, Towers, and Fixtures

Average Service Life

Simulation	L0 38
Currently prescribed	L0 35

Account 36400, distribution poles, currently has a prescribed curve life combination L0 35. Simulation-generated average service lives have gradually increased from the upper 20's to the mid-30's over the years with a low modal dispersion for all years. The most recent analyses indicated that an average service life of 38 years is appropriate for the account. Industry statistics range from 38 to 45 years with an average of 41 years. The consistency of the statistical results over the years and alignment with the industry supports the Company's recommendation of an L0 38 for Account 36400.

Recommended curve and life L0 38

	Salvage	
Currently Prescribed		-80
Study Statistics	Gross Salvage	14
	Cost of Removal	86
	Net	-72

A salvage rate of -80 percent is currently prescribed for Account 36400. Annual net salvage results have been consistently negative for all years included in the net salvage database. The recent trend toward extremely negative rates has abated somewhat since the last depreciation study. The weighted average for the most recent 10-year and 5-year periods are, -86 percent and -46 percent, respectively. Net salvage statistics from other companies range from -20 percent to -100 percent, with an average of -58 percent. The recent trend in Company net salvage experience supports a change in net salvage to a lower rate. The Company recommends moving to -60 percent, which is midway between its overall net salvage for all years since 1971 and the most recent 5-year period. The recommended rate is also very close to the average net salvage of other companies included in the survey.

Recommended	Net Salvage Rate	-60
	Gross Salvage	15
	Cost of Removal	75

Account 36500 - Overhead Conductors and Devices

Average Service Life

Simulation	L0 43
Currently prescribed	L0 43

Account 36500, Overhead Conductors and Devices, currently has an approved life and dispersion of L0 43. Simulation results have been fairly stable over the years, moving gradually from 35 to 43 years in the 2000 Depreciation Study. The best fitting curve life combination for this study is the same as in the last study. Industry statistics for the overhead conductor account range from 35 to 46 years, with an average of 42 years. Given the stability of the account over the recent past as well as alignment with other western utilities, continued use of an L0 43 is recommended.

Recommended curve and life L0 43

	Salvage	
Currently Prescribed		-75
Study Statistics	Gross Salvage	38
	Cost of Removal	122
	Net	-84

An analysis of historical retirement experience indicates that net salvage activity has been negative since 1976. The cumulative weighted average of net salvage rates is -84 percent, based on historical retirement data from 1971 through 2004, -149 percent for the most recent 10-year span, and -132 percent for the last 5-years. The most recent data indicates that the current net salvage rate of -75 percent is inadequate. The Company needs to be more responsive to the most recent statistics. The average weighted ratios have abated somewhat in the past 5 years to -132 percent, but still are very high. Industry statistics range from +5 percent to -110 percent, so although there is a wide variation, a few other companies are experiencing similar conditions. Given the continued extremely high net salvage statistics, the Company recommends a move to -80 percent. If the current trends continue, further adjustments will be recommended when the next study is filed.

Recommended	Net Salvage Rate	-80
	Gross Salvage	30
	Cost of Removal	110

Account 36600 - Underground Conduit

Average Service Life

Simulation	None
Currently prescribed	S6 50

No retirements have been recorded in Account 36600, Underground Conduit, for many years. The few underground conduit retirements that did occur over the years were recorded in Account 36700, Underground Conductor and Devices. During the UE-115 negotiations, the Company and Staff stipulated to a 50-year average service life for underground conduit, based upon the industry average lives. Industry statistics for Account 36600 range from 45 to 58 years, with an average of 52 years. Since the current life of 50 years aligns with the industry average of 52 years, the company recommends retaining its S6 50 curve-life combination for Account 366000.

Recommended curve and life S6 50

	Salvage	
Currently Prescribed		-10
Study Statistics	Gross Salvage	35
	Cost of Removal	46
	Net	-11

An analysis of historical net salvage and retirement data shows very little activity. Cost of removal exceeds gross salvage proceeds in years when there is activity in Account 36600. The cumulative weighted average of net salvage rates was -11 percent, based on historical retirement data from 1971. Industry statistics for underground conduit range from +10 to -40 percent, with an average of -21 percent. The Company's current net salvage rate remains in alignment with rates of other companies. It is recommended that the net salvage rate of -10 percent be retained for Account 36600, Underground Conduit.

Recommended	Net Salvage Rate	-10
	Gross Salvage	35
	Cost of Removal	45

Account 36700 - Underground Conductors and Devices

Average Service Life

Simulation	S2 38
Currently prescribed	S3 35

The Company currently has prescribed a curve-life combination of S3 36 for this account. Since 1976, life estimates from simulated plant balances method analyses have consistently run in mid-30's, with a medium modal symmetrical curve for many years. In the most recent analyses, the best fitting curve life combination is S2 38, and the second best fitting curve life combination is S3 34. Industry statistics for underground conductors range from 24 to 48 years, with an average of 34 years. Since the results from statistical analyses have been so consistent for many years and are in alignment with the industry, the best fitting life curve combination of S2 38 from the Company simulation analyses is recommended for this account.

Recommended curve and life S2 38

	Salvage	
Currently Prescribed		-60
Study Statistics	Gross Salvage	51
	Cost of Removal	173
	Net	-122

Account 36700, Underground Conductors and Devices, is currently prescribed a net salvage rate of -60 percent. Annual net salvage ratios were positive through 1982, but have been highly negative since. The cumulative weighted average net salvage rate for this account is -122 percent. Net salvage averages for the most recent 10 year and 5 year periods are -153 percent and -142 percent, respectively. Industry statistics range from +15 percent to -75 with an average of -23 percent. Since Company net salvage experience continues to be extremely high for this account, a change in the net salvage rate to -65 percent is recommended at this time. Although it approaches the upper bounds of other companies included in the survey, the company statistical data support a higher net negative salvage rate. The account will be monitored closely in the future. If the trend of extremely high salvage continues, results will be further adjusted in the next study.

Recommended	Net Salvage Rate	-65
	Gross Salvage	20
	Cost of Removal	85

Account 36800 - Line Transformers

Average Service Life

Simulation	None
Currently prescribed	R4 30

Account 36800, Distribution Transformers, currently has a prescribed life of 30 years. As discussed in previous depreciation studies, the retirement history for Account 36800 does not yield reliable statistical results. Statistics are skewed somewhat due to the PCB Transformer Replacement Program. Under the program, all PCB contaminated transformers were systematically replaced, resulting in the premature retirement of thousands of transformers on our system. A factor which caused results to be skewed in the opposite direction is that for accounting purposes, the transformers are often held in the shop for a period of time and not retired. The Company does not have the ability to extract such records from the study database. Thus, the database does not provide an accurate basis statistical derivation of depreciation lives. In the latest study, with all retirement data included, simulation results ranged from 38 to 68 years, depending upon the dispersion selected.

In earlier studies, the Company and OPUC Staff primarily relied upon industry statistics to set the depreciation parameters for this account. Industry statistics range from 32 to 45 years, with an average of 37 years. The Company recommends moving to the average of western utility companies, with a dispersion of R4.

Recommended curve and life R4 37

	Salvage	
Currently Prescribed		0
Study Statistics	Gross Salvage	14
	Cost of Removal	13
	Net	1

The net salvage rate currently prescribed for distribution transformers is 0 percent. The Company's cumulative weighted net salvage rate is -1 percent, based on retirement activity from 1971 through 2004. Company averages for the latest 10-year and 5-year periods are -10 percent and +8 percent, respectively. The variability in the averages over the past 10 years illustrates the volatility of the data base. Industry statistics range from +10 percent to -20 percent, with an average of 0 percent. The Company recommends retention of its 0 percent net salvage rate for Account 36800.

Recommended	Net Salvage Rate	0
	Gross Salvage	13
	Cost of Removal	13

Account 36900 - Services

Average Service Life

Simulation	S6 39
Currently prescribed	S6 36

Account 369, Overhead and Underground Services, is currently depreciated using an S6 36 curve-life combination. Simulation results have been fairly stable over the years, yielding high modal dispersions with average life estimates in the 30's. The latest simulation analyses indicate a best fitting average life is appropriate when using the high modal S6 curve. Industry statistics range from 30 to 50 years with an average of 38 years. Since current simulation results are in alignment with other western utilities, it is recommended that the Company revise its average life for the account to 39 years.

Recommended curve and life S6 39

	Salvage	
Currently Prescribed		-70
Study Statistics	Gross Salvage	83
	Cost of Removal	135
	Net	-52

The services account currently has a prescribed salvage rate of -70 percent. An analysis of net salvage activity shows that removal costs have been significantly higher than corresponding salvage proceeds since 1976. The cumulative weighted average salvage rate is -52 percent for the 1971 through 2004 period. The trend toward extremely high negative salvage has abated somewhat in recent years. The weighted average net salvage rate is -142 percent for the most recent 10 years. However, when the data is limited to the years since the last study, the weighted average is -57 percent. Industry statistics range from 0 percent to -150 percent, with an average of -51 percent. The Company recommends that its current net salvage rate of -70 percent be revised to -60 percent, in order to more accurately reflect the retirement conditions that have occurred since the last study.

Recommended	Net Salvage Rate	-60
	Gross Salvage	10
	Cost of Removal	70

Account 37000 - Meters

Average Service Life

Simulation	None
Currently prescribed	SQ 10 (RL)

Pursuant to the Commission order in the last depreciation study, the Company depreciates meters using a remaining life rate of 10 percent per year. Under the remaining life technique, the rate is applied to the net undepreciated meter plant balance to determine depreciation expense. The methodology was prescribed to account for the emergence of Automated Meter Reading (AMR) technology as well as ensure a timely recovery of existing mechanical meters. At the time the study was prepared it was the Company's intent to install AMR meters systemwide. However, AMR technology was not adopted on a full scale basis in the past five years.

A project to implement full scale automated meter reading across the service territory is underway, the AMI (Advanced Metering Infrastructure) Project. In order to accurately account for the amortization of existing meters and AMI meters, it is proposed that the capital recovery of meters be separated into two components: the recovery of the net undepreciated balance of existing meters and the recovery of the AMI meters. The Company proposes to retain its current 10-year remaining life rate for existing meters and adopt an R3 18 curve life combination for the new AMI meters as they are deployed. The Company also requests approval to continue to use a net salvage rate of 0 percent for all meters.

Existing Meters

Full conversion to AMI technology will not be completed for a few years. To ensure the cost of the existing induction and solid state meters are fully accrued in a timely manner, the Company proposes that the current 10 year remaining life rate methodology be continued for the net undepreciated balance of existing meters.

AMI Meters

An AMI meter has the same meter platform as a 3-phase solid state meter, with an added communication module. The design life of a solid state induction meter is 15 to 20 years, which is lower than the expected life of the single phase mechanical meter (25 years). The expected life of solid state meters is lower than traditional mechanical meters since solid state meters are more susceptible to the elements. The meter display is liquid crystal, and is vulnerable to exposure to sunlight and temperature variation. Meter shop statistics for solid state meters support the design life. A large number of solid state meters installed in the early 1990's are experiencing high levels of failure.

Account 37100 - Company Facilities on Customer Premises

Average Service Life and Salvage

Currently prescribed Curve and Life SQ 10 (RL)

Currently prescribed net salvage 0 percent

Dollars were first assigned to Account 37100 in 1998. Account 37100 is utilized to record and track company facilities located on customer premises. Historically, the Company has not located equipment on the customer side of the meter. However, with the emergence of AMI technology and new services to be offered to the customer, the account may be used with increasing frequency. To date, the facilities assigned to this account have consisted primarily of metering and monitoring equipment.

The Company recommends using the same service life and net salvage rate as requested for Account 37000.

Recommended curve and life R3 18

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 37301 - Streetlighting and Signal Systems
- Circuits other than Portland

Average Service Life

Simulation L0 43

Currently prescribed L0 43

Account 37301, a sub-account of the Streetlighting and Signal Systems account, contains circuits for areas other than the City of Portland. Since Accounts 36500 and 37301 contain the similar assets, data for these accounts have been grouped together for life study purposes for many years. The Company recommended an L0 43 for Account 36500, and recommends the same for Account 37301.

Recommended curve and life L0 43

Salvage

Currently Prescribed		-70
Study Statistics	Gross Salvage	39
	Cost of Removal	152
	Net	-113

The Company is currently prescribed a net salvage rate of -70 percent for Account 37301. Net salvage experience has been consistently negative since 1971, with a weighted average net salvage rate of -113 percent. In the past 5 years, salvage statistics have been extremely negative, with a weighted average net salvage rate of -600 percent. However, the high rate is based upon low retirement activity. Since the retirement activity is so low, there is really no statistical support to justify revising the prescribed ratios at this time. The Company recommends retention of the net salvage rate of -70 percent.

Recommended	Net Salvage Rate	-70
	Gross Salvage	20
	Cost of Removal	90

Account 37302 - Streetlighting and Signal Systems
- Fixtures, Ornamental Posts, and Devices

Average Service Life

Simulation	L1 21
Currently prescribed	R2.5 20

The Company currently has a prescribed dispersion and average life of R2.5 20 for Account 37302, Streetlights and Signal Systems -Fixtures, Ornamental Posts, and Devices. Simulation results have ranged from 18 to 21 years since 1980. In the most recent study, the results remain consistent with historical data, with a best fitting curve life combination of L1 21. The Company recommends moving to the results of the most recent analyses for this streetlight account.

Recommended curve and life L1 21

Salvage

Currently Prescribed		-70
Study Statistics	Gross Salvage	33
	Cost of Removal	109
	Net	-76

The Company currently has a prescribed salvage rate of -70 percent for Account 37302. Prior to 1983, net salvage was positive each year. Since 1983, however, with the exception of two years, all experience has been highly negative. The cumulative average net salvage rate is -76 percent, with an average of -96 percent in the past 10 years, and -142 percent in the past 5 years. Statistics of other companies range from -10 percent to -30 percent. An adjustment from its current -70 percent rate is not recommended by the Company at this time. However, if the current trend continues, it may need to be adjusted in the next depreciation study.

Recommended	Net Salvage Rate	-70
	Gross Salvage	30
	Cost of Removal	100

Account 37307 - Streetlighting and Signal Systems - Sentinel Lighting Equipment

Average Service Life

Simulation L0 20

Currently prescribed L0 19

The Company currently has a prescribed curve and life combination of L0 19 for Account 37307. Simulation results for the sentinel light account have ranged from 15 to 21 years since 1975, with a best fitting curve life combination of L0 20 in the most recent study. Since the statistical results have been so consistent over the years, it is recommended that the most recent simulation best-fitting curve life combination of L0 20 be adopted.

Recommended curve and life L0 20

Salvage

Currently Prescribed		-70
Study Statistics	Gross Salvage	21
	Cost of Removal	93
	Net	-72

A net salvage rate of -70 percent is currently prescribed for Account 37307. Net realized salvage for sentinel lights has been negative since 1977, with the exception of positive years in 1983 and 1984. Since 1984, the cost of removal has been very high with negligible salvage dollars. The weighted average net salvage ratio is -72 percent, with an average of -167 percent in the past 10 years and -162 in the past 5 years. Statistics of other companies range from -10 percent to -30 percent. An adjustment in its current -70 percent rate is not recommended by the Company at this time. However, if the current trend continues the rate will need to be adjusted as part of its next depreciation study.

Recommended	Net Salvage Rate	-70
	Gross Salvage	20
	Cost of Removal	90

GENERAL PLANT ACCOUNTS

Overview

Retirement statistics for the amortized general plant accounts are not helpful for determining future life and salvage characteristics. All assets for a given account are retired from service in the year the prescribed service life is attained, whether the assets are in service or not. For this study, depreciation parameters for amortized accounts will be compared to those of other utilities in the western United States. For those accounts out of alignment with other utilities, necessary revisions will be noted and recommended. The following accounts are amortized: 39100, 39102, 39300, 39400, 39500, 39706, 39707, and 39800.

Account 39000 - Structures and Improvements

Average Service Life

Simulation	L0 34
Currently prescribed	R0.5 35

Account 39000, Structures and Improvements, is currently depreciated using an R0.5 35 curve life combination. Simulation results have been very consistent over the years with best fitting life indications in the mid-30's. Industry statistics range from 25 to 50 years, with an average of 37 years. Since the simulation results are consistent with historical results and are in alignment with those of other companies, the Company recommends an L0 34 for this account.

For structures and improvements located on leased premises, the Company requests approval to depreciate the costs over the lease period. To facilitate this remaining life rate calculation, the Iowa curve will be truncated at the end of the lease period rather than allowing it to extend fully to its theoretical end point.

Recommended curve and life L0 34

	Salvage	
Currently Prescribed		0
Study Statistics	Gross Salvage	0
	Cost of Removal	0
	Net	0

The Company currently has a prescribed net salvage rate of 0 percent. The net salvage database includes miscellaneous sales of buildings and service centers over the years, which were treated under gain / loss accounting guidelines. These extraordinary transactions should not be included in the statistical analyses. Sales of buildings and service centers included in the database are the Electric Building, Willamette Center, Newberg Service Center, and Salem Service Center. When these transactions are excluded from the database, there is a slight trend toward negative salvage. Industry statistics range from +2 percent to -10 percent with an average of -3 percent. The Company recommends retaining 0 percent salvage for the account.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 39100 - Office Furniture and Equipment

Average Service Life

Simulation	None
Currently prescribed	15 year amortization

Account 39100, Office Furniture and Equipment, is currently amortized over a 15-year amortization period. Industry statistics range from 18 to 30 years, with an average of 23 years. The Company recommends a revision to the industry average of 23 years for this account.

Recommended amortization period 23 years

Salvage

Currently Prescribed	20
Study Statistics	None

The Company currently uses a 20 percent salvage rate for Account 39100. Industry statistics range from 0 to +20 percent, with an average net salvage rate of 4 percent. The Company recommends revising its current net salvage rate from 20 percent to 5 percent to be more in alignment with the average of other western utilities.

Recommended	Net Salvage Rate	5
	Gross Salvage	5
	Cost of Removal	0

Accounts 39102 - Computer and Office Equipment

Average Service life

For many years, the Company has segregated computer and office equipment into two categories: mainframe computer and personal computer and office equipment assets. Over the years, nearly all applications have migrated from the mainframe to the personal computer / network platform. It is anticipated that the remaining mainframe assets will be transferred to the personal computer account in the near future.

The Company currently utilizes a 5 year amortization period for the assets in the 39102, Computer and Office Equipment. Industry statistics support the retention of the 5 year amortization period. Industry lives range from 5 to 10 years. However, all but one company included in the survey use an amortization period of 5 years. A 5-year amortization is recommended for Account 39102.

Recommended amortization period 5 years

Salvage

Currently Prescribed	10
Study Statistics	None

The Company currently uses a salvage rate of 10 percent for these accounts. All companies included in the survey reported using a net salvage rate of 0 percent for computer and office equipment. Company net salvage statistics for this account support industry statistics, averaging 2 percent over the period from 1999 through 2004. It is recommended that the Company adopt a net salvage rate of 0 percent.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Accounts 39200 and 39600 - Transportation Equipment

The revisions to depreciation lives are based upon the latest replacement criteria from the Fleet Management department. In recent years, the Fleet Management department has been active in adjusting the replacement criteria due to technological advances in the industry. As a result, vehicles are more reliable for longer life cycles. Although it appears that service lives for digger derricks, heavy trucks and medium trucks are shortening, they are actually increasing. The Company replacement criteria for these assets were revised from 5 years to 10 years in the period from 2000 to 2004. Prior to this depreciation study, the Company had not revised vehicle depreciation lives since

the UE88 Rate Case. Thus, lives for the digger derricks, heavy and medium trucks were somewhat outdated. Another notable change in the 2004 replacement policy was for light duty trucks and autos, which was revised from 5 years to 10 years. The lengthening of lives is primarily due to the strong Company maintenance practices.

For the heavy duty longer lived equipment, net salvage continues to be very low as a percentage of original cost. No revision in net salvage is requested for these vehicle classes. A revision is requested for autos and light duty trucks, however. Since vehicles are retained for a longer period of time, salvage value upon disposal is correspondingly lower. The Company Investment Recovery Analyst stated that the market for salvage values is very low. The market is currently flooded with used vehicles, partly due to auto industry incentives for new cars and pickups.

The Company purchased its helicopter in 1981. Due to an excellent maintenance program, the helicopter still remains in good working condition, exceeding its approved depreciation life of 7 years many times over. If the Company had traded in the helicopter closer to its depreciable life, it would have realized a trade-in value approximating its approved net salvage rate of 52 percent. Since the aircraft has been in service for so long, parts are increasingly hard to find. The secondary market no longer supports a net salvage rate of 52 percent. A 2002 study commissioned by the Company anticipated a selling price that would be close to scrap value. The helicopter will be fully depreciated in 2007, with the exception of the difference between approved and forecasted net salvage. In order to recover its investment before the helicopter is replaced (most likely in 2009), the Company requests approval to revise its salvage rate to 15 percent, and to amortize the difference between 52 percent and 15 percent salvage over a 3-year period beginning in 2007. When the new helicopter is purchased, the Company requests approval of a depreciation life of 20 years and a 15 percent salvage rate.

Class	Description	Current		Proposed	
		Life	Percent Salvage	Life	Percent Salvage
1	Manlift equipment	12	1	15	1
2	Cranes	10	1	10	1
3	Digger derricks	15	1	10	1
4	Heavy trucks	15	4	10	4
5	Medium trucks	15	1	10	1
6	Light duty trucks	5	20	10	10
7	Construction Equipment	15	1	15	1
8	Trailers	20	0	20	0
9	Autos, few light trucks	6	20	10	10
10	Existing Helicopter	7	52	3	15
10	New Helicopter	7	52	20	15

Account 39300 - Stores Equipment

Average Service Life

Simulation	None
Currently prescribed	24 year amortization

The Company currently has a prescribed amortization period of 24 years for Account 39300, Industry statistics range from 20 to 25 years with an average of 21 years. The Company recommends revising its amortization period from 24 to 21 years.

Recommended curve and life 21 year amortization

	Salvage	
Currently Prescribed		0
Study Statistics		None

The Company currently uses a 0 percent salvage rate for Account 39300. Industry statistics range from 0 to +7 percent, with an average net salvage rate of 1 percent. The Company recommends retaining its current net salvage rate of 0 percent, since it is still in alignment with other western utilities.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 39400 - Tools, Shop, and Garage Equipment

Average Service Life

Simulation	None
Currently prescribed	28 year amortization

Account 39400, Tools, Shop, and Garage Equipment, is amortized using an amortization period of 28 years. Industry statistics range from 10 to 35 years with an average of 26 years. The Company recommends revising its amortization period from 28 to 26 years.

Recommended curve and life 26 year amortization

Salvage

Currently Prescribed	5
Study Statistics	None

The Company currently uses a 5 percent salvage rate for Account 39400, Tools, Shop, and Garage Equipment. Industry statistics range from 0 to +10 percent, with an average net salvage rate of 2 percent. The Company recommends retaining its current net salvage rate of 5 percent, since it is in alignment with other western utilities.

Recommended	Net Salvage Rate	5
	Gross Salvage	5
	Cost of Removal	0

Account 39500 - Laboratory Equipment

Average Service Life

Simulation	None
Currently prescribed	33 year amortization

The Company amortizes Account 39500, Laboratory Equipment, over a 33 year period. Industry statistics range from 10 to 38 years, with an average of 27 years. It is recommended that the Company revise its amortization period to 27 years to bring its amortization period into alignment with the industry.

Recommended curve and life 27 year amortization

	Salvage	
Currently Prescribed		5
Study Statistics		None

The Company currently uses a 5 percent salvage rate for Account 39500, Laboratory Equipment. Industry statistics range from 0 to +5 percent, with an average net salvage rate of 1 percent. Since all but one of the companies included in the survey reported a net salvage rate of 0 percent, the Company recommends that its current net salvage rate of 5 percent be revised to 0 percent.

Recommended	Net Salvage Rate	5
	Gross Salvage	5
	Cost of Removal	0

Communication Equipment

Account 39701 - Wire Line - Line Equipment

Average Service Life

Simulation L0 38

Currently prescribed L0 25

An L0 25 curve-life combination is currently prescribed for wire line equipment. Simulation estimates for Account 39701 have ranged from the lower to mid 20's over the years with an increase to 38 years in this study. The best-fitting curve life combination is L0 38. Industry statistics for communication equipment are hard to compare to Company statistics, since the communications account is segregated into sub-accounts. Therefore, more emphasis was placed upon Company statistics in the determination of its communication lives. For wire line equipment, the Company recommends adopting the simulation developed best-fitting curve life combination of L0 38.

Recommended curve and life L0 38

	Salvage	
Currently Prescribed		0
Study Statistics	Gross Salvage	0
	Cost of Removal	0
	Net	0

Account 39701 has a prescribed net salvage rate of 0 percent. There has been no removal cost and salvage data for this account since 1982. In the years prior to 1982, net salvage was either positive or negative with no evident pattern. Since there has been no reported net salvage for 17 years, the Company recommends retaining a net salvage rate of 0 percent.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 39703 - Radio, Microwave, and Terminal Equipment

Average Service Life

Simulation	L3 21
Currently prescribed	S4 20

The Company currently has a prescribed curve-life combination of S4 20 for Account 39703. Account 39703 contains radio, microwave, and terminal communication equipment. Simulation estimates have ranged from 17 to 41 years since 1975, stabilizing in the 19 to 22 year range since 1986. The current simulation curve-life combination of L3 21 is recommended for the account.

Recommended curve and life L3 21

Salvage

Currently Prescribed		0
Study Statistics	Gross Salvage	0
	Cost of Removal	0
	Net	0

The annual cost of removal activity for Account 39703 has fluctuated between positive and negative over the years with no consistent trends. Ratios were negative through 1982, fluctuated between positive and negative between 1983 and 1994, and have been negative since 1995. The cumulative weighted average salvage rate for the 1971-2004 period is +1 percent and for the past 10 years is -1 percent. The Company recommends that the current rate of 0 percent be maintained.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 39704 - System Dispatch Equipment

Currently prescribed	S4 20
Currently prescribed salvage	0 percent

Since Account 39704, System Dispatch Equipment, was created in 1987, statistical data for 39704 has been maintained with data for 39703 for depreciation study purposes. The Company currently

utilizes the same depreciation parameters for the two sub-accounts. It is recommended that the practice continue into the future.

Recommended curve and life L3 21

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 39706 – Mobile Radio Equipment

Average Service Life

Simulation None

Currently prescribed 5 year amortization

Account 39706 was created in 1995 to track the Company’s mobile radio equipment. Included in the account are mobile equipment such as pagers, cellular phones, chargers, radios, and other hand held devices. A life of 5 years has been used for mobile radio equipment since the last rate case, and there is no currently support to revise the life in this study. These assets are typically small dollar items and are not maintained. When a new, better model is introduced or the equipment breaks down, it is replaced. The Company recommends retention of the 5-year amortization for this account.

Recommended curve and life 5 year amortization

Salvage

Currently Prescribed		0
Study Statistics	Gross Salvage	0
	Cost of Removal	0
	Net	0

Minimal salvage or removal cost would be expected for mobile radio equipment. The weighted average net salvage experience for the 10 years the sub-account has been in existence is –1 percent, and is 0 percent for the last 5 years. The Company recommends continued use of 0 percent.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 39707 – Telephone Systems

Average Service Life

Simulation	None
Currently prescribed	20 year amortization

Account 39707 was created in 1998 by extracting the telephone system records from Account 39703. By amortizing telephones in the new account, record keeping associated with the telephone equipment was streamlined and much more efficient. When the new sub-account was established, the amortization parameters were based upon the 39703 depreciation parameters. A 20-year amortization period was established during the last study, and the Company has no data to support a revision in amortization at this time. It is recommended that the amortization period remain at 20 years for Account 39707.

Recommended curve and life 20 year amortization

Salvage

Currently Prescribed		0
Study Statistics	Gross Salvage	0
	Cost of Removal	0
	Net	0

There has been no cost of removal or salvage activity for Telephone Equipment since the last depreciation study, so the Company recommends continued use of 0 percent.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

Account 39800 - Miscellaneous Equipment

Average Service Life

Simulation	None
Currently prescribed	21 year amortization

The Company currently has a prescribed average service life of 21 years for Account 39800, Miscellaneous Equipment. Industry statistics range from 14 to 20 years, with an average of 17 years.

In order to stay in alignment with other utilities, the Company recommends revising its amortization period to 17 years.

Recommended curve and life	17 year amortization period
	Salvage
Currently Prescribed	0
Study Statistics	None

The Company currently uses a 0 percent salvage rate for Account 39800, Miscellaneous Equipment. Industry statistics range from 0 to +20 percent, with an average net salvage rate of 8 percent. In order to stay in alignment with other utilities, the Company recommends revising its net salvage rate for miscellaneous equipment to 10 percent.

Recommended	Net Salvage Rate	10
	Gross Salvage	10
	Cost of Removal	0

PORTLAND GENERAL ELECTRIC COMPANY

2005 DEPRECIATION STUDY

OF DEPRECIABLE PROPERTY

AT

DECEMBER 31, 2004

Prepared October 2005

Introduction

The report summarizes the results of a depreciation study of the assets of Portland General Electric Company (Company) as of December 31, 2004. Included in the report are recommended depreciation parameters for the Company's generation, transmission, distribution, and general plant assets.

The report is filed pursuant to OPUC Order No. 01-123, which approved the stipulation of the Oregon Public Utilities Commission Staff and the Company in the UM-182 Docket.

The depreciation study incorporates analyses of engineering, statistical, and accounting data to develop estimated average service lives, mortality dispersions, and net salvage ratios considered appropriate for each of the primary Federal Regulatory Energy Regulatory Commission (FERC) production plant accounts. The methods employed in the study are consistent with those used and generally recognized throughout the industry. The Asset and Generation Accounting Department of the Company performed the study.

The report consists of the following sections:

Section 1 consists of an overview of issues addressed in the study, a discussion of the methods and procedures used for the analyses of life and salvage characteristics, and a summary of depreciation lives, dispersion patterns, and net salvage rates by primary plant account.

Section 2 consists of a review of the depreciation methods, techniques, and procedures used by the Company, and a comparison of UE-115 and 2005 Depreciation Study Estimated Depreciation Requirements.

Section 3 consists of a justification of the curves, lives, and net salvage rates for each primary plant account.

SECTION 1

ISSUES OVERVIEW

Steam and Combustion Turbine Depreciation Lives and Decommissioning Costs

The Company's current depreciation methodology utilizes a remaining life technique for all tangible assets. In the depreciation rate derivation, the average remaining life for each vintage placement is extended to the full life predicted by the prescribed Iowa curve. For maturing generation facilities, it is increasingly important to recognize that each plant has a finite life. A methodology needs to be implemented which recognizes the future terminal retirement. If the Company's current methodology were continued into the future, each facility would be under recovered at the end of its life span. In this depreciation study, the Company requests approval to revise its rate calculation to incorporate life span methodology for all steam and combustion plant assets.

Under life span methodology, the primary driver in the depreciation calculation is the projected end life of the facility. The remaining life span is weighted for each vintage of additions and adjusted for estimated interim retirement activity in order to determine the depreciation rate. For this study, the Company relied upon the expertise of in-house generation engineers to estimate the end life for each plant. Interim retirement estimates were based upon analyses of Company retirement statistics. Life span data for Colstrip were provided by PPL Montana.

Decommissioning estimates for Boardman, Beaver, and Coyote Springs were based upon site specific studies performed by BaseLine Engineering. The site specific studies were commissioned in 2002 in order to comply with the requirements of FASB Statement No.143, Accounting for Asset Retirement Obligations (FAS 143). For this study, Company engineers reviewed the statistics from the 2002 studies, and were of the opinion that the results remain viable. In order to determine the net salvage rates for the depreciation study, the decommissioning costs were escalated to end-life dollars and divided by the plant balances at year-end 2004.

A site specific study was not commissioned for Colstrip. The net salvage rates derived for Boardman were used for Colstrip as well.

Salvage Proceeds / Cost of Removal

In order to comply with the requirements of FAS 143, the Company was required to extract the accumulated amortization of cost of removal dollars from the depreciation reserve, and to record the balance in a liability account as of year-end 2002. On an ongoing basis, the Company is also required to segregate its cost of removal amortization from depreciation expense. Although FAS 143

alternative cost of removal accounting is only required for financial reporting purposes, the salvage statistics in this report are presented on a net basis as well as broken into their respective components. Thus, supporting documentation for all net salvage, cost of removal, and gross salvage statistics is included in one document.

Port Westward

The Port Westward combustion turbine facility is scheduled to begin operation in early 2007. In this study, the Company requests approval to commence depreciating the facility on the day it becomes used and useful, using a remaining life-span methodology adjusted for forecasted interim retirement activity, as discussed in the generation section above. The Company also requests approval to recover future retirement costs, as developed for the Site Certificate in consultation with Pacific Energy Systems.

Bull Run

Pursuant to Order No. 01-123, the Bull Run plant was scheduled to be fully depreciated at June 2005, and decommissioning costs were scheduled to be amortized over a ten-year period beginning October 2002. The removal costs were scheduled to include but not be limited to the costs of all removal activity up to the final disposition of the Bull Run hydro project and costs related to the removal of the Marmot Dam and fish handling facilities; the removal of the Little Sandy Dam; the disposition of the canals, tunnels and flumes; the mothballing of the power house, and the reconfiguration of Roslyn Lake and all related transportation, disposal and restoration costs with respect to the facilities as required by applicable law.

Since the decommissioning activities will be spread over a number of years, the decommissioning activities will be scheduled so as to allow the Company to operate the plant at limited capacity through 2008. In order to do so, it is assumed that minor additional capital expenditures may be required to keep the plant operational. The Company requests approval to depreciate these costs over a 2 year remaining life beginning in 2007, adjusted each month to reflect the shortened time to fully depreciate the property.

The decommissioning cost estimate of \$16.6 million submitted in the last study was revised to \$17.1 million in nominal dollars in the most recent estimate, from the Company “2002 Decommissioning Plan for the Bull Run Hydroelectric Project – FERC Project No. 477”. The Company requests approval to adjust its amortization to fully recover the additional costs over the remaining amortization period.

Meters

A project to implement full-scale automated meter reading across the service territory is underway, the AMI (Advanced Metering Infrastructure) Project. In order to accurately account for the

amortization of existing meters and AMI meters, it is proposed that the capital recovery of meters be segregated into two components: the recovery of the net undepreciated balance of existing meters and the recovery of the AMI meters. The Company proposes to retain its current 10-year remaining life rate for existing meters and adopt an R3 18 curve life combination for the new AMI meters as they are deployed. The Company also requests approval to continue to use a net salvage rate of 0 percent for all meters.

Software Amortization

The Company currently has a policy to begin amortization of software capital additions closed in a calendar year the following January, unless approved / prescribed otherwise by the Commission (e.g., Banner). The policy was established in an era when software amortization was calculated manually, so the process was implemented for administrative ease. The calculations were mechanized in 2000, thus there is no longer a need to delay amortization until the following year. The Company requests approval to commence software amortization in the month following the closed to plant transaction.

DEPRECIATION STUDY METHODS AND PROCEDURES

Purpose of Depreciation Study

The primary purpose of this depreciation study is to update the depreciation parameters for all Company facilities. The recommended revisions to depreciation parameters will provide updated estimates of average life, mortality characteristics, and net salvage that will fully recover the cost of the property, adjusted for net salvage, over each asset group's estimated life.

Property Groups

For the Company's determination of average service lives, mortality characteristics, and net salvage ratios, the property group is considered to be the dollars in each 300-level FERC primary plant account.

The depreciation study includes a review of life and salvage characteristics for all accounts at all locations.

Mortality Analysis Techniques

Determination of service lives involves an engineering estimate of the future effect of wear and tear, decay, action of the elements, inadequacy, obsolescence, and public requirements. In some cases other factors such as an anticipated changeover to new or improved types of plant must be given

consideration. To arrive at a satisfactory estimate of future conditions, past experience generally gives an indication that can be used in at least one element of the estimate. The weight to be given past experience depends upon the extent to which conditions affecting service life in the future are expected to be similar to or different from those in the past. In cases where future technological changes will override statistical analyses of historical retirements, more emphasis is placed upon engineering judgment.

Life (or mortality) analysis is the process whereby retirement history is statistically analyzed to determine an estimate of average service life and mortality dispersion for the group. For this portion of the study, the Company used two alternative methods to help determine the initial life estimate: the simulated plant balances method of semi-actuarial analysis, and a survey of electric utilities in the western United States.

Semi-actuarial (Simulation) Analysis

The Company maintains a semi-actuarial database for all primary accounts. Total retirements are maintained from year to year, but are not segregated by age. The database maintains a running total of annual additions and year-end balances. The simulated plant balances method was used to analyze retirement trends for all plant accounts. The simulated plant balances method is a trial and error method whereby an effort is made to duplicate the year-by-year balances of the account by a series of calculated or simulated balances. The simulated balances arise from the assumption that each year's actual additions are retired in accordance with a selected pattern of average life and mortality dispersion. Successive Iowa type curve dispersion patterns are tried until a pattern is found which results in a series of year-by-year calculated balances simulating the progression of actual plant balances as closely as possible. The Company utilizes the method of least squares for curve fitting purposes. In applying the least squares methodology, the year-by-year differences between the calculated and actual balances are observed. In order to accentuate the larger discrepancies, the differences are then squared. The trial exhibiting the smallest sum of squared differences is deemed to be the best fit and to be indicative of average life and mortality dispersion of the account.

Survey Method

For this depreciation study, the Company conducted a survey of other utilities in the western United States. Depreciation parameters from the companies were collected and summarized by FERC 300-level account to be used for comparative purposes. For primary accounts with sufficient retirement activity to produce reliable retirement statistics, the survey method was mainly used to verify the Company's statistical life and salvage estimates. The industry statistics were the primary support for revisions to proposed parameters for the Company's amortized general plant accounts.

Salvage Analysis

When property is retired, both salvage and removal costs are recorded as appropriate. The net salvage represents the salvage proceeds less the removal costs. When the salvage proceeds exceed

the removal costs, net salvage is positive. When the removal costs exceed the salvage proceeds, net salvage is negative. The effect of net salvage, whether positive or negative, is considered in the depreciation expense calculation.

Historical salvage experience for the Company is available for the period from 1971 to present. The net salvage analyses for this study determined net salvage as a percentage of retirements on an annual, cumulative-weighted, and rolling band basis. To further delineate the effects of more recent (and pertinent) salvage and removal cost activity, an analysis of the most recent 5 and 10 years was also performed.

Historical retirement statistics provide a basis for estimating net salvage statistics for the hydro plants other than Bull Run, and also transmission, distribution and general plant assets. For steam and other production plant accounts, the historical retirement statistics provide a good indication of interim net salvage. Interim net salvage is recorded on retirements that occur over the life span of a production facility prior to its ultimate retirement. An important consideration in the capital recovery of production plants is the final retirement, resulting in terminal net salvage (decommissioning costs). For this study, decommissioning estimates for the steam and combustion turbine plants were based upon site specific studies for each of the facilities.

Final Selection of Lives, Curves, and Net Salvage

The final selection of average service life, curve type, and net salvage ratio for each depreciable plant account was made after giving due consideration to the results of all statistical studies of past retirement and net salvage data. The statistical estimates were modified as necessary to reflect the physical condition of Company facilities, present and future system requirements, technological obsolescence, and industry experience relating to future life and salvage expectations of various classes of utility property. In addition, consultations were held with Company engineers concerning future construction or replacement programs, maintenance practices, and materials salvage practices.

Summary of Changes - Annual Depreciation Expense

The average service lives, Iowa curves, and net salvage rates recommended by the Company for each plant account are summarized in attached Table 1. As a result of the study, the proposed average service lives were revised both upward and downward, with the overall average virtually unchanged. The weighted average service life for hydro, transmission, distribution, and general plant accounts is 33 years.

The trend toward extremely high negative net salvage abated somewhat since the last study. In general, the net salvage statistics supported the net salvage rates approved by the Commission in the last study. The overall net salvage rate only moved from -32 percent to -31 percent. Please refer to Section 3 for a discussion of the Company's recommended average service lives and net salvage rates.

The revisions proposed herein result in a decrease in annual depreciation expense of \$13.2 million when comparing 2005 depreciation expense from the 2005 Depreciation Study with depreciation expense that would result from continued use of existing depreciation rates (from the previously approved study). A comparison of the results on an account by account basis is illustrated in Table 2. The main drivers of the changes in the study results are outlined below:

Description	\$ (millions)
Depreciation lives and curves for transmission, distribution, and general plant properties	(5.9)
Net salvage for transmission, distribution, and general plant properties	(.3)
Life span methodology – steam plants	(6.6)
Site specific study – steam plants	(1.2)
Lives and curves for hydro plants	(1.2)
Net salvage for hydro plants	(.1)
Life span methodology – combustion turbine plants	1.7
Site specific study – combustion turbine plants	.3
Total	<u>(13.2)</u>

Please note that the comparative estimates represent 2005 depreciation only, and thus exclude the effects of Port Westward Project closing in 2007, the AMI Project beginning in 2007, and other forecasted capital additions for 2006 and 2007. Beginning in 2007, annual depreciation expense for Port Westward using the proposed depreciation parameters will be approximately \$10-11 million. The effect of the other forecasted capital additions will be included in the work papers for the general rate filing. Also excluded from the estimate is the increase in annual amortization for Bull Run decommissioning of approximately \$100,000 due to the revision in decommissioning estimate..

The proposed depreciation parameters generated an overall decrease in transmission, distribution, and general plant of \$6.2 million. Net salvage revisions decreased depreciation expense by \$0.3 million, and revisions to depreciation lives and dispersion patterns decreased depreciation expense by \$5.9 million.

Steam production plant depreciation expense decreased by \$7.8 million. \$6.6 million was due to the change in depreciation methodology from average remaining life to remaining life span. The Company utilized a site specific study for estimated future decommissioning costs at Boardman. The site specific study generated a net salvage ratio of -7 percent, which lowered annual depreciation expense by \$1.2 million. The current composite net salvage rate is -9 percent for Boardman and Colstrip production accounts.

Depreciation expense for hydro facilities at locations other than Bull Run decreased by \$1.2 million. This was due to a slight overall increase in depreciation lives for the hydro accounts. There was also a very small decrease due to a revision in net salvage rate for the structures account from -30 percent to -20 percent.

There was a \$2.0 million increase in depreciation expense for other production accounts in this study. \$1.7 million was associated with the revision from average remaining life to life span methodology. The remaining increase of \$.3 million resulted from the effect of the site specific studies for Beaver and Coyote Springs. The net negative salvage rate for Beaver was revised from a composite rate -2 percent to - 5 percent. The overall net salvage rate remained at -2 percent for Coyote Springs.

SECTION 2

DEPRECIATION METHODS

Virtually all depreciable property of public utilities is depreciated on a group basis. Under group depreciation methodology, depreciation expense is accrued on the basis of the original cost of all property included in each depreciable group. Upon retirement of any depreciable property, its original cost adjusted for any net salvage realized, is charged to accumulated depreciation. The calculation of depreciation expense for a group of assets requires the selection of a depreciation method, procedure, and technique.

The primary depreciation method used in the industry for book depreciation purposes is straight line. Under the straight-line method, an equal portion of the cost of the plant is distributed to each accounting period during the life of the plant. Other methods used within the industry, but rarely, are sinking fund and the units of production method. The charges to expense under the sinking fund method are relatively small in early years and larger in the later years of life. The Company utilized the sinking fund method for all plant until 1978, when it switched to the straight-line method. The Company has never utilized the units of production method. Charges to expense under the units of production method are dependent upon the output of the assets, and thus the recovery pattern is unpredictable.

There are essentially two procedures used by utilities to derive group book depreciation rates: broad group (average life group) and unit-summation (equal life group). The annual accrual rate developed with the broad group procedure is based on the average service life for the account ($1.0 / \text{average service life}$). As expected with a group of assets, there is a distribution of retirements over the life span of the assets in the group. The weighted average of the distribution represents the average service life. The assets retired before average life tend to reduce the reserve level below the amount of accruals. Assets in the group surviving longer than the average life are over-depreciated, and offset the early retirements.

The unit-summation procedure was designed to overcome the under-accrual and over-accrual objections to the broad group procedure. Under the unit-summation procedure, the additions of a single vintage are divided into varying-sized groups according to the predicted age the group will have attained upon retirement. Each group, therefore, has a different average service life. The Iowa type survivor curves provide the basis for estimating that, from the whole group of units installed in any one year, a certain number will be retired at age one year, another number of units at age two years, and so forth, through the age of the last survivor. Each of these life groups is, in effect, depreciated separately. Each life group is given its appropriate straight-line rate, and the individual rates are weighted and summed to arrive at a total rate for the vintage of additions.

The two depreciation techniques used within the industry in combination with the methods and procedures are whole life and remaining life. With the whole life technique, the depreciation rate is

based on the average service life and is applied to the entire plant balance (adjusted for net salvage). The remaining life technique is based on the remaining average service life, and is applied to the plant balance (adjusted for net salvage) less the accumulated depreciation.

Current Company Methods

The Company utilizes the straight-line method, unit-summation procedure, remaining life technique combination for nearly all of its depreciable plant. In its application of the methodology, a monthly depreciation rate is applied to the beginning-of-month plant in service, adjusted for estimated net salvage and reduced by accumulated depreciation. The straight-line, unit-summation remaining life rate is derived by dollar-weighting the surviving plant balances by vintage. Once the annual depreciation rate is calculated at the beginning of the year, it is not adjusted during the year. Depreciation expense for plant additions during the year begins in the month following its closure to plant in service.

Exceptions to the straight line remaining life, unit-summation methodology are the amortization of selected general plant accounts and the 10 percent remaining life rate for Account 37000, Meters.

Proposed Method

As discussed above, the Company proposes to depreciate its steam and combustion turbine generation assets using a life span method. The remaining lives utilized in the depreciation rate derivation for each 300-level FERC account will be adjusted for estimated future retirements. The estimates will be based upon approved curve life combinations obtained from analyses of Company historical interim retirement data.

For Company hydro, transmission, distribution, and general plant assets, no change in depreciation methodology is requested.

SECTION 3

AVERAGE SERVICE LIFE, MORTALITY CHARACTERISTICS, AND NET SALVAGE JUSTIFICATION

BY

PRIMARY PLANT ACCOUNT

STEAM ACCOUNTS

Average Service Life

The Company requests approval to revise its depreciation methodology for its steam generation assets. Specifically, the Company wishes to incorporate the recovery of steam generation assets over the expected remaining life span of each facility, adjusted for forecasted interim retirements. The estimated life span for Boardman was provided by Company generation engineers. For the Colstrip plant, the estimated terminal date of the plant was provided by PPL Montana. In-house statistical analyses were used to derive Iowa curves and depreciation lives to estimate interim retirements for both Boardman and Colstrip.

The estimated termination dates are based upon judgment of the generation engineers, taking into consideration design lives, equipment condition, capacity factors, heat rates, fuel supply, future fuel costs, emission standards, and competing technologies, among other factors. They represent the best estimates from the Company engineering group at this point in time.

In applying the proposed depreciation methodology to each account, the Company derived remaining life depreciation rates using the simulation-based Iowa curves. The remaining life for each vintage placement was truncated at the terminal retirement age prior to dollar weighting the vintage result, and calculating the overall remaining life rate for the account.

Terminal End Life Estimates

Boardman – 2040
Colstrip – 2036

The Company recommends the following best fitting curve life combination for each primary FERC account:

Account	Description	Existing		Proposed	
		Curve	Life	Curve	Life
31101	Structures	R3	37	R0.5	73
31105	Scrubber Equipment	R3	20	R3	20
31200	Boiler Plant Equipment	R3	35	R0.5	68
31201	Rail Cars	R3	35	S0.5	15
31205	Scrubber Equipment	R3	20	R3	20
31400	Turbo Generator Equipment	R3	35	R0.5	70
31500	Accessory Electric Equipment	R3	32	R0.5	62
31600	Miscellaneous Equipment	R3	30	R0.5	27

Please note the curve life combinations for scrubber assets, Accounts 31105 and 31205, were retained from earlier studies. Interim retirement statistics do not support any revisions to existing parameters for scrubbers.

Net Salvage

Boardman and Colstrip are currently prescribed a salvage rate of -10 percent for both the structures and the boiler plant equipment accounts, and -5 percent for the other steam accounts. The production account composite net salvage rate for each facility is -9 percent.

For this study, the Company incorporated the results of a decommissioning study performed for the Boardman site in 2003, which was prepared by the Company’s Power Supply and Engineering department. In order to prepare the estimate, Power Supply and Engineering contracted with an external contractor, Baseline Industrial Construction, Inc. (Baseline). Baseline prepared the estimate after visiting the site and consulting with Northwest Demolition and Dismantling. The estimated costs represent an estimate of the actual costs that could be expected under the current construction market. The estimate from Baseline does not include an estimate of the cost to remove any hazardous wastes or contaminated materials. The environmental portion of the decommissioning estimate was

completed in house. The estimate includes the demolition and removal of all buildings, structures, equipment and concrete foundations to a level of five feet below grade. The estimate from Baseline included no costs for studies, inspections, abatement, engineering or project management. A 10% contingency was added to the estimate to account for these costs. The study was performed in 2002 dollars, and was inflated to the end life of 2040 using inflation factors from The US Economy 25 Year Focus from Global Insight.

<u>Estimated Boardman Decommissioning Cost (\$,000's)</u>		
	Removal	
	Cost	Salvage
100% Base Cost (excluding salvage)	13,990	650
Environmental Remediation	835	-
10% Contingency	1,483	-
Total 100%	16,308	650
PGE's 65% share	10,600	423
Inflated to 2040	28,493	1,137
Plant Balance (12/31/2004)	387,868	
Removal Cost / Salvage Ratio	(.073)	.003
Net Salvage Ratio	(.07)	

For Boardman production accounts, the Company recommends a net salvage rate of -7 percent, with a gross salvage rate of 0 percent and a cost of removal rate of 7 percent.

Site specific decommissioning data are not available for Colstrip, so Boardman statistics are the basis for the Colstrip estimates. Thus, a -7 percent net salvage rate is recommended for Colstrip as well. The Company has historically used the same net salvage rates for Boardman and Colstrip, and the recommended rate is in line with the currently-prescribed rates for Colstrip.

BULL RUN HYDRO PROJECT UPDATE

The Federal Energy Regulatory Commission (FERC) operating license for the Bull Run Project expired in December 2004. The Company formally notified the FERC its decision not to pursue the renewal of its operating license for the facility when its license expires. During the re-licensing process, analysis performed in the summer of 1999 showed that it would be uneconomical to operate the project past the current license period. The re-licensing costs and expenditures required to update the facility to qualify for a license renewal were deemed to make the future costs of operating the facility uneconomical when compared to alternative sources of power (based on the December 1998 Avoided Cost filing).

Instead, the Company will proceed to decommission the plant, as outlined in the Company's "Decommissioning Plan for the Bull Run Hydroelectric Project – FERC Project No. 477," filed November 2002.

Capital Recovery

Pursuant to Order No. 01-123, the remaining Bull Run net plant balance was to be depreciated over a 3.5 year period beginning at 1/1/2002. As of 6/30/05, the net balance was fully depreciated. Pursuant to the decommissioning plan for Bull Run filed with the Federal Energy Regulatory Commission in November 2002, the Company will be allowed to operate the project until 2008. Since the Company plans to operate the plant at least at a limited capacity into 2008, limited capital additions may be necessary to keep the project operational. The Company requests approval to depreciate any necessary capital additions over a 2 year remaining life beginning in 2007. The rate would be increased on a monthly basis to account for the limited remaining period until final retirement, similar to what was approved for Bull Run capital recovery in Order No. 01-123.

Decommissioning

Pursuant to Order No.01-123, the Company was allowed to recover the costs to decommission the Project over a 10-year period, beginning in 2002. The initial decommissioning estimate stipulated to in the 2000 Depreciation Study was \$16.6 million. The Company's latest estimate is \$17.1 million, which was included in the Decommissioning Plan filed with the FERC in November 2002. The Company proposes to continue its amortization of decommissioning costs as approved in Order No. 01-123, revising the amortization to recover the additional \$.5 million over the remainder of the amortization period.

The Company's current decommissioning cost estimate is broken down as follows:

<u>Activities</u>	<u>(\$, Millions)</u>
Pre-filing activities	4.3
Pre-removal monitoring	.3
Permitting	.8
Interim protective actions	.5
Project removal	9.5
Post-removal monitoring and contingencies	1.7
Total	<u>17.1</u>

OTHER HYDRO ACCOUNTS

The proposed lives and curves were forecasted based upon the results of the Company simulation analyses. In all cases, the proposed curve and life combination was the best fit indicated in its statistical analyses. The Company recommends the following curve life combinations for its hydro accounts:

Account	Description	Existing		Proposed	
		Curve	Life	Curve	Life
33100	Structures and Improvements	S3	95	R3	99
33200	Reservoirs, Dams, and Waterways	S3	90	S3	95
33300	Waterwheels, Turbines, and Gen	S6	45	S4	62
33400	Accessory Electric Equipment	R5	44	R0.5	91
33500	Miscellaneous Equipment	R0.5	57	R0.5	65
33600	Roads, Railroads, and Bridges	R0.5	75	R0.5	92

Hydro Net Salvage

The Company has no site specific studies for terminal decommissioning for any hydro project other than Bull Run. Historically, actual retirement activity has been used as the basis for estimating future interim cost of removal as well as terminal cost of removal, due to the assumption that the plants will operate indefinitely into the future. For this study, it is proposed that the historical analyses be continued for the all hydro projects, excluding Bull Run.

Account 33100 – Structures and Improvements

Currently Prescribed		-30
Study Statistics	Gross Salvage	2
	Cost of Removal	21
	Net	-19

A net salvage rate of -30 percent is currently prescribed for Account 33100, Hydraulic Structures and Improvements. Account 33100 includes property such as power houses with solid concrete walls, miscellaneous buildings, excavation, grading, pump houses, ceilings, floors, heating systems, and outdoor lighting. Little or no gross salvage would be expected from property such as concrete in powerhouses, ceiling and floor tiles, roofs, sidewalks, gravel, and fences, whereas the removal costs would be expected to be high. The weighted average net salvage rate for Company retirement experience from the 1971 to 2004 period is -19 percent, somewhat lower than it was 5 years ago at -30 percent. The weighted average for the most recent 10-year period is -20 percent and for the most recent 5-year period is -8 percent. Since the weighted average net salvage calculations are tending to move toward a less negative position, the Company recommends revising the net salvage rate to -20 percent for Account 33100.

Recommended	Net Salvage Rate	-20
	Gross Salvage	0
	Cost of Removal	20

Account 33200 - Reservoirs, Dams, and Waterways

Currently Prescribed		-100
Study Statistics	Gross Salvage	2
	Cost of Removal	143
	Net	-141

Retirements for Account 33200 are normally accompanied by high removal costs and negligible gross salvage. Negligible scrap value is associated with concrete dams, penstocks, gates, gate hoists, fish ladders, and flumes. The cost of removal for the concrete and steel associated with these assets, however, is quite high. An analysis of net salvage activity since 1971 yields a weighted net salvage rate of -141 percent, with an average over the most recent 10-year and 5-year periods of -268 percent and -287 percent, respectively. Even though recent statistics appear to support moving to a higher negative net salvage rate, the Company recommends retaining its salvage rate of -100 percent at this time. If the statistics continue at high levels of negative salvage, the rates may need to be adjusted in future studies.

Recommended	Net Salvage Rate	-100
	Gross Salvage	0
	Cost of Removal	100

Account 33300 - Waterwheels, Turbines, and Generators

Currently Prescribed		-30
Study Statistics	Gross Salvage	3
	Cost of Removal	41
	Net	-38

A salvage rate of -30 percent is currently prescribed for Account 33300. The cumulative weighted average net salvage rate for the 1971 to 2004 period is -38 percent. The weighted averages for the past 10-year and 5-year periods are -52 percent and -35 percent, respectively. Since the net salvage rates for the most recent 5-years are moving towards the Company's currently approved rate of -30 percent, the Company recommends retaining its current rate.

Recommended	Net Salvage Rate	-30
	Gross Salvage	0
	Cost of Removal	30

Account 33400 - Accessory Electric Equipment

Currently Prescribed		-5
Study Statistics	Gross Salvage	2
	Cost of Removal	9
	Net	-7

Account 33400 currently has a prescribed net salvage rate of -5 percent. Retirement experience for the 1971 to 2004 period consisted of moderate retirements with fairly low salvage and removal costs, with the exception of one high removal cost year in 2001. If the outlying year were removed from the data, the weighted average net salvage rate for the 1971 to 2004 period is -7 percent. The weighted average net salvage rates over the most recent 10 years and 5 years are -10 percent and -7 percent, respectively. The Company recommends retaining its net salvage rate of -5 percent for Account 33400.

Recommended	Net Salvage Rate	-5
	Gross Salvage	0
	Cost of Removal	5

Account 33500 - Miscellaneous Power Plant Equipment

Currently Prescribed		-10
Study Statistics	Gross Salvage	17
	Cost of Removal	40
	Net	-23

The Company is currently using a net salvage rate of -10 percent for Account 33500, Miscellaneous Power Plant Equipment. In the 1970's and 1980's, net annual salvage experience fluctuated from positive to negative from year to year. Since 1990, salvage experience has been predominately negative, with just a few years having positive results. The weighted average net salvage rate for the 1971 to 2004 period is -23 percent, and the average over the most recent 10 years is -49 percent. High negative salvage statistics would not be expected for this type of equipment. Items such as tools and other miscellaneous items should not have significant removal cost. The Company recommends retaining its current net salvage of -10 percent.

Recommended	Net Salvage Rate	-10
	Gross Salvage	5
	Cost of Removal	15

Account 33600 - Roads, Railroads, and Bridges

Currently Prescribed		0
Study Statistics	Gross Salvage	0
	Cost of Removal	6
	Net	-6

Account 33600 currently has a prescribed net salvage rate of 0 percent. The weighted average net salvage ratio is -6 percent, based on activity from 1971 through 2004, Retirement activity is very limited for this account. When a road is repaved, the existing pavement or gravel is normally not retired. Instead, it becomes a supporting layer for the new surface. Thus, an active database is not expected for this account. The Company recommends continued use of 0 percent.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0

OTHER PRODUCTION FACILITIES

As discussed hereinabove, the Company wishes to incorporate the recovery of combustion turbine generation assets over the expected remaining life span of each facility, adjusted for forecasted interim retirements. The estimated life spans for Beaver, Coyote Springs, and Port Westward were provided by Company generation engineers. In-house statistical analyses were used to estimate interim retirements for all three plants.

The estimates are based upon judgment of the generation engineers, taking into consideration design lives, equipment condition, capacity factors, heat rates, fuel supply, future fuel costs, emission standards, and future competing technologies, among other factors.

In applying the proposed depreciation methodology to each account, the Company derived remaining life depreciation rates using the simulation-based Iowa curves. The remaining life for each vintage placement was truncated at the terminal retirement age prior to dollar weighting the vintage result, and calculating the overall remaining life rate for the account.

Terminal End Life Estimates

Beaver – 2020
 Coyote Springs – 2025
 Port Westward - 2035

The Company recommends the following best fitting curve life combination for each primary FERC account for all combustion turbine locations:

Account	Description	Existing		Proposed	
		Curve	Life	Curve	Life
34100	Structures and Improvements	R3	25	R4	38
34200	Fuel Holders, Producers, and Acc	R3	25	S3	38
34400	Generators	R3	25	L0	25
34500	Accessory Electric Equipment	R3	25	R2.5	47
34600	Miscellaneous Equipment	R3	25	S3	34

Net Salvage

Beaver and Coyote Springs are currently prescribed salvage rates of -3 percent for the structures and improvements and fuel holders, producers and accessories accounts, and -1 percent for the other steam accounts. The production account composite net salvage rate for each facility is -3 percent.

In this study, for Beaver and Coyote Springs, the Company incorporated the results of decommissioning studies performed in 2003, which were prepared by the Company's Power Supply and Engineering department. In order to prepare the estimates, Power Supply and Engineering contracted with an external contractor, Baseline Industrial Construction, Inc (Baseline). Baseline prepared the estimate after visiting the sites and consulting with Northwest Demolition and Dismantling. The cost estimates represent an estimate of the actual costs that could be expected under the current construction market. The estimates from Baseline do not include an estimate of the cost to remove any hazardous wastes or contaminated materials. The environmental portion of the decommissioning estimate was completed in house. The estimate includes the demolition and removal of all buildings, structures, equipment and concrete foundations to a level of five feet below grade. The estimate from Baseline included no costs for studies, inspections, abatement, engineering or project management. A 10% contingency was added to the estimate to account for these costs. The study was performed in 2002 dollars, and was inflated to the end life of each facility using inflation factors from The US Economy 25 Year Focus from Global Insight.

The Port Westward decommissioning estimate is based upon the work prepared in consultation with Pacific Energy Systems that was performed for the Company's Site Certificate. This is based on estimates of work necessary for facility retirement, and takes into account the site is zoned for industrial use. The decommissioning estimate excludes transmission facilities, assuming they would be likely be used by area utilities to bring electricity to the area from the BPA system. The study was performed in 2004 dollars, and was inflated to the end life of the facility using inflation factors from The US Economy 25 Year Focus from Global Insight.

Estimated Beaver Decommissioning Cost (\$,000's)		
	Removal	
	Cost	Salvage
100% Base Cost (excluding salvage)	4,490	275
Environmental Remediation	1,330	-
10% Contingency	582	-
Total 100%	6,402	275
Inflated to 2020	9,993	429
Plant Balance (12/31/04)	198,518	
Removal Cost / Salvage Ratio	(.050)	.002
Net Salvage Ratio	(.05)	

For Beaver production accounts, the Company recommends a net salvage rate of -5 percent, with a gross salvage rate of 0 percent and a cost of removal rate of 5 percent.

Estimated Coyote Springs Decommissioning Cost (\$,000's)

	Removal	
	Cost	Salvage
100% Base Cost (excluding salvage)	2,095	250
Environmental Remediation	0	-
10% Contingency	210	-
Total 100%	2,305	250
Inflated to 2020	4,110	429
Plant Balance (12/31/04)	153,108	
Removal Cost / Salvage Ratio	(.026)	.003
Net Salvage Ratio	(.02)	

For Coyote Springs production accounts, the Company recommends a net salvage rate of -2 percent, with a gross salvage rate of 0 percent and a cost of removal rate of 2 percent.

Estimated Port Westward Decommissioning Cost (\$,000's)

	Removal	
	Cost	Salvage
100% Base Cost (excluding salvage)	2,704	289
State of Oregon Administrative Costs	300	-
Environmental Contingency	500	-
20% Contingency	483	-
Total 100%	3,987	289
Inflated to 2035	8,827	446
Plant Balance (12/31/04)	280,000	
Removal Cost / Salvage Ratio	(.032)	.001
Net Salvage Ratio	(.03)	

For Port Westward production accounts, the Company recommends a net salvage rate of -3 percent, with a gross salvage rate of 0 percent and a cost of removal rate of 3 percent.

DISTRIBUTED GENERATION FACILITIES

Distributed generation assets are recorded in Account 34500, Other Production - Accessory Electric Equipment. These facilities allow the Company to receive power from customers' generators in the event the Company has a need to do so. Equipment contained in this account is made up primarily of distribution substation equipment and communication equipment, with a small investment in oxidation catalysts. The depreciation life and net salvage rate proposed in this study for distribution substation equipment is 54 years and -5 percent, and the proposed depreciation life and net salvage rate for communication equipment is 21 years and 0 percent.

The initial term of most Company lease agreements associated with distributed generation facilities is 10 years with subsequent auto renewal year to year after the initial period. Since the life of the equipment is dependent upon lease renewals, the 38-year average of the lives of the two accounts may be overly optimistic. The Company recommends a life of 30 years for this account and a net salvage rate of -5 percent.

Recommended curve and life	R3 30
Recommended net salvage rate	-05

TRANSMISSION ACCOUNTS

Account 35200 - Structures and Improvements

Average Service Life

Simulation No definitive life indicated

Currently prescribed S6 50

Historically, simulation-based life estimates for the transmission structures and improvements account have been very stable, with estimates ranging from 40 to 50 years. However, since the last depreciation study, there has been minimal retirement activity. As a result, the latest simulation-based life estimates do not appear to be reliable. Depending which curve is analyzed, the life estimate varies from 51 years to hundreds of years. Depreciation lives for other western utility companies range from 39 years to 65 years. Since the life characteristics of transmission structures assets are similar to distribution structures assets and the distribution structures life characteristics are in line with historical transmission estimates as well as other utilities, it is recommended that the distribution curve life combination of R1.5 52 be used for transmission structures.

Recommended curve and life R1.5 52

	Salvage	
Currently Prescribed		-15
Study Statistics	Gross Salvage	5
	Cost of Removal	15
	Net	-10

The transmission structures account includes the following assets: clearing and grading, small buildings, station lighting, and fences. Positive net salvage would not be expected for transmission structures equipment. Cost of removal in excess of gross salvage proceeds is normal for this type of equipment. The Company has a cumulative weighted average net salvage of -10 percent, based on salvage experience from 1971 through 2004, with a weighted average cost of removal of 15 percent and a weighted average gross salvage of 5 percent. Western utility net salvage rates range from 0 to

-30 percent. The Company recommends moving from its current rate of -15 percent to -10 percent, as indicated in its latest statistics.

Recommended	Net Salvage Rate	-10
	Gross Salvage	5
	Cost of Removal	15

Account 35300 - Station Equipment

Average Service Life

Simulation	L3 44
Currently prescribed	R2.5 57

Account 35300, Substation Equipment, currently has an approved curve-life combination of R2.5 57. The account contains assets such as substation transformers, relays, circuit breakers, and switches. Simulation results for the unlicensed locations range from the mid-thirties to the mid-fifties. In the last depreciation study, analyses indicated that a longer life was warranted, so we adjusted the life estimate accordingly. However, in the current study, simulation-based life estimates have moved toward historical estimates. The latest simulation results indicate a best fitting curve life combination of L3 44. The current estimates are supported by industry statistics. The average life of western utilities included in the study sample was 45 years. The best fitting simulation result of L3 44 is recommended for this account.

Recommended curve and life L3 44

	Salvage	
Currently Prescribed		-10
Study Statistics	Gross Salvage	7
	Cost of Removal	18
	Net	-11

A salvage rate of -10 percent is currently prescribed for Account 35300. An analysis of the net salvage history for this account shows the net salvage ratio fluctuated from positive to negative in the 1970's and early 1980's, but the experience has been predominately negative since then. The weighted average salvage rate based on 1971 through 2004 data is -11 percent, with cost of removal and gross salvage ratios of 18 percent and 7 percent, respectively. Since 1993, gross salvage proceeds have been zero in most years. The average net salvage ratio for the past 5 years is -24 percent. Net salvage estimates for other western utilities range from +15 percent to -5 percent. Even though statistics for the Company are somewhat higher than others in the area, statistics reveal a continued trend toward high removal costs with minimal salvage. The Company recommends retention of its current rate of -10 percent.

Recommended	Net Salvage Rate	-10
	Gross Salvage	7
	Cost of Removal	17

Account 35400 - Towers and Fixtures

Average Service Life

Simulation	R1 97
Currently prescribed	R1 92

Account 35400 contains steel towers and fixtures. Over the years, retirement experience has produced simulation results that indicate a long life expectancy. From the early the 1970's through the mid-1980's, simulation results predicted average service lives in the 80's and low 90's. In the late 1980's and early 1990's, results dropped into the high 60's and lower 70's. In the last study the results have returned to the low 90's. As one may expect with service life indications of this magnitude, retirement experience is minimal. The trend continued in the past five years. The latest service life indications ranged from 44 years to the hundreds of years, depending upon the curve chosen, and the best fitting curve under 100 years was an R1 97. Company transmission engineers felt that the life estimate of 97 years was unrealistic for steel towers, and that a better life estimate would be derived by relying upon the retirement experience of other companies. The lives of other western utilities range from 45 to 70 years, with an average of 55 years. Since the Commission approved a depreciation life of 60 years in a recent case for steel transmission towers in Oregon, the Company recommends an S6 60 for its transmission towers.

Recommended curve and life S6 60

	Salvage	
Currently Prescribed		-15
Study Statistics	Gross Salvage	2
	Cost of Removal	12
	Net	-10

The current salvage rate for the steel towers and fixtures account is -15 percent. The weighted average salvage rate for the period from 1971 to 2004 is -10 percent, with no retirement activity in the past 5 years. Since the retirement activity for this account is so minimal, there is no Company generated support for a move in salvage rate. Industry retirement rates range from -5 percent to -60 percent, with an average rate of -34 percent. Although the Company is on the low end of the range of industry statistics, continued use of the -15 percent net salvage rate is recommended for this account.

Recommended	Net Salvage Rate	-15
	Gross Salvage	3
	Cost of Removal	18

Account 35500 - Poles and Fixtures

Average Service Life

Simulation	R0.5 45
Currently prescribed	R0.5 40

Account 35500 contains wood poles and fixtures, with an R0.5 40 curve-life combination currently prescribed. Annual retirement activity for this account has generated relatively stable simulation results over the years, ranging from 35 to 40 years over most of the period. In the past 5 years, the results have risen somewhat, to an average life of 45 years. Industry lives range from 38 to 55 years with an average of 45 years. Since current simulation results are verified by industry statistics, an R0.5 45 is recommended for Account 35500.

Recommended curve and life R0.5 45

	Salvage	
Currently Prescribed		-85
Study Statistics	Gross Salvage	10
	Cost of Removal	101
	Net	-91

The Company's currently prescribed net salvage ratio for Account 35500 is -85 percent. Salvage experience has been consistently negative since 1971, and highly negative on a regular basis. The cumulative weighted average net salvage ratio for the 1971 to 2004 period is -91 percent. Industry net salvage rates range from -5 percent to -80 percent, with an average of -42 percent. Since the last study, Company retirement activity has been minimal. However, due to the strong history of highly negative salvage experience for the account, the Company does not recommend a move toward the industry average at this time. Salvage activity for this account will be monitored closely in the future, but no change is currently recommended.

Recommended	Net Salvage Rate	-85
	Gross Salvage	8
	Cost of Removal	93

Account 35600 - Overhead Conductors and Devices

Average Service Life

Simulation	R3 47
Currently prescribed	R3 40

Account 35600, Overhead Conductors, is depreciated using an R3 40 curve life combination. Simulation analyses have yielded fairly consistent life estimates over the years, moving gradually from the mid-thirties to 40 years in the last study. Statistics have tended toward a medium-modal best fitting curve shape, with an R3 modal curve indicated for most years. The most recent simulation analyses point toward a best fitting curve life combination of R0.5 88. Industry lives range from 38 to 60 years, with an average of 47 years. An average life of 88 years is clearly outside the bounds of reasonable lives. The simulated life for the R3 curve in the current run is 47 years. Even though the R3 curve isn't the best fitting curve in this analysis, it has been historically. Further, the average life generated by an R3 curve aligns with industry averages. A curve life combination of R3 47 is recommended.

Recommended curve and life R3 47

	Salvage	
Currently Prescribed		-75
Study Statistics	Gross Salvage	59
	Cost of Removal	134
	Net	-75

The Company currently has a prescribed net salvage rate of -75 percent for Account 35600. In the 1970's, net salvage fluctuated between positive and negative on a seemingly random basis. Since 1978, however, the net salvage statistics have been consistently negative, and since the mid 1980's highly negative. All methods of analysis indicate that a highly negative net salvage ratio is justified. The cumulative weighted average net salvage ratio is -42 percent for the 1971-2004 experience band, and is -161 percent for the 1996-2004 period. Rolling band analyses also indicate that a high negative salvage rate is normal for this account, and negative salvage experience over the last 10 years has ranged from -80 percent to -277 percent. Retirement history in the past 5 years has been sporadic, thus does not support a move to a higher negative position. Other utility net salvage ratios range from -5 percent to -100 percent. No change is recommended for Account 35600 in this study.

Recommended	Net Salvage Rate	-75
	Gross Salvage	59
	Cost of Removal	134

Account 35900 - Roads and Trails

Average Service Life

Simulation	None
Currently prescribed	R0.5 75

Account 35900 is an account containing the transmission access roads for Colstrip generating station. At this stage in Colstrip's retirement history, there have been no retirements upon which to perform the statistical analyses. Service lives for other utilities range from 50 to 95 years with an average of 66 years. Continued use of an R0.5 75 is recommended.

Recommended curve and life R0.5 75

	Salvage	
Currently Prescribed		0
Study Statistics	Gross Salvage	0
	Cost of Removal	0
	Net	0

As mentioned above, there is no net salvage experience shows for this account. Paving, if retired, is normally retired in place. It is common for new road surfaces to be laid over existing surfaces. Utilities included in our survey all use a net salvage rate of 0 percent. A net salvage rate of 0 percent is recommended for this account.

Recommended	Net Salvage Rate	0
	Gross Salvage	0
	Cost of Removal	0



November 7, 2005

US Postal Mail

Vikie Bailey-Goggins
Administrator
Oregon Public Utility Commission
550 Capital Street, N.E.
Salem, Oregon 97301

Re: UE-79 – Detailed Depreciation Study of Electric Utility Properties (OPUC Order No. 91-186, Appendix “C” at 8)

Ms. Bailey-Goggins:

Pursuant to OPUC Order No. 91-186, Portland General Electric (PGE) submits the attached results of a detailed depreciation study of the electric properties of PGE as of December 31, 2004. PGE’s last study, Docket UM-982, was based upon data as of December 31, 1999, and filed on July 3, 2000. Depreciation rates were effective October 1, 2001, pursuant to OPUC Order No. 01-777.

PGE requests that the Commission approve the results of this study in time to allow PGE to reflect the new depreciation parameters in PGE’s upcoming General Rate Case filing, which we expect to file in the first quarter of 2006. PGE proposes to implement the approved depreciation parameters simultaneously with the change in general prices, which should be January 1, 2007.

This study includes an analysis of all primary plant accounts at all locations. All assets in PGE’s traditional FERC classification of generation, transmission, distribution and general plant assets are included in the study.

This depreciation study updates depreciation lives, curves and salvage rates for all plant accounts, and a revision to life span from average remaining life methodology for all steam and combustion plant assets. The proposed revisions decrease annual depreciation expense by \$13.2 million based on a comparison of 2005 depreciation expense calculated under the old and new depreciation rates. The comparative estimates represent 2005 depreciation and we will update these for the test year filing.

Compliance with FAS 143 requires that PGE extract the accumulated amortization of the cost of removal dollars for the depreciation reserve, and to record the balance in a liability accounts as of year-end 2002. On an ongoing basis, PGE must also segregate its cost of removal amortization from depreciation expense. Although PGE must follow FAS 143 alternative cost of removal accounting only for financial reporting purposes, we presented the salvage statistics in this report on both a net basis and by respective components. This allows us to include supporting documentation for all net salvage, cost of removal, and gross salvage statistics in one document.

PGE currently anticipates the Port Westward combustion turbine facility will begin commercial operation in early 2007. We request approval to commence depreciating the facility on the day it becomes used and useful.

PGE expects to fully depreciate the Bull Run plant in June 2005, pursuant to Order No. 01-123, with decommissioning costs amortized over a ten-year period beginning October 2002. Decommissioning activities, since they are spread over a number of years, are scheduled to allow PGE to operate the plant a limited capacity through 2008. PGE may require minor capital expenditures to keep the plant operational. Therefore, PGE requests approval to depreciate these costs over a 2-year remaining life beginning in 2007, adjusted each month to reflect the shortened time to fully depreciate the property. In addition, PGE revised its Bull Run decommissioning cost estimate from \$16.6 million to \$17.1 million.

PGE proposes a change in its depreciation and amortization methodology to the straight line, unit summation, life span method for all steam and combustion plant assets. Currently, PGE uses the straight line, unit-summation, remaining life method for all tangible assets. Under life span methodology, the primary driver in the depreciation calculation is the projected end life of the facility. The remaining life span weights each vintage of additions and adjusts for estimated interim retirement activity in order to determine the depreciation rate.

Questions regarding our request for investigation should be directed to me at 503-464-7580. Questions regarding the depreciation study should be directed to Terry McKeighan at 503-464-7338.

Sincerely,

Patrick G. Hager
Manager, Regulatory Affairs

cc: Roger White, OPUC
Doug Tingey
Bob Jenks, CUB
Melinda Davison, ICNU

TABLE 1
 PORTLAND GENERAL ELECTRIC COMPANY
 CURRENT AND REQUESTED DEPRECIATION PARAMETERS

ACCOUNT	DESCRIPTION	CURVE / LIFE		SALVAGE	
		PROPOSED	CURRENT	PROPOSED	CURRENT
<u>STEAM PRODUCTION ACCOUNTS</u>					
BOARDMAN - END LIFE - 2040 COLSTRIP - END LIFE - 2036					
31101	STRUCTURES AND IMPROVEMENTS	R0.5-73	R3-37	-7%	-10%
31105	POLLUTION CONTROL EQUIPMENT	R3-20	R3-20	-7%	-10%
31200	BOILER PLANT EQUIPMENT	R0.5-68	R3-35	-7%	-10%
31201	RAIL CARS	S0.5-15	R3-35	-7%	-10%
31205	POLLUTION CONTROL EQUIPMENT	R3-20	R3-20	-7%	-10%
31400	TURBO-GENERATOR UNITS	R0.5-70	R3-35	-7%	-5%
31500	ACCESSORY ELECTRIC EQUIPMENT	R0.5-62	R3-32	-7%	-5%
31601	MISCELLANEOUS POWER PLANT EQUIPMENT	R0.5-27	R3-30	-7%	-5%
<u>HYDRO PRODUCTION ACCOUNTS</u>					
33011	FLOODING RIGHTS	SQ-75	SQ-75	0%	0%
33100	STRUCTURES AND IMPROVEMENTS	R3-99	S3-95	-20%	-30%
33200	RESERVOIRS, DAMS AND WATERWAYS	S3-95	S3-90	-100%	-100%
33300	WATERWHEELS, TURBINES AND GENERATORS	S4-62	S6-45	-30%	-30%
33400	ACCESSORY ELECTRIC PLANT	R0.5-91	R5-44	-5%	-5%
33500	MISCELLANEOUS POWER PLANT	R0.5-65	R0.5-57	-10%	-10%
33600	ROADS, RAILROADS AND BRIDGES	R0.5-92	R0.5-75	0%	0%
BULL RUN - END LIFE 2008					
33100	STRUCTURES AND IMPROVEMENTS	RL-2	RL-3.5	0%	0%
33200	RESERVOIRS, DAMS AND WATERWAYS	RL-2	RL-3.5	0%	0%
33300	WATERWHEELS, TURBINES AND GENERATORS	RL-2	RL-3.5	0%	0%
33400	ACCESSORY ELECTRIC PLANT	RL-2	RL-3.5	0%	0%
33500	MISCELLANEOUS POWER PLANT	RL-2	RL-3.5	0%	0%
33600	ROADS, RAILROADS AND BRIDGES	RL-2	RL-3.5	0%	0%

The depreciation rate, based upon a 2 year remaining life, will be adjusted each month to reflect the shortened time remaining to fully depreciate the property.

Although a net salvage rate of 0 percent is indicated in the exhibit, estimated removal costs will be amortized over a 10-year period (2002-2011).

TABLE 1
 PORTLAND GENERAL ELECTRIC COMPANY
 CURRENT AND REQUESTED DEPRECIATION PARAMETERS

ACCOUNT	DESCRIPTION	CURVE / LIFE		SALVAGE	
		PROPOSED	CURRENT	PROPOSED	CURRENT
<u>OTHER PRODUCTION ACCOUNTS</u>					
BEAVER - END LIFE - 2020					
34100	STRUCTURES AND IMPROVEMENTS	R4-38	R3-25	-5%	-3%
34200	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	S3-38	R3-25	-5%	-3%
34400	GENERATORS	L0-25	R3-25	-5%	-3%
34500	ACCESSORY ELECTRIC EQUIPMENT	R2.5-47	R3-25	-5%	-1%
34600	MISCELLANEOUS POWER PLANT EQUIPMENT	S3-34	R3-25	-5%	-1%
COYOTE SPRINGS - END LIFE - 2025					
34100	STRUCTURES AND IMPROVEMENTS	R4-38	R3-25	-2%	-3%
34200	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	S3-38	R3-25	-2%	-3%
34400	GENERATORS	L0-25	R3-25	-2%	-3%
34500	ACCESSORY ELECTRIC EQUIPMENT	R2.5-47	R3-25	-2%	-1%
34600	MISCELLANEOUS POWER PLANT EQUIPMENT	S3-34	R3-25	-2%	-1%
PORT WESTWARD - END LIFE - 2035					
34100	STRUCTURES AND IMPROVEMENTS	R4-38	N/A	-3%	N/A
34200	FUEL HOLDERS, PRODUCERS AND ACCESSORIES	S3-38	N/A	-3%	N/A
34400	GENERATORS	L0-25	N/A	-3%	N/A
34500	ACCESSORY ELECTRIC EQUIPMENT	R2.5-47	N/A	-3%	N/A
34600	MISCELLANEOUS POWER PLANT EQUIPMENT	S3-34	N/A	-3%	N/A
DISTRIBUTED GENERATION FACILITIES					
34500	ACCESSORY ELECTRIC EQUIPMENT	R3-30	N/A	-5%	N/A
<u>TRANSMISSION ACCOUNTS</u>					
35200	STRUCTURES AND IMPROVEMENTS	R1.5-52	S6-50	-10%	-15%
35300	STATION EQUIPMENT	L3-44	R2.5-57	-10%	-10%
35400	TOWERS AND FIXTURES	S6-60	R1-92	-15%	-15%
35500	POLES AND FIXTURES	R0.5-45	R0.5-40	-85%	-85%
35600	OVERHEAD CONDUCTORS AND DEVICES	R3-47	R3-40	-75%	-75%
35900	ROADS AND TRAILS	R0.5-75	R0.5-75	0%	0%
<u>DISTRIBUTION ACCOUNTS</u>					
36100	STRUCTURES AND IMPROVEMENTS	R1.5-52	R3-59	-10%	-5%

TABLE 1
 PORTLAND GENERAL ELECTRIC COMPANY
 CURRENT AND REQUESTED DEPRECIATION PARAMETERS

ACCOUNT	DESCRIPTION	CURVE / LIFE		SALVAGE	
		PROPOSED	CURRENT	PROPOSED	CURRENT
36200	STATION EQUIPMENT	L0-54	R0.5-47	-10%	-5%
36400	POLES, TOWERS AND FIXTURES	L0-38	L0-35	-60%	-80%
36500	OVERHEAD CONDUCTOR AND DEVICES	L0-43	L0-43	-80%	-75%
36600	UNDERGROUND CONDUIT	S6-50	S6-50	-10%	-10%
36700	UNDERGROUND CONDUCTOR AND DEVICES	S2-38	S3-35	-65%	-60%
36800	LINE TRANSFORMERS	R4-30	R4-30	0%	0%
36901	SERVICES OVERHEAD	S6-39	S6-36	-60%	-70%
36903	SERVICES UNDERGROUND	S6-39	S6-36	-60%	-70%
37000	METERS - EXISTING	10% RL Rate	10% RL Rate	0%	0%
37000	METERS - AMI	R3-18	10% RL Rate	0%	0%
37100	EQUIPMENT ON CUSTOMERS PREMISES	R3-18	10% RL Rate	0%	0%
STREETLIGHTING AND SIGNAL SYSTEMS:					
37301	CIRCUITS - OTHER	L0-43	L0-43	-70%	-70%
37302	FIXTURES, ORN POSTS & DEVICES	L1-21	R2.5-20	-70%	-70%
37307	SENTINEL LIGHTING EQUIPMENT	L0-20	L0-19	-70%	-70%
<u>GENERAL PLANT ACCOUNTS</u>					
39000	STRUCTURES AND IMPROVEMENTS	L0-34	R0.5-35	0%	0%
39100	OFFICE FURNITURE AND EQUIPMENT	23	15	5%	20%
39102	COMPUTER AND OFFICE EQUIPMENT	5	5	0%	10%
39103	COMPUTER ROOM AND DATA PROCESSING EQ	5	R3-5	0%	10%
39204	HEAVY DUTY TRUCKS	S6-10	S6-15	4%	4%
39205	MEDIUM DUTY TRUCKS	S6-10	S6-15	1%	1%
39206	LIGHT DUTY TRUCKS	S6-10	S6-5	10%	20%
39208	TRAILERS	S6-20	S6-20	0%	0%
39209	AUTOS	S6-10	S6-6	10%	20%
39210	HELICOPTER - NEW	SQ-20	N/A	15%	N/A
39210	HELICOPTER - EXISTING	SQ-3	SQ-7	15%	52%
39300	STORES EQUIPMENT	21	24	0%	0%
39400	TOOLS, SHOP AND GARAGE EQUIPMENT	26	28	5%	5%
39500	LABORATORY EQUIPMENT	27	33	0%	5%
39601	MAN LIFT EQUIPMENT	S6-15	S6-12	1%	1%
39602	CRANES	S6-10	S6-10	1%	1%
39603	DIGGER EQUIPMENT	S6-10	S6-15	1%	1%
39607	CONSTRUCTION EQUIPMENT	S6-15	S6-15	1%	1%
COMMUNICATION EQUIPMENT					
39701	WIRELINE - LINE EQUIPMENT	L0-38	L0-25	0%	0%
39703	RADIO, MICROWAVE, AND TERMINAL EQUIPME	L3-21	S4-20	0%	0%
39704	SYSTEM DISPATCH EQUIPMENT	L3-21	S4-20	0%	0%
39706	MOBILE RADIO EQUIPMENT	5	5	0%	0%
39707	TELEPHONE EQUIPMENT	20	20	0%	0%

TABLE 1
 PORTLAND GENERAL ELECTRIC COMPANY
 CURRENT AND REQUESTED DEPRECIATION PARAMETERS

ACCOUNT	DESCRIPTION	CURVE / LIFE		SALVAGE	
		PROPOSED	CURRENT	PROPOSED	CURRENT
39800	MISCELLANEOUS EQUIPMENT	17	21	10%	0%