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Profile

- 28 years of experience in utility property accounting, depreciation, and valuation.
- Industry wide reputation with significant experience as Expert Witness, in depreciation, valuation, and rate base areas.
- Proven experience in effectively merging property systems and reengineering processes/ systems to achieve significant cost savings.
- Goal-Oriented, "outside the box" thinker with demonstrated strong leadership capabilities.
- Organized, highly-motivated, and focused problem solver.

Relevant Experience and Accomplishments

- Depreciation and Asset Accounting
 - Conducted depreciation studies for generation, electric transmission, electric distribution, gas transmission, gas distribution, and mining companies and supported more than 20 state regulatory bodies and FERC.
 - Lead or served in numerous national industry roles related to depreciation and property accounting including twice chairing the Plant Accounting and Valuation Committee of the Edison Electric Institute.
 - o Served as gas and electric industry Project Manager for the implementation of SFAS 143.
 - o Served as general editor for "Introduction to Depreciation and Net Salvage".
 - Managed fixed asset accounting, depreciation accounting and analysis, lease accounting, inventory accounting, transportation accounting and records management for one of the largest electric and gas utilities in the US.
- System/Process Reengineering
 - Reengineered fixed asset process and managed redesign of a Fixed Asset system to create a \$1.5-\$2.0 million savings per year.
 - Designed and implemented a new leased asset tracking and payment system that enabled reduction of errors in lease payments by \$3-\$4 million per year.
 - Designed and implemented an internal shared asset tracking and allocation system to meet stringent affiliate transaction rules.
 - Championed, designed and implemented imaging system to replace paper and microfilm document storage system saving over \$1 million per year.

Employment History:

- 1996-2004
 - O Partner Alliance Consulting Group, Plano, TX
- 1996-2004
 - Manager of Property Accounting Services TXU Business Services, Dallas, TX
 Testified in 15 rate or restructuring proceedings before various Commissions including the
 Texas Railroad Commission, the Texas Public Utilities Commission and the FERC. Lead
 Sarbanes-Oxley implementation for property processes. During tenure, increased scope to
 managing all fixed asset and construction accounting, inventory accounting, transportation
 accounting, fixed asset accounting systems. Lead efforts to convert 14 companies to a new fixed
 asset system. Restructured valuation system to provide 90% faster response time. Implemented
 new construction/fixed asset systems that facilitated a 12 FTE reduction in staff. Built state-of the-art lease accounting system to handle reporting and payment of all TXU leases. Built highly
 automated imaging system to replace microfilm and paper document storage and retrieval system
 reducing costs and shortening response time.
- 1992-1996
 - O Technical Support Manager Texas Utilities Generating Company, Dallas, TX Managed group responsible for depreciation and valuation analysis for TXU. Responsible for teaching and running engineering economics analysis for large capital projects. Managed nuclear plant decommissioning studies and electrical line loss allocation studies.
- 1985-1992
 - O Associate Engineer to Senior Engineer Texas Utilities Generating Company, Dallas, TX Given increasing responsibility related to depreciation and valuation program creation, valuation analysis, depreciation analysis, training TXU employees in engineering economics, report preparation, writing and supporting depreciation testimony before the Texas Public Utilities Commission.

Education:

- M.B.A., General Business, Amberton University, Garland, TX
- B.S., Electrical Engineering, University of Arkansas

Honors and Awards

- Professional Engineer (TX)
- Certified Depreciation Professional ("CDP")
- Senior Member of the Institute of Electronics and Electrical Engineers ("IEEE")
- IEEE 3rd Millennium Medal
- IEEE Region 5 Treasurer and Audit Committee Chair
- Twice Chair of the Edison Electric Institute ("EEI") Property Accounting and Valuation Committee
- Past Board member and President of the Society of Depreciation Professionals.

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GRANITE STATE ELECTRIC COMPANY D/B/A LIBERTY UTILITIES

ELECTRIC DISTRIBUTION AND GENERAL UTILITY

PLANT

DEPRECIATION RATE STUDY

AT DECEMBER 31, 2011



http://www.utilityalliance.com

GRANITE STATE ELECTRIC COMPANY D/B/A LIBERTY UTILITIES ELECTRIC DISTRIBUTION AND GENERAL UTILITY PLANT DEPRECIATION RATE STUDY EXECUTIVE SUMMARY

Granite State Electric Company d/b/a Liberty Utilities ("Liberty Utilities" or "Company") engaged Alliance Consulting Group to conduct a depreciation study of the Company's Electric Distribution and General utility plant depreciable assets as of December 31, 2011.

This study was conducted under the traditional depreciation study approach. The net salvage analysis in this study parallels the approach previously used by Liberty Utilities in DR 95-169, with the exception of net salvage data being available at the account level versus the functional level.

For Distribution and General Accounts, the lives of the accounts have changed. There are nine accounts that have increasing lives and nine accounts that have decreasing lives. There is a trend toward higher net salvage with sixteen accounts increasing (i.e. more negative) their negative net salvage, one account decreasing (i.e. less negative) its negative net salvage, and one account remaining the same for net salvage. This is compared to the currently approved functional net salvage rate and is not necessarily indicative of any actual change in net salvage at an account level. The account with the largest increase in negative net salvage is Account 369 Services where the net salvage moved from negative 10 percent to negative 75 percent.

This study recommends an overall increase of \$0.3 million in annual depreciation expense for all accounts. The depreciation reserve position between book and theoretical reserve is responsible for most of the increase. Appendix B demonstrates the change in depreciation expense for the various accounts.

LIBERTY UTILITIES

ELECTRIC DISTRIBUTION AND GENERAL UTILITY PLANT

DEPRECIATION RATE STUDY

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PURPOSE

The purpose of this study is to develop depreciation rates for the depreciable property as recorded on Liberty Utilities' books at December 31, 2011. The account based depreciation rates were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over a period to be approved by the New Hampshire Public Utilities Commission. Liberty Utilities' property is depreciated on a straight-line basis. Non-depreciable property and property which is amortized such as intangible software were excluded from this study.

Liberty Utilities has 43 thousand electric distribution customers in 21 communities. The Company has two functions (Distribution and General) and various other plant assets utilized to serve its customers.

STUDY RESULTS

Overall depreciation rates for all Liberty Utilities' depreciable property are shown in Appendix A. These rates translate into an annual depreciation accrual of \$5.3 million based on Liberty Utilities' depreciable investment at December 31, 2011. The annual equivalent depreciation expense calculated by the same method using the approved rates was \$4.9 million. These rates translate into an annual depreciation accrual for Distribution of \$4.8 million, General Plant of \$0.1 million, and \$0.3 million for the amortization of book and theoretical reserve differences Appendix A demonstrates the development of the annual depreciation rates and accruals. Appendix B presents a comparison of approved rates versus proposed rates by account. Appendix D shows a comparison of plant, book reserve, and theoretical reserve for each account. Appendix E presents the net salvage analysis for all accounts. The overall increase in depreciation expense is driven by the changes in estimated life and net salvage estimates for Liberty Utilities' depreciable accounts.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense, that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. On retirement the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

Basis of Depreciation Estimates

The straight-line, broad (average) life group, whole life depreciation system was employed to calculate annual and accrued depreciation in this study. In this system, the annual depreciation expense for each group is computed by dividing the original cost of the asset less estimated net salvage by its respective average service life. The resulting annual accrual amounts of all depreciable property within a function were accumulated, and the total was divided by the original cost of all functional depreciable property to determine the depreciation rate. The computations of the annual account level depreciation rates are shown in Appendix A.

Simulated plant record analysis was used with each account within a function since vintaged data was unavailable, and judgment was used to some degree on all accounts.

Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of survivor curves. Individual property units within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by first constructing a survivor curve which is plotted as a percentage of the units surviving at each age. A survivor curve represents the percentage of property remaining in service at various age intervals. The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the prior century. Through common usage, revalidation and regulatory acceptance, these curves have become a descriptive standard for the life characteristics of industrial property. An example of an Iowa Curve is shown below.



There are four families in the Iowa Curves that are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. For distributions with the mode age greater than the average life, an "R" designation (i.e., Right modal) is used. The family of "R" moded curves is shown below.



Similarly, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. An "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. A special case of left modal dispersion is the "O" or origin modal curve family. Within each curve family, numerical designations are used to describe the relative magnitude of the retirement frequencies at the mode. A "6" indicates that the retirements are not greatly dispersed from the mode (i.e., high mode frequency) while a "1" indicates a large dispersion about the mode (i.e., low mode frequency). For example, a curve with an average life of 30 years and an "L3" dispersion is a

moderately dispersed, left modal curve that can be designated as a 30 L3 Curve. An SQ, or square, survivor curve occurs where no dispersion is present (i.e., units of common age retire simultaneously).

Most property groups can be closely fitted to one Iowa Curve with a unique average service life. The blending of judgment concerning current conditions and future trends along with the matching of historical data permits the depreciation analyst to make an informed selection of an account's average life and retirement dispersion pattern.

Simulated Plant Record Procedure

The SPR - Balances approach is one of the commonly accepted approaches to analyze mortality characteristics of utility property. SPR was applied to several accounts within the Distribution function due to the unavailability of vintaged transactional data. In this method, an Iowa Curve and average service life are selected as a starting point of the analysis and its survivor factors applied to the actual annual additions to give a sequence of annual balance totals. These simulated balances are compared with the actual balances by using both graphical and statistical analysis. Through multiple comparisons, the mortality characteristics (as defined by an average life and Iowa Curve) that are the best match to the property in the account can be found.

The Conformance Index (CI) is one measure used to evaluate various SPR analyses. CIs are also used to evaluate the "goodness of fit" between the actual data and the Iowa Curve being referenced. The sum of squares difference (SSD) is a summation of the difference between the calculated balances and the actual balances for the band or study year being analyzed. This difference is squared and then summed to arrive at the SSD.

$SSD = \sum_{i=1}^{n} (Calculated Balance_i - Observed Balance_i)^2$

Where n is the number of years in the test band.

This calculation can then be used to develop other calculations, which the analyst feels might give a better indication for the "goodness of fit" for the representative curve under consideration. The residual measure (RM) is the square root of the average squared differences as developed above. The residual measure is calculated as follows:

$$RM = \sqrt{(\frac{SSD}{n})}$$

The CI is developed from the residual measure and the average observed plant balances for the band or study year being analyzed. The calculation of conformance index is shown below:

$$CI = \frac{\sum_{i=1}^{n} Balances_{i} / n}{RM}$$

The retirement experience index (REI) gives an indication of the maturity of the account and is the percent of the property retired from the oldest vintage in the band at the end of the study year. Retirement indices range from 0 percent to 100 percent and an REI of 100 percent indicates that a complete curve was used. A retirement index less than 100 percent indicates that the survivor curve was truncated at that point. The originator of the SPR method, Alex Bauhan, suggests ranges of value for the CI and REI. The relationship for CI proposed by Bauhan is shown below¹:

CI	Value
Over 75	Excellent
50 to 75	Good
25 to 50	Fair
Under 25	Poor

The relationship for REI proposed by Bauhan² is shown below:

REI Value

¹ Public Utility Depreciation Practices, p. 96.

² Public Utility Depreciation Practices, p. 97.

Over 75	Excellent
50 to 75	Good
33 to 50	Fair
17 to 33	Poor
Under 17	Valueless

Depreciation analysts have used these measures in analyzing SPR results for nearly 60 years since the SPR method was developed.

<u>Judgment</u>

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound basis of understanding depreciation theory are needed to apply this informed judgment. Judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Judgment is not defined as being used in cases where there are specific, significant pieces of information that influence the choice of a life or curve. Those cases would simply be a reflection of specific facts into the analysis. Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, implications of applying certain curves, property mix in accounts or a multitude of other considerations that impact the analysis (potentially in various directions), judgment is used to take all of these factors and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one factor in these cases may have a substantial impact on the analysis, but overall, may shed light on the utilization and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent judgment. At the very least for example, any analysis requires choosing which bands to place more emphasis.

The establishment of appropriate average service lives and retirement dispersions for Distribution and General Plant accounts requires judgment to incorporate the understanding of the operation of the system with the available accounting information analyzed using the SPR Balances method. The appropriateness of lives and curves depends not only on statistical analyses, but also on how well future retirement patterns will match past retirements.

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Current applications and trends in use of the equipment also need to be factored into life and survivor curve choices in order for appropriate mortality characteristics to be chosen.

Average Life Group Depreciation

In its last distribution rate case, Granite State Electric Company was authorized to use the average life group, whole life ("ALG-WL") depreciation procedure. This study continues to use the ALG depreciation procedure to group the assets within each account.

In a whole life representation, the annual accrual rate is computed by the following equation,

 $AnnualAccrualRate = \frac{(100\% - NetSalvagePercent)}{AverageServiceLife}$

Theoretical Depreciation Reserve

The book depreciation reserve was derived from Company records. This study used a reserve model that relied on a prospective concept relating future retirement and accrual patterns for property, given current life and salvage estimates. The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals. The computation involves multiplying the vintage balances within the group by the theoretical reserve ratio for each vintage. The average life group method requires an estimate of dispersion and service life to establish how much of each vintage is expected to be retired in each year until all property within the group is retired. Estimated average service lives and dispersion determine the amount within each average life group. The straight-line remaining-life theoretical reserve ratio at any given age (RR) is calculated as:

 $RR = 1 - \frac{(Average Remaining Life)}{(Average Service Life)} * (1 - Net Salvage Ratio)$

DETAILED DISCUSSION

Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis was evaluated. Once the first three stages were complete, the fourth phase began. This phase involved the calculation of deprecation rates and the documenting the corresponding recommendations.

During the Phase I data collection process, historical data was compiled from continuing property records and general ledger systems. Data was validated for accuracy by extracting and comparing to multiple financial system sources. Audit of this data was validated against historical data from prior periods, historical general ledger sources, and field personnel discussions. This data was reviewed extensively to put in the proper format for a depreciation study. Further discussion on data review and adjustment is found in the Salvage Considerations Section of this study. Also as part of the Phase I data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would assist in formulating life and salvage recommendations in this study. One of the most important elements of performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is beneficial when evaluating the output from the life and net salvage programs in relation to the Company's actual asset utilization and environment. Information that was gleaned in these discussions is found both in the Detailed Discussion of this study in the life analysis and salvage analysis sections and also in workpapers.

Phase 2 is where the actuarial analysis is performed. Phase 2 and 3 overlap to a significant degree. The detailed property records information is used in phase 2 to develop observed life tables for life analysis. These tables are visually compared to industry standard tables to determine historical life characteristics. It is possible that the analyst would cycle back to this phase based on the evaluation process performed in phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group to determine values and trends in gross salvage and removal cost. This information was then carried forward into phase 3 for the evaluation process.

Phase 3 is the evaluation process which synthesizes analysis, interviews, and operational characteristics into a final selection of asset lives and net salvage parameters. The historical analysis from phase 2 is further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in phase 1. Phases 2 and 3 allow the depreciation analyst to validate the asset characteristics as seen in the accounting transactions with actual Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendix A. Recommendations for the various accounts are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1³ documents the steps used in conducting this study. <u>Depreciation Systems</u>, page 289 documents the same basic processes in performing a depreciation study which are: Statistical analysis, evaluation of statistical analysis, discussions with management, forecast assumptions, and document recommendations.

³ Public Utility Finance & Accounting, A Reader



Book Depreciation Study Flow Diagram

Figure 1

LIBERTY UTILITIES DEPRECIATION STUDY PROCESS

Depreciation Rate Calculation

Annual depreciation expense amounts for the depreciable accounts of Liberty Utilities were calculated by the straight-line method, average life group procedure, and whole-life technique. These calculations are shown in Appendix A.

Amortization Calculation

For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the book depreciation reserve was computed. A 10 year period was chosen to use to amortize the difference between the theoretical reserve and the book reserve. These calculations are shown in Appendix D.

The New Hampshire Public Utilities Commission uses the whole-life average service life depreciation system. In order to incorporate a self-correcting mechanism, which accounts for any differences between theoretical and book depreciation reserve over a specified period of time, the Commission has authorized recovery periods that vary.

For Liberty Utilities, the theoretical reserve in total is \$3.2 million higher than the book reserve given the recommended parameters. In order to achieve full recovery of the Company's investment, it is necessary to accrue an additional \$316 thousand per year for 10 years. This is shown in Appendix B. In many jurisdictions, the remaining life depreciation system is used to amortize the difference between book and theoretical reserves. The computation of the theoretical reserve for each account is found in the study's workpapers.

Requirement from Docket DR 95-169

In Docket DR 95-169, the Company agreed to survey depreciation systems in place for other New Hampshire utilities and report on those findings at the time of its next depreciation study.

The Company sought direction from the NHPUC Staff who identified three recent cases to evaluate in compliance with the stipulation agreement. Those cases

were: DG 08-009 (EnergyNorth Natural Gas, Inc.), DG 09-035 (Public Service Company of New Hampshire), DG 10-055 (Unitil Energy System, Inc.), and DG 11-069 (Northern Utilities). In evaluating the depreciation methodologies in these cases, there were the following consistent practices:

- Life estimates for each entity are account-based.
- Net salvage estimates for each entity are account-based.
- Net salvage estimates for each entity are based on traditional net salvage with moving averages, using shrinking and rolling band analysis.
- Accrual rates are set using the ALG- whole life depreciation system.
- Amortization periods are used to address any difference between per book depreciation reserves and theoretical depreciation reserves.
- The amortization period varies depending on the circumstances of each case. The periods vary from the period between depreciation studies to the remaining life of each account.

Alliance Consulting Group's proposals for Liberty Utilities in this study are consistent with the Commission precedent noted above.

Life Analysis

The SPR Balances method was applied to all accounts for Liberty Utilities. NHPUC records and Form 1 plant reports were used to develop the history for each account. For each account, a Simulated Plant Records-Balances analysis was made with bands of varying width. Bands varied in width from 5 to 60 years, in increments of 5 years. Those analyses are found in the study workpapers. Actual balances versus simulated balances for various Iowa Survivor Curves were plotted to evaluate various fits. Those results were combined with information from Company personnel and informed judgment to determine asset life recommendations for each account. **DISTRIBUTION PLANT**

Distribution Accounts, FERC Accounts 361-373.0

FERC Account 361 Structures & Improvements (41S0.5)

This grouping contains facilities ranging from fencing and other structures found in distribution substations. The current balance is \$370 thousand for this account. The approved life for this account is 50 years. The pattern of additions in this account has been erratic over time. A large increase in plant balance in the early 2000s makes SPR analysis difficult. No band produces a conformance index in the excellent range. Only the narrowest 5 year band produces a conformance index in the good range. Because this is a long lived account, the SPR selection process focused on the longer bands in the 40-60 year range. Many of the highest ranked curves did not produce an excellent REI. This study recommends a 41 S0.5 for this account, which has a higher REI than many other possible curves and is consistent with the characteristics of the types of assets in the account. A plot of actual balances vs. simulated balances for this account is shown below.



FERC Account 362 Station Equipment (39 S3)

This grouping contains a wide variety of distribution substation equipment, including circuit breakers, switchgear, station wiring, transformers and an extensive assortment of other equipment. The current balance is \$17.3 million for this The existing approved life is 35 years. Based on discussion with account. Company personnel and life analysis, a longer life is indicated. Company personnel report different lives for various components in this account. Voltage regulators are replaced more frequently (25-30 year life) due to frequent operations. They estimate the following lives for other types of assets: transformers 35-40 years, breakers 35-40 years and reclosers 25-30 years. No mass replacement program is envisioned, but some individual station replacements may happen such as the Charlestown substation. Based on SPR analysis and feedback from Company personnel, the current depreciation study recommends moving to a 39 S3 dispersion curve. A plot of actual balances vs. simulated balances for this account is shown below.



FERC Account 364 Poles, Towers & Fixtures (35 R4)

This account contains poles and towers of various material types: wood, concrete, and steel. The current balance is \$25.6 million for this account. The currently approved average service life is 25 years. Over time, this account has had many changes as the Company moved from old growth to new growth trees and pole treatment changed from creosote to Penta. Items causing retirements include relocations (DOT, growth, etc.), 3rd party contracts, and more people/more pole hits. Two other factors will impact life. The Company has been using FIFO (first in first out) pricing. This is a normal methodology used in the industry but can reflect a longer life, all else being equal. The Charlestown and Lebanon areas may have more issues requiring early replacements. The Company has instituted an Inspection and Maintenance (IM) program which may result in the retirement of some items at an early age and will shorten life. Company personnel estimate cross arm life at approximately 20 years. They recommend a life less than 40 years as being reasonable. Given the effect of the IM program and FIFO pricing, this study recommends moving to a 35 year life with an R4 dispersion. A plot of actual balances vs. simulated balances for this account is shown below.



FERC Account 365.0 Overhead Conductor & Devices (40 R1.5)

This account consists of overhead conductor of various thickness, as well as various switches and reclosers. The current account balance is \$34.7 million for this account. The approved rate assumes an average service life of 35 years. Company personnel estimate that Cutouts have an average life of 15-20 years. They estimate that the life of this account would not exceed 40 years. Based on input from the Company, this study recommends moving to a 40 R1.5 life and dispersion. A plot of actual balances vs. simulated balances for this account is shown below.



FERC Account 366.0 Underground Conduit (50 R4)

This account consists of conduit, duct banks, vaults, manholes, and ventilating system equipment. The account balance is \$4.6 million for this account. The existing rate is based on a life estimate of 60 years. Pad to pole conduit is customer owned. Risers will be replaced with relocations which are expected to continue. Company personnel recommend a 50 year life for this account. The current depreciation study recommendation is a 50 R4 life and dispersion. A plot of actual balances vs. simulated balances for this account is shown below.



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FERC Account 367.0 Underground Conductor & Devices (41 R3)

This account consists of underground distribution conductor, switches, and switchgear. The balance is \$9.7 million for this account. The currently approved life is 45 years. Company personnel expect a life shorter than 45 years for this account. The Company is retiring direct buried cable and re-cabling undersized cable, and replacing failure prone URD cable. They anticipate these programs will continue and may receive more emphasis. They estimate a life around 40 years. The current depreciation study recommends a 41 year life with a R3 dispersion. A plot of actual balances versus simulated balances for this account is shown below.



FERC Account 368.0 Line Transformers (37 R1)

This account consists of line transformers, regulators, and capacitors. The account balance is \$16.6 million for this account. The currently approved life for this account is 25 years. Like Account 364, this account will be impacted by the Inspection and Maintenance (IM) program wherein some assets will retire earlier than in the past. The Company is also implementing a new transformer replacement program. The Company has started recently refurbishing transformers where old is retired, refurbished and recapitalized. Refurbished transformers would have a shorter life than the original. Based on input from Company personnel, the current depreciation study recommends a 37 R1 life and dispersion. A plot of actual balances versus simulated balances for this account is shown below.



FERC Account 369 Services (45 R2.5)

This account includes services, both overhead and underground, with a balance of \$7.4 million. The currently approved life for this account is 25 years. Company personnel feel that the existing approved life is too short for this type of asset. The current depreciation study recommendation is to move to a R2.5 curve with a 45 year life. A plot of actual balances versus simulated balances for this account is shown below.



FERC Account 370.0 Meters (22 S4)

This account includes all distribution meters and has a current balance of \$4.4 million. The currently approved life is 25 years. The Company implemented an AMR project in early 2000s. The investment in this account is mixed consisting of electromechanical with a communications module and part electronic meters. Company personnel estimate that electronic meters will last 15-20 years. Overall given the mix of assets in this account Company personnel suggest a 20 year or slightly longer life. The current depreciation study recommendation is to change to life of this account to 22 years with an S4 dispersion. A plot of actual balances versus simulated balances for this account is shown below.



FERC Account 372.0 Leased Property on Customer Premises (24 L0)

This account consists of items rented to customers such as water heaters. The current account balance is \$1.1 million for this account. The currently approved life for this account is 15 years. The Company buys well-manufactured assets, and Company personnel expect a longer life than the current approved 15 years. The current depreciation study recommendation is to change to a 24 L0. A plot of actual balances vs. simulated balances for this account is shown below.



FERC Account 373.0 Street Lighting (30 R0.5)

This account includes all distribution streetlights, conductor, conduit, luminaire, and standards. The current account balance is \$4.3 million for this account. The currently approved life for this account is 20 years. Company personnel state that relocations, failure of head, and the pole are the primary causes of retirements. In 2006-7, the Company began replacing Mercury vapor lights in favor of High Pressure Sodium. Head replacement occurs every 10 years approximately. Some other components would last much longer. The current depreciation study recommends moving to a 30 R0.5 dispersion. A plot of actual balances versus simulated balances for this account is shown below.



GENERAL PLANT

General Accounts, FERC Accounts 390-398

FERC Account 390.0 Structures & Improvements (64 R4)

This account includes the cost of general structures and improvements used for utility service. There is approximately \$2.2 million in this account. The approved life for this account is 65 years. The Company has two main buildings: Salem (9 Lowell Road) built in the early 1960s and Lebanon built around the same time with a shell added in the 1980s. There is also a small building in Charleston (purchased in the 1990s). The Company believes a life around the 65 year mark is reasonable. Based on the mix of these assets, this study recommends moving to a 64 year life with an R4 dispersion. A plot of actual balances versus simulated balances for this account is shown below.



FERC Account 391.0 Office Furniture and Equipment (25 S6)

This account consists of miscellaneous office furniture such as desks, chairs, filing cabinets, and tables used for general utility service. There is approximately \$29 thousand in this account. This account currently has a life of 25 years. This study recommends a 25 year life with an S6 dispersion. A plot of actual balances versus simulated balances for this account is shown below.



FERC Account 392.0 Transportation Equipment (12 L2)

This account consists of transportation equipment such as cars, vans, and trucks. There is approximately \$84 thousand in this account. There is no currently approved life. Historically, Liberty Utilities has leased most of its transportation assets, and as a result, there is no history to analyze. Based on judgment, this study recommends a 12 L2 dispersion for this account.

FERC Account 393.0 Stores Equipment (30 R2.5)

This account consists of stores equipment used for general utility service. There is approximately \$62 thousand in this account. This account currently has an approved life of 25 years. This study recommends moving to a longer life of 30 years with an R2.5 dispersion. A plot of actual balances versus simulated balances for this account is shown below.



FERC Account 394.0 Tools, Shop, and Garage Equipment (24 R5)

This account consists of various items or tools used in shops and garages such as air compressors, grinders, mixers, hoists, and cranes. There is approximately \$196 thousand in this account. This account has an approved life of 25 years. This study recommends moving to a slightly shorter life of 24 years with an R5 dispersion. A plot of actual balances versus simulated balances for this account is shown below.

FERC Account 395.0 Laboratory Equipment (25 S6)

This account consists of laboratory equipment used in general utility service. There is approximately \$236 thousand in this account. This account has an approved life of 25 years. This study recommends retaining the same life of 25 years with an S6 dispersion. A plot of actual balances versus simulated balances for this account is shown below.

FERC Account 397.0 Communication Equipment (20 R5)

This account consists of miscellaneous communication equipment used in general utility service. There is approximately \$1.5 million in this account. This account currently has a life of 25 years. This account primarily consists of ERTS equipment. This study recommends moving to a 20 year life with an R5 dispersion for this account. A plot of actual balances versus simulated balances for this account is shown below.

FERC Account 398.0 Miscellaneous Equipment (26 S6)

This account consists of miscellaneous equipment. The currently authorized life for this account is 25 years. The plant balance in this account is currently \$0. Based on SPR analysis and judgment, this study recommends a 26 S6 life for this account. A plot of actual balances versus simulated balances for this account is shown below.

Salvage Analysis

When a capital asset is retired, physically removed from service and finally disposed of, terminal retirement is said to have occurred. The residual value of a terminal retirement is called gross salvage. Net salvage is the difference between the gross salvage (what the asset was sold for) and the removal cost (cost to remove and dispose of the asset). Salvage and removal cost percentages are calculated by dividing the <u>current</u> cost of salvage or removal by the <u>original</u> installed cost of the asset. Some plant assets can experience significant negative removal cost percentages due to the timing of the original addition versus the retirement.

The net salvage analysis uses the history of the individual accounts to estimate the future net salvage that Liberty Utilities can expect in its operations. As a result, the analysis not only looks at the historical experience of the Company, but also takes into account recent and expected changes in operations that could reasonably lead to different future expectations for net salvage than were experienced in the past.

Salvage Characteristics

For each account, data for retirements, gross salvage, and cost of removal for each account derived from 2004-2011. Moving averages, which remove timing differences between retirement and salvage and removal cost, were analyzed over periods varying from one to eight years.

Distribution and General Plant

The accounts contained in Distribution and General Plant were statistically analyzed using the historical cost for salvaging and removing assets with rolling and shrinking bands from 2004-2011. Currently approved depreciation rates do not have account based net salvage. In the Company's last distribution rate case in Docket DR 95-169, a functional net salvage percentage was approved of negative 10 percent for distribution accounts and positive 5 percent for general plant accounts respectively. A brief discussion of the existing net salvage and current study recommendations for each account in those functions follow below.

DISTRIBUTION

FERC Account 361.0 Structures & Improvements (Negative 5% Net Salvage)

This grouping contains facilities ranging from fencing and other structures found in distribution substations. The currently approved net salvage percent for this account is negative 10 percent for the distribution function. Normally there is a small amount of removal cost experience for these assets. This study recommends moving to negative 5 percent net salvage for this account.

FERC Account 362.0 Station Equipment (Negative 20% Net Salvage)

This grouping contains a wide variety of distribution substation equipment, from circuit breakers to switchgear. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 38.79 and negative 26.20 percent respectively. Moving in the direction of this trend, this study recommends moving to a negative 20 percent net salvage for this account.

FERC Account 364.0 Poles, Towers, & Fixtures (Negative 50% Net Salvage)

This account contains poles and towers of various material types: wood, concrete, and steel. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in

the most recent year are negative 328.79 and negative 249.13 percent respectively. Moving in the direction of this trend, this study recommends moving to a negative 50 percent net salvage for this account.

FERC Account 365.0 Overhead Conductor & Devices (Negative 45% Net Salvage)

This account consists of overhead conductor of various thickness, as well as various switches and reclosers. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 45.98 and negative 50.78 percent respectively. Moving in the direction of this trend, this study recommends moving to a negative 45 percent net salvage for this account.

FERC Account 366.0 Underground Conduit (Negative 10% Net Salvage)

This account consists of Distribution conduit, duct banks, vaults, manholes, and ventilating system equipment. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 19.38 and negative 776.80 percent respectively. A large removal cost amount in 2007 distorts the results, and shorter bands are used to estimate net salvage for this account. This study recommends retention of negative 10 percent net salvage for this account.

FERC Account 367.0 Underground Conductor (Negative 50% Net Salvage)

This account consists of Distribution conductor, switches, and switchgear. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 50.95 and negative 48.31 percent respectively. This study recommends moving to a negative 50 percent net salvage based on the recent net salvage activity in this account.

FERC Account 368.0 Line Transformer (Negative 50% Net Salvage)

This account consists of line transformers, regulators, and capacitors. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 301.12 and negative 201.34 percent respectively. These amounts are much more negative than is typical for this account within the industry. Moving in the direction of this trend, this study recommends moving to a negative 50 percent net salvage for this account.

FERC Account 369 Services (Negative 75% Net Salvage)

This account includes overhead and underground services. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 281.86 and negative 276.73 percent respectively. These amounts are much more negative than is typical for this account within the industry. Moving in the direction of this trend, this study recommends moving to a negative 75 percent net salvage for this account.

FERC Account 370.0 Meters (Negative 20% Net Salvage)

This account includes all Distribution meters. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 36.61 and negative 21.98 percent respectively. Moving in the direction of this trend, this study recommends moving to a negative 20 percent net salvage for this account.

FERC Account 372.0 Installation on Customer Premises (Guard Lights) (0% Net Salvage)

This account consists of rented equipment to customers. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative

147.06 percent for each. There has been little retirement in this account between 2004 and 2011. Without more definitive data, this study recommends moving to 0 percent net salvage for this account.

FERC Account 373.0 Street Lighting (Negative 50% Net Salvage)

This account includes all Distribution streetlights, conductor, conduit, luminaire, and standards. The currently approved net salvage percentage is negative 10 percent for the distribution function. The 3 and 5 year net salvage percentages in the most recent year are negative 104.41 and negative 88.72 percent respectively. Moving in the direction of this trend, this study recommends moving to a negative 50 percent net salvage for this account.

GENERAL PLANT

FERC Account 390.0 Structures & Improvements (Negative 20% Net Salvage)

This account includes any salvage and removal cost related to structures and improvements used for general utility operations. The currently authorized net salvage rate for this account is positive 5 percent for the general function. This study recommends moving from the approved positive 5 percent net salvage rate to negative 20 percent net salvage for this account.

FERC Account 391.0 Office Furniture and Equipment (0% Net Salvage)

This account includes any salvage and removal cost related to miscellaneous office furniture such as desks, chairs, filing cabinets, and tables. The currently authorized net salvage rate for this account is positive 5 percent for the general function. The Company has experienced no gross salvage or cost of removal based on recent experience. Therefore this study recommends 0 percent net salvage rate for this account.

FERC Account 392 Transportation Equipment (10% Net Salvage)

This account includes any salvage and removal cost related to transportation

equipment. The currently authorized net salvage rate for this account is positive 5 percent for the general function. There is no history for net salvage in this account. Based on judgment, this study recommends 10 percent net salvage for this account.

FERC Account 393.0 Stores Equipment (0% Net Salvage)

This account includes any salvage and removal cost related to stores equipment. The currently authorized net salvage rate for this account is positive 5 percent for the general function. The Company has experienced no gross salvage or cost of removal based on recent experience. Therefore this study recommends 0 percent net salvage rate for this account.

FERC Account 394.0 Tools, Shop, & Garage Equipment (0% Net Salvage)

This account includes any salvage and removal cost related to various items or tools used in shop and garages such as air compressors, grinders, mixers, hoists, and cranes. The currently authorized net salvage rate for this account is positive 5 percent for the general function. For most years, the Company has been experiencing a 0 percent net salvage, with the exception of 2006 which shows a large cost of removal. Based on overall experience, this study recommends moving from the approved 5 percent net salvage to 0 percent net salvage for this account.

FERC Account 395.0 Laboratory Equipment (0% Net Salvage)

This account includes any salvage and removal cost related to laboratory equipment. The currently authorized net salvage rate for this account is positive 5 percent for the general function. Over the available period of data, the Company has experienced no gross salvage or removal cost for laboratory equipment. Typically, lab equipment at the end of its useful life will have little, if any value. Therefore, this study recommends moving to 0 percent net salvage for this account.

FERC Account 397.0 Communication Equipment (0% Net Salvage)

This account includes any salvage and removal cost related to miscellaneous

communication equipment such as the 800 MHz radio system. The currently authorized net salvage rate for this account is positive 5 percent for the general function. Over the available period of data, the Company has experienced no gross salvage or removal cost for communication equipment. Typically, communication equipment at the end of its useful life will have little, if any value. Therefore, this study recommends moving to 0 percent net salvage for this account.

FERC Account 398.0 Miscellaneous Equipment (0% Net Salvage)

This account includes any salvage and removal cost related to miscellaneous equipment. The currently authorized net salvage rate for this account is positive 5 percent for the general function. No gross salvage or removal cost is expected for these assets, as shown in the moving average analysis. Thus, this study recommends moving to 0 percent net salvage for this account.

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APPENDIX A

Depreciation Rate Calculations

LIBERTY UTILITIES PROPOSED DEPRECIATION EXPENSE AT DECEMBER 31, 2011

		_		Proposed		
Acct	Description	Plant	Life	Net Salvage	Accrual Rate	Proposed Depreciation Accrual
Distributi	on Plant					
361	Structures and Improvements	369,982.07	41 S0.5	-5%	2.56%	9,475.15
362	Station Equipment	17,300,842.37	39 S3	-20%	3.08%	532,333.61
364	Poles Towers and Fixtures	25,621,634.75	35 R4	-50%	4.29%	1,098,070.06
365	Overhead Conductor and Devices	34,667,533.75	40 R1.5	-45%	3.63%	1,256,698.10
366	Underground Conduit	4,595,778.23	50 R4	-10%	2.20%	101,107.12
367	Underground Conductor & Dev	9,665,604.29	41 R3	-50%	3.66%	353,619.67
368	Line Transformers	16,555,011.14	37 R1	-50%	4.05%	671,149.10
369	Services	7,438,292.18	45 R2.5	-75%	3.89%	289,266.92
370	Meters	4,407,304.31	22 S4	-20%	5.45%	240,398.42
372	Leased Prop on Customers' Prem	1,140,692.22	24 L0	0%	4.17%	47,528.84
373	Street Lighting and Signal Sys	4,283,923.60	30 R0.5	-50%	5.00%	214,196.18
	Total Distribution	126,046,598.91				4,813,843.17
General	Plant					
390	Structures and Improvements	2.240.269.76	64 R4	-20%	1.88%	42.005.06
391	Office Furniture and Equipment	28,779.93	25 S6	0%	4.00%	1,151.20
392	Transportation Equipment	82,354.21	12 L2	10%	7.50%	6,176.57
393	Stores Equipment	61,653.77	30 R2.5	0%	3.33%	2,055.13
394	Tools Shop and Garage Equipment	195,475.11	24 R5	0%	4.17%	8,144.80
395	Laboratory Equipment	236,237.96	25 S6	0%	4.00%	9,449.52
397	Communication Equipment	1,476,250.98	20 R5	0%	5.00%	73,812.55
398	Miscellaneous Equipment		26 S6	0%	3.85%	0.00
	Total General	4,321,021.72				142,794.81
	Total	130,367,620.63				4,956,637.98
						040.047.00
	Reserve Deficiency Amortization					316,017.43

Total

5,272,655.41

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APPENDIX B

Depreciation Expense Comparison

LIBERTY UTILITIES COMPARISION OF APPROVED VS PROPOSED DEPRECIATION ACCRUAL AMOUNTS AT DECEMBER 31, 2011

			Approved Accrual	Accrual at Approved	Proposed Accrual	Accrual at Proposed	
Acct	Description	Plant Balance	Rate	Rates	Rate	Rates	Difference
Distributi	on Plant						
361	Structures and Improvements	369,982.07	3.83%	14,170.31	2.56%	9,475.15	(4,695.16)
362	Station Equipment	17,300,842.37	3.83%	662,622.26	3.08%	532,333.61	(130,288.65)
364	Poles Towers and Fixtures	25,621,634.75	3.83%	981,308.61	4.29%	1,098,070.06	116,761.45
365	Overhead Conductor and Devices	34,667,533.75	3.83%	1,327,766.54	3.63%	1,256,698.10	(71,068.44)
366	Underground Conduit	4,595,778.23	3.83%	176,018.31	2.20%	101,107.12	(74,911.19)
367	Underground Conductor & Dev	9,665,604.29	3.83%	370,192.64	3.66%	353,619.67	(16,572.98)
368	Line Transformers	16,555,011.14	3.83%	634,056.93	4.05%	671,149.10	37,092.17
369	Services	7,438,292.18	3.83%	284,886.59	3.89%	289,266.92	4,380.33
370	Meters	4,407,304.31	3.83%	168,799.76	5.45%	240,398.42	71,598.66
372	Leased Prop on Customers' Prem	1,140,692.22	3.83%	43,688.51	4.17%	47,528.84	3,840.33
373	Street Lighting and Signal Sys	4,283,923.60	3.83%	164,074.27	5.00%	214,196.18	50,121.91
	Total Distribution	126,046,598.91		4,827,584.74		4,813,843.17	(13,741.57)
General	Plant						
390	Structures and Improvements	2,240,269.76	2.20%	49,285.93	1.88%	42,005.06	(7,280.88)
391	Office Furniture and Equipment	28,779.93	2.20%	633.16	4.00%	1,151.20	518.04
392	Transportation Equipment	82,354.21	2.20%	1,811.79	7.50%	6,176.57	4,364.77
393	Stores Equipment	61,653.77	2.20%	1,356.38	3.33%	2,055.13	698.74
394	Tools Shop and Garage Equipment	195,475.11	2.20%	4,300.45	4.17%	8,144.80	3,844.34
395	Laboratory Equipment	236,237.96	2.20%	5,197.24	4.00%	9,449.52	4,252.28
397	Communication Equipment	1,476,250.98	2.20%	32,477.52	5.00%	73,812.55	41,335.03
	Total General	4,321,021.72		95,062.48		142,794.81	47,732.33
	Total Depreciable Plant	130,367,620.63		4,922,647.22		4,956,637.98	33,990.76
	Reserve Deficijency	3 160 174 32					
	Amortized over 10 years	5, 155, 17 HOL				316,017.43	316,017.43
	Total Accrual			4,922,647.22		5,272,655.41	350,008.20

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APPENDIX C

Depreciation Parameter Comparison

LIBERTY UTILITIES COMPARISION OF APPROVED VS PROPOSED DEPRECIATION PARAMETERS AT DECEMBER 31, 2011

	-	Арр	roved	Propos	sed		
Acct	Description	Life	Net Salvage	Life/Curve	Net Salvage	Life Difference	Net Salvage Difference
Distributi	ion Plant						
361	Structures and Improvements	50	-10%	41 S0.5	-5%	-9	5%
362	Station Equipment	35	-10%	39 S3	-20%	4	-10%
364	Poles Towers and Fixtures	25	-10%	35 R4	-50%	10	-40%
365	Overhead Conductor and Devices	35	-10%	40 R1.5	-45%	5	-35%
366	Underground Conduit	60	-10%	50 R4	-10%	-10	0%
367	Underground Conductor & Dev	45	-10%	41 R3	-50%	-4	-40%
368	Line Transformers	25	-10%	37 R1	-50%	12	-40%
369	Services	25	-10%	45 R2.5	-75%	20	-65%
370	Meters	25	-10%	22 S4	-20%	-3	-10%
372	Leased Prop on Customers' Prem	15	-10%	24 L0	0%	9	10%
373	Street Lighting and Signal Sys	20	-10%	30 R0.5	-50%	10	-40%
General	Plant						
390	Structures and Improvements	65	5%	64 R4	-20%	-1	-25%
391	Office Furniture and Equipment	25	5%	25 S6	0%	0	-5%
392	Transportation Equipment			12 L2	10%	NA	NA
393	Stores Equipment	25	5%	30 R2.5	0%	5	-5%
394	Tools Shop and Garage Equipment	25	5%	24 R5	0%	-1	-5%
395	Laboratory Equipment	25	5%	25 S6	0%	0	-5%
397	Communication Equipment	25	5%	20 R5	0%	-5	-5%
398	Miscellaneous Equipment	25	5%	26 S6	0%	1	-5%

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APPENDIX D

Comparison of Plant, Book Reserve, and Theoretical Reserve

LIBERTY UTILITIES COMPARISION OF BOOK VS THEORETICAL RESERVE AT DECEMBER 31, 2011

					Difference
Acct	Description	Plant	Book Reserve	Theoretical Reserve	Book- Theoretical Reserve
Distributi	on Plant				
361	Structures and Improvements	369,982.07	203,367.66	159,182.15	44,185.51
362	Station Equipment	17,300,842.37	5,624,191.12	6,389,060.77	(764,869.65)
364	Poles Towers and Fixtures	25,621,634.75	16,095,787.50	13,667,028.71	2,428,758.79
365	Overhead Conductor and Devices	34,667,533.75	10,264,973.08	13,792,122.43	(3,527,149.35)
366	Underground Conduit	4,595,778.23	780,594.27	1,190,062.74	(409,468.47)
367	Underground Conductor & Dev	9,665,604.29	2,252,392.85	2,635,662.16	(383,269.31)
368	Line Transformers	16,555,011.14	9,325,592.39	11,637,078.33	(2,311,485.94)
369	Services	7,438,292.18	3,945,594.94	3,682,694.61	262,900.33
370	Meters	4,407,304.31	1,596,772.37	1,731,415.70	(134,643.33)
372	Leased Prop on Customers' Prem	1,140,692.22	1,315,982.30	338,554.84	977,427.46
373	Street Lighting and Signal Sys	4,283,923.60	2,982,278.80	1,861,130.95	1,121,147.85
	Total Distribution	126,046,598.91	54,387,527.28	57,083,993.38	(2,696,466.10)
General	Plant				
390	Structures and Improvements	2,240,269.76	734,037.29	1,020,283.58	(286,246.29)
391	Office Furniture and Equipment	28,779.93	21,806.77	20,768.85	1,037.92
392	Transportation Equipment	82,354.21	72,059.96	9,141.32	62,918.64
393	Stores Equipment	61,653.77	42,751.41	30,726.19	12,025.22
394	Tools Shop and Garage Equipment	195,475.11	82,494.03	134,231.91	(51,737.88)
395	Laboratory Equipment	236,237.96	83,208.46	82,698.60	509.86
397	Communication Equipment	1,476,250.98	507,495.59	709,711.28	(202,215.69)
398	Miscellaneous Equipment *			0.00	0.00
		4,321,021.72	1,543,853.51	2,007,561.73	(463,708.22)
	—	130,367,620.63	55,931,380.79	59,091,555.11	(3,160,174.32)

* Reserve for account 398 transferred in 2012

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APPENDIX E

Net Salvage Analysis by Account

13-063 DAW-2 54 of 58	8- yr Net Salv %		0.00%	-18.30%	-142.15%	-47.56%
cet No. DE tachment] Page 5	7- yr Net Salv %		0.00%	-12.37% -18.68%	-90.75% -147.25%	-46.78% -47.09%
Doc	6- yr Net Salv %		0.00% 0.00% NA	-7.64% -12.77% -19.52%	-64.81% -90.99% -144.57%	-48.16% -46.19% -46.67%
	5- yr Net Salv %		0.00% 0.00% NA NA	0.26% -7,88% -13.65% -26.20%	-40.44% -61.86% -81.82% -249.13%	-48.89% -47.49% -45.60% -50.78%
	4- yr Net Salv %		0.00% NA NA	1.93% 0.27% -8.42% -22.75%	52.31% -32.96% -47.48% -195.23%	-42.59% -48.08% -46.88% -50.51%
cost	3- yr Net Salv <i>«</i>	0.00%	AN AN AN AN	2.42% 2.07% 0.29% -14.69% -24.88%	165.05% 95.35% -9.70% -177.14% -193.28% -328.79%	-35.93% -40.83% -47.35% -53.76% -50.15% -45.98%
IES AND REMOVAL (-2011	2- yr Net Salv %	0.00% 0.00% NA	A A A A A A A A A A A A A A A A A A A	0.00% 2.62% 2.41% -2.14% -16.01% -58.12% -39.91%	-129.91% 293.89% 198.44% -176.90% -169.76% -224.51% -427.75%	-57.28% -31.67% -57.45% -54.69% -46.25% 655.87%
LIBERTY UTILIT ROSS SALVAGE, S ADJUSTED 2004	Net Salv %	0.00% NA NA	N N N N N N N N N N N N N N N N N N N	0.00% 0.00% 3.13% -1.80% -2.20% -36.24% -63672.26% -30.31%	-88.61% -175.70% 691.10% -204.12% -177.80% -287.34% -561.22%	-63.07% -54.18% -51.87% -62.48% -45.40% -40.31% -51.53% -51.53% 209.49%
RETIREMENTS, G A	Net Salvare	0.00	0.00	0.00 2,829.00 (277.00) (1,978.00) (13,428.00) (13,428.00) (42,380.00)	(54,036.00) (96,660.00) 449,500.00 (162,475.00) (319,773.00) (319,773.00) (174,026.00) (209,099.00) (429,670.00)	(52,271.00) (83,925.00) (83,176.00) (226,965.00) (303,738.00) (184,968.00) (184,968.00) (166,192.00) (166,192.00) (239,425.00) (239,425.00) (239,426.00) (239,426.00)
	Cost of Benoval	0.0 0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 (2,829.00) 277.00 1,978.00 22,221.00 13,428.00 42,380.00	54,036.00 96,660.00 (449,500.00) 162,475.00 319,773.00 174,026.00 209,099.00 229,699.00	52,271.00 83,925.00 83,176.00 226,965.00 333,738.00 184,968.00 166,192.00 239,425.00 239,425.00 (10,540.00)
	Gross Salvare	00.0 00.0 00.0	0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
	Ratiremente	0.00 11,250.00 0.00	00.0 00.0 00.0	8,755.00 17,756.00 90,414.00 15,384.00 89,873.00 61,319.00 21.00 139,821.00	60,983.00 55,015.00 65,041.00 79,598.00 193,013.00 97,875.00 72,771.00 76,560.00	82,881.00 154,910.00 372,719.00 437,597.00 486,167.00 407,375.00 412,329.00 464,673.00 464,673.00 1,131.00 837.00
	Account	361 361 361 361	361 361 361 361	362 362 362 362 362 362 362 362	364 364 364 364 364 364 364	365 365 365 365 365 365 365 365 365 365
	Transaction	2004 2005 2006 2006	2008 2009 2010 2011	2004 2005 2006 2007 2008 2009 2010 2011	2004 2005 2006 2007 2008 2009 2010 2011	2004 2005 2006 2007 2008 2009 2010 2011 2011 2005

Docket No. DE 13-063 Attachment DAW-2 Page 55 of 58 AND REMOVAL COST 4-2011	2- yr 3- yr 4- yr 5- yr 6- yr 7- yr 8- yr Net Net Net Net Net Net Net Net Salv & Salv & Salv & Salv & Salv & Salv & Salv &	282.19% 255.60% -3345.54% -1111.59% -150.56% -1266.49% -1111.59% -511.37% -511.37% -511.37% -511.37%	-19.38% -12.18% -776.80% -755.86% -665.28% -615.20% -615.20% NA -19.38% -12.18% -776.80% -776.80% -755.86% -665.28% -615.20%	-61.28% -36.52% 45.72% -34.35% -34.94% -41.36% -43.39% -40.05% -39.46% -44.76% -56.51% 45.95% -42.37% -41.53% -45.84% -40.33% 45.26% -41.61% -41.53% -45.84% -50.94% -50.95% -53.12% -48.31% -45.46% -44.56% -47.45%	-43.50% -100.37% -46.79% -117.01% -123.55% -60.48% -142.32% -143.56% -77.50% -164.45% -142.32% -151.25% -151.49% -81.80% -192.23% -174.64% -151.25% -166.12% -90.06% -292.19% -301.12% -225.74% -201.34% -177.10% -174.99% -97.17%	-254.22% -458.28% -267.28% -360.83% -436.47% -290.91% -266.50% -276.69% -329.17% -266.92% -235.33% -260.46% -304.45% -263.26% -247.87% -238.05% -255.71% -261.50% -290.09% -259.56% -298.04% -281.86% -265.11% -276.73% -279.89% -302.06% -274.05%	-31.85% יברימי מרביע
LIBERTY UTILITIE REMENTS, GROSS SALVAGE, AI AS ADJUSTED 2004-2	Vet Net Laza Salv %	(5,006.00) -445.39% (7,459.00) -26474.44% (231.00) -3.21% (984.00) -10.96%	0.00 NA 0.00 NA NA	1,104.00) -175.40% (0,995.00) -36.98% -1,583.00) -36.28% -3610.00) -31.67% -64.40% -5439.00) -50.97% -7,426.00) -34.14% -345.00) -82.31%	9,134.00) -35.76% (6,932.00) -153.45% (4,592.00) -72.80% (9,163.00) -149.23% (5,363.00) -176.25% (3,379.00) -317.28% (4,315.00) -317.28%	0,814.00) -134.31% 54,361.00) -585.93% 22,579.00) -320.39% 15,737.00) -396.48% 0,393.00) -219.70% 6,537.00) -213.81% 1,996.00) -243.81% 1,996.00] -357.50%	(2,292.00) -2.62% 19,496.00) -65.82% 18,677.00) -23.77%
RET	ss Cost of r monval Sa	0.00 5,006.00 (12) 0.00 127,459.00 (12) 0.00 231.00 0.00 984.00	0.00 755.00 0.00 0.00	100 11,104.00 (1) 100 10,995.00 (1) 100 21,583.00 (2) 100 21,583.00 (1) 100 13,610.00 (1) 100 15,439.00 (1) 100 17,426.00 (1) 100 20,996.00 (2) 100 25,945.00 (2)	1.00 89,134.00 (8) 1.00 26,932.00 (7) 1.00 24,592.00 (7) 1.00 69,163.00 (10) 1.00 69,163.00 (10) 1.00 23,379.00 (10) 1.00 50,468.00 (2) 1.00 50,468.00 (2) 1.00 50,468.00 (2)	1.00 40,814.00 (2 1.00 64,361.00 (6 1.00 32,579.00 (7 1.00 45,737.00 (7 1.00 70,333.00 (7 1.00 71,996.00 (7 1.00 96,277.00 (6	0.00 2,292.00 (2) 0.00 49,496.00 (2)
	Gro: Retiremente Salva	5 1,124,00 (5 4,81,00 (5 7,203,00 (8 9,78,00 ()	0.00	7 6,331.00 (7 29,731.00 (7 59,483.00 (7 42,980.00 (7 33,973.00 (34,190.00 (58,855.00 (7 31,521.00 (7 31,521.00 (7 (249,254,00 (33,782,00 (33,782,00 (46,347,00 (59,780,00 (7,194,00 (13,057,00 (13,057,00 (13,057,00 (13,057,00 (13,957,00 (13,957,00 (30,387,00 10,984,00 11,536,00 32,040,00 30,395,00 29,530,00 26,931,00 0 0 0 0 0 0 0 0 0 0 0 0	0 87,374.00 (75,204.00 (75,204.00 (
	Transaction Account Vear Number	2006 360 2007 360 2008 360 2008 360 2009 360	2010 360 2011 361 2011 361	2004 36 2005 36. 2006 36. 2007 36. 2007 36. 2009 36. 2010 36. 2011 36.	2004 36: 2005 36: 2006 36: 2007 36: 2007 36: 2008 36: 2010 36: 2011 36:	2004 36: 2005 36: 2006 36: 2007 36: 2007 36: 2009 36: 2010 36: 2011 36:	2004 371 2005 377

	8- yr	Net Salv %				-24.73%								101.11%								-67.74%								AN						
	7- yr	Net Salv %			-22.74%	-26.67%							101.11%	101.11%							-48.88%	-77.94%							NA	NA						
	6- yr	Net Salv %		-20.57%	-24.71%	-23.48%						50.73%	101.11%	193.33%						-46.32%	-59.43%	-82.72%						NA	NA	ΥN						-64.45%
	5- yr	Net Salv %	-19.74%	-22.50%	-20.93%	-21.98%					50.73%	50.73%	193.33%	147.06%					-41.43%	-57.11%	-64.56%	-88.72%					NA	NA	NA	AN					-64.45%	-64.45%
	4- yr	Net Salv %	-21.96%	-18.09%	-18.78%	-21.93%				50.73%	50.73%	NA	147.06%	147.06%				-42.20%	-51.73%	-62.46%	-71.18%	-88.86%				NA	NA	NA	NA	AN				-64.45%	-64.45%	-64.45%
DST D	3- yr	Net Salv %	-16.46%	-15.13%	-17.87%	-36.61%			50.73%	50.73%	NA	NA	147.06%	147.06%			-24.15%	-57.48%	-56.78%	-69.51%	-61.88%	-104.41%			NA	NA	NA	NA	NA	NA			NA	-64.45%	-64.45%	-64.45%
AND REMOVAL C -2011	2- yr	Net Salv %	-12.25%	-12.91%	-33.22%	-45.40%		0.00%	50.73%	NA	NA	NA	147.06%	147.06%		-18.40%	-33.72%	-67.41%	-63.26%	-56.51%	-91.02%	-105.08%		NA	NA	NA	NA	NA	NA	ΥZ		NA	NA	-64.45%	-64.45%	NA
ROSS SALVAGE, / ADJUSTED 2004		Net Salv %	-7.82%	-25.13%	-47.36%	-43.87%	NA	0.00%	NA	NA	NA	NA	147.06%	NA	-14.32%	-27.40%	-38.70%	-88.13%	-38.76%	-99.75%	-81.65%	-108.78%	NA	A	NA	NA	NA	-64.45%	NA	NA						
retirements, g AS		Net Salvage	(26,078.00)	(34,888.00)	(37,633.00)	(44,820.00)	0.00	0.00	287.00	0.00	0.00	0.00	911.00	0.00	(6,598.00)	(2,709.00)	(10,248.00)	(32,332.00)	(14, 438.00)	(15, 253.00)	(11,646.00)	(98,481.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(25,000.00)	0.00	0.00
		Cost of Removal	26,078.00	34,888.00	37,633.00	44,820.00	0.00	0.00	(287.00)	0.00	0.00	0.00	(911.00)	00.0	6,598.00	5,709.00	10,248.00	32,332.00	14,438.00	15,253.00	11,646.00	98,481.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25,000.00	0.00	0.00
		Gross Salvage	0.00	00.0	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00
		Ratiramente	333,558.00	138,850.00	79,466.00	102,161.00	0.00	565.00	0.00	0.00	00.00	0.00	619.00	0.00	46,069.00	20,835.00	26,483.00	36,687.00	37,252.00	15,291.00	14,263.00	90,536.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38,790.00	0.00	0.00
		Account	370	370	370	370	372	372	372	372	372	372	372	372	373	373	373	373	373	373	373	373	389	389	389	389	389	389	389	389	390	390	390	390	390	390
		Transaction	2008	2009	2010	2011	2004	2005	2006	2007	2008	2009	2010	2011	2004	2005	2006	2007	2008	2009	2010	2011	2004	2005	2006	2007	2008	2009	2010	2011	2004	2005	2006	2007	2008	2009
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LIBERTY UTILITIES

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0, 10 /		8- yr	Net Salv. %		-64.45%							0.00%									20000	%00.0							/010/11	%T0.14-					
1 460 0		7- yr	Net Salv. %	-64.45%	-64.45%						0.00%	0.00%								7000	%00.0	%00.0							-41.01%	%00°C+-					
		6- yr	Net Salv. %	-64.45%	-64.45%					0.00%	0.00%	0.00%							/000 0	%00.0 %00.0	%0000	%00.0						-53.08%	-45.06%	%D6.cc-					0.00%
		5- yr	Net Salv. %	-64.45%	-64.45%				0.00%	0.00%	0.00%	0.00%						1000 0	0.00%	%00.0 V00%	%0000	%00.0					-56.56%	-60.07%	-53.96%	%00.0				20 U	0.00%
		4- yr	Net Salv. %	-64.45%	NA			00 U	0.00%	0.00%	0.00%	0.00%						0.00%		%00.0 %00.0	%00.0	0.00%				-65.74%	-64.57%	-77.01%	0.00%	%0000)000 0	%00.0 %00.0	0.00%
	:0ST	3- yr	Net Salv.%	NA	NA			0.00%	0.00%	0.00%	0.00%	0.00%					0.00%	NA	NA 0000	%00.0	%0000	0.00%			-83.21%	-76.81%	-84.56%	0.00%	0.00%	%00.0			0.00%	0.00%	0.00%
IES	AND REMOVAL C -2011	2- yr	Net Salv. %	NA	NA	,000 0	%00.0 %00.0	0.00%	0.00%	0.00%	0.00%	0.00%		NA		0.00%	NA	NA		%00.0 %00.0	%00.0	Υ.		0.00%	-101.77%	-106.86%	0.00%	0.00%	0.00%	%00°0		0.00%	0.00%	0.00%	0.00%
	ROSS SALVAGE, (ADJUSTED 2004		Net Salv. %	NA	NA	0.00%	0.00%	0.00% 0.00%	0.00%	0.00%	0.00%	NA	NA	NA	0.00%	NA	NA	NA		%00.0 MA		AN	0.00%	0.00%	-162.20%	0.00%	0.00%	0.00%	0.00%	ΥN	NA	0.00%	0.00%	%00.0	0.00%
	RETIREMENTS, G AS		Net Salvage	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	(43,634.00)	0.00	0.00	0.00	0.00	0000	0.00	0.00	0.00	0.00	0.00
			Cost of Removal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43,634.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00
			Gross Salvage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	00.0	0.00	0.00	0.00	00.0	0.00
			Retirements	0.00	0.00	6,512.00	6,720.00 5,620.00	5,545,00	11,566.00	24,532.00	3,697.00	0.00	0.00	00.00	104.00	0.00	0.00	0.00	00.02	3/3.00	0.00	0.0	9,563.00	15,975.00	26,901.00	13,933.00	10,769.00	5,060.00	24,196.00	00.0	0.00	1,653.00	2,289.00	0,450.00 1 159 00	2,468.00
			Account Number	390	390	391	195 201	16C 391	391	391	391	391	392.1	392.1	393	393	393	393	595	595 202	666 606	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	394	394	394	394	394	394	394	40C	395	395	395 201	295 205	395
			Transaction Year	2010	2011	2004	2002	2002	2008	2009	2010	2011	2010	2011	2004	2005	2006	2007	2002	0100	0102	1107	2004	2005	2006	2007	2008	2009	2010	1102	2004	2005	2006	2002	2009
			-	I																													~ ~	~ 4	

							2- yr	3- yr	4- yr	5- yr	6- yr	7- yr	8- yr
Transaction	Account		Gross	Cost of	Net								
Year	Number	Retirements	Salvage	Removal	Salvage	Salv. %							
2010	395	4,990.00	0.00	00.00	0.00	0.00%	0.00%	0.00%	%00.0	0.00%	0.00%	0.00%	
2011	395	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2004	397	0.00	0.00	0.00	0.00	NA							
2005	397	0.00	0.00	00.0	0.00	NA	NA						
2006	397	0.00	0.00	00.0	0.00	NA	NA	NA					
2007	397	7,751.00	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%				
2008	397	0.00	0.00	00.0	0.00	NA	0.00%	0.00%	0.00%	0.00%			
2009	397	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%		
2010	397	0.00	0.00	00.0	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	
2011	397	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
2004	398	0.00	00.0	0.00	0.00	NA							
2005	398	10,679.00	0.00	00.0	0.00	0.00%	0.00%						
2006	398	724.00	0.00	00.0	0.00	0.00%	0.00%	0.00%					
2007	398	0.00	0.00	00.0	0.00	NA	0.00%	0.00%	0.00%				
2008	398	2,422.00	0.00	00.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%			
2009	398	6,749.00	0.00	00.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
2010	398	4,193.00	0.00	00.0	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
2011	398	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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> LIBERTY UTILITIES RETIREMENTS, GROSS SALVAGE, AND REMOVAL COST AS ADJUSTED 2004-2011

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Railroad Commission of Texas	10235	West Texas Gas	2013	Gas Depreciation Study
North Dakota	North Dakota Public Service Commission	PU-12-0813	Northern States Power	2012	Electric, Gas and Common Transmission, Distribution and General
Alaska	Regulatory Commission of Alaska	U-12-154	Alaska Telephone Company	2012	Telecommunications Utility
New Mexico	New Mexico Public Regulation Commission	12-00350-UT	SPS	2012	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1269ST	Public Service of Colorado	2012	Gas and Steam Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1268G	Public Service of Colorado	2012	Gas and Steam Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-149	Municipal Power and Light City of Anchorage	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40824	Xcel Energy	2012	Electric Depreciation Study
South Carolina	Public Service Commission of South Carolina	Docket 2012- 384-E	Progress Energy Carolina	2012	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-141	Interior Telephone Company	2012	Telecommunications Utility
Michigan	Michigan Public Service Commission	U-17104	Michigan Gas Utilities Corporation	2012	Gas Depreciation Study
North Carolina	North Carolina Utilities Commission	E-2 Sub 1025	Progress Energy Carolina	2012	Electric Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Texas Public Utility Commission	40606	Wind Energy Transmission Texas	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40604	Crosss Texas Transmission	2012	Electric Depreciation Study
Minnesota	Public Utilities	12-858	Northern States Power	2012	Electric, Gas and Common Transmission, Distribution and General
Texas	Railroad Commission of Texas	10170	Atmos Mid- Tex	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10174	Atmos West Texas	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10182	CenterPoint Beaumont/ East Texas	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-KCPE-764- RTS	Kansas City Power and Light	2012	Electric Depreciation Study
Nevada	Public Utility Commission of Nevada	12-04005	Southwest Gas	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10147, 10170	Atmos Mid- Tex	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-ATMG-564- RTS	Atmos Kansas	2012	Gas Depreciation Study
Texas	Texas Public Utility Commission	40020	Lone Star Transmission	2012	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-16938	Consumers Energy Company	2011	Gas Depreciation Study
Colorado	Public Utilities Commission of Colorado	11AL-947E	Public Service of Colorado	2011	Electric Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Texas Public Utility Commission	39896	Entergy Texas	2011	Electric Depreciation Study
MultiState	FERC	ER12-212	American Transmission Company	2011	Electric Depreciation Study
California	California Public Utilities Commission	A1011015	Southern California Edison	2011	Electric Depreciation Study
Mississippi	Mississippi Public Service Commission	2011-UN-184	Atmos Energy	2011	Gas Depreciation Study
Texas	Texas Commission on Environmental Quality	Matter 37050-R	Southwest Water Company	2011	WasteWater Depreciation Study
Texas	Texas Commission on Environmental Quality	Matter 37049-R	Southwest Water Company	2011	Water Depreciation Study
Michigan	Michigan Public Service Commission	U-16536	Consumers Energy Company	2011	Wind Depreciation Rate Study
Texas	Public Utility Commission of Texas	38929	Oncor	2011	Electric Depreciation Study
Texas	Railroad Commission of Texas	10038	CenterPoint South TX	2010	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-10-070	Inside Passage Electric Cooperative	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	36633	City Public Service of San Antonio	2010	Electric Depreciation Study
Texas	Texas Railroad Commission	10000	Atmos Pipeline Texas	2010	Gas Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Multi State – SE US	FERC	RP10-21-000	Florida Gas Transmission	2010	Gas Depreciation Study
Maine/ New Hampshire	FERC	10-896	Granite State Gas Transmission	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38480	Texas New Mexico Power	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	38339	CenterPoint Electric	2010	Electric Depreciation Study
California	California Public Utility Commission	A10071007	California American Water	2009- 2010	Water and Waste Water Depreciation Study
Texas	Texas Railroad Commission	10041	Atmos Amarillo	2010	Gas Depreciation Study
Georgia	Georgia Public Service Commission	31647	Atlanta Gas Light	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38147	Southwestern Public Service	2010	Electric Technical Update
Alaska	Regulatory Commission of Alaska	U-09-015	Alaska Electric Light and Power	2009- 2010	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-10-043	Utility Services of Alaska	2009- 2010	Water Depreciation Study
Tennessee	Tennessee Regulatory Authority	09-000183	AGL – Chattanooga Gas	2009	Gas Depreciation Study
Michigan	Michigan Public Service Commission	U-16055	Consumers Energy/DTE Energy	2009- 2010	Ludington Pumped Storage Depreciation Study
Michigan	Michigan Public Service Commission	U-16054	Consumers Energy	2009- 2010	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-15963	Michigan Gas Utilities Corporation	2009	Gas Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Michigan	Michigan Public Service Commission	U-15989	Upper Peninsula Power Company	2009	Electric Depreciation Study
Texas	Railroad Commission of Texas	9869	Atmos Energy	2009	Shared Services Depreciation Study
Mississippi	Mississippi Public Service Commission	09-UN-334	CenterPoint Energy Mississippi	2009	Gas Depreciation Study
Texas	Railroad Commission of Texas	9902	CenterPoint Energy Houston	2009	Gas Depreciation Study
Wyoming	Wyoming Public Service Commission	30022-148-GR10	Source Gas	2009- 2010	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	09AL-299E	Public Service of Colorado	2009	Electric Depreciation Study
Tennessee	Tennessee Regulatory Authority	11-00144	Piedmont Natural Gas	2009	Gas Depreciation Study
Louisiana	Louisiana Public Service Commission	U-30689	Cleco	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35763	SPS	2008	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Wisconsin	Wisconsin	05-DU-101	WE Energies	2008	Electric, Gas, Steam and Common Depreciation Studies
North Dakota	North Dakota Public Service Commission	PU-07-776	Northern States Power	2008	Net Salvage
New Mexico	New Mexico Public Regulation Commission	07-00319-UT	SPS	2008	Testimony – Depreciation

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Multiple States	Railroad Commission of Texas	9762	Atmos Energy	2007- 2008	Shared Services Depreciation Study
Colorado	Colorado Public Utilities Commission	10AL-963G	Public Service of Colorado	2007- 2008	Gas Depreciation Study
Minnesota	Minnesota Public Utilities Commission	E015/D-08-422	Minnesota Power	2007- 2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35717	Oncor	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	34040	Oncor	2007	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-15629	Consumers Energy	2006- 2009	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	06-234-EG	Public Service of Colorado	2006	Electric Depreciation Study
Arkansas	Arkansas Public Service Commission	06-161-U	CenterPoint Energy – Arkla Gas	2006	Gas Distribution Depreciation Study and Removal Cost Study
Texas, New Mexico	Public Utility Commission of Texas	32766	Xcel Energy	2005- 2006	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Texas	Railroad Commission of Texas	9670/9676	Atmos Energy Corp	2005- 2006	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9400	TXU Gas	2003- 2004	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9313	TXU Gas	2002	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9225	TXU Gas	2002	Gas Distribution Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Public Utility Commission of Texas	24060	TXU	2001	Line Losses
Texas	Public Utility Commission of Texas	23640	TXU	2001	Line Losses
Texas	Railroad Commission of Texas	9145-9148	TXU Gas	2000- 2001	Gas Distribution Depreciation Study
Texas	Public Utility Commission of Texas	22350	TXU	2000- 2001	Electric Depreciation Study, Unbundling
Texas	Railroad Commission of Texas	8976	TXU Pipeline	1999	Pipeline Depreciation Study
Texas	Public Utility Commission of Texas	20285	TXU	1999	Fuel Company Depreciation Study
Texas	Public Utility Commission of Texas	18490	TXU	1998	Transition to Competition
Texas	Public Utility Commission of Texas	16650	TXU	1997	Customer Complaint
Texas	Public Utility Commission of Texas	15195	TXU	1996	Mining Company Depreciaiton Study
Texas	Public Utility Commission of Texas	12160	TXU	1993	Fuel Company Depreciation Study
Texas	Public Utility Commission of Texas	11735	TXU	1993	Electric Depreciation Study