



MONTANA-DAKOTA

UTILITIES CO.

A Division of MDU Resources Group, Inc.

400 North Fourth Street

Bismarck, ND 58501

(701) 222-7900

November 4, 2015

Mr. Robert Nelson
Montana Consumer Counsel
111 North Last Chance Gulch, Suite 1B
PO Box 201703
Helena, MT 59620-1703

Re: General Electric Rate Application
Docket No. D2015.6.51

Dear Mr. Nelson:

Enclosed please find Montana-Dakota Utilities Co.'s responses to the Montana Consumer Counsel's data requests dated October 21, 2015.

Sincerely,

A handwritten signature in black ink that reads "Tamie A. Aberle".

Tamie A. Aberle
Director of Regulatory Affairs

Attachments

cc: Service List

Montana-Dakota Utilities Co.
Docket No. D2015.6.51
Service List

Mr. Will Rosquist
Utility Division
Montana Public Service Commission
1701 Prospect Avenue
PO Box 202601
Helena, MT 59620-2601
kwhitney@mt.gov

Robert Nelson
Monica Tranel
Montana Consumer Counsel
111 N. Last Chance Gulch, Suite 1B
PO Box 201703
Helena, MT 59620-1703
robnelson@mt.gov
mtranel@mt.gov

Mike Green
900 N. Last Chance Gulch
Suite 200
Helena, MT 59601
mgreen@crowleyfleck.com

Charles Magraw
501 8th Ave
Helena, MT 59601
c.magraw@bresnan.net

Thorvald A. Nelson
Holland & Hart LLP
6380 South Fiddlers Green Circle
Suite 500
Greenwood Village, CO 80111
tnelson@hollandhart.com

David Wooley
Keyes, Fox & Wiedman LLP
436 14th Street, Suite 1305
Oakland, CA 94612
dwooley@kfwlaw.com

Nikolas S. Stoffel
Holland & Hart LLP
6380 South Fiddlers Green Circle
Suite 500
Greenwood Village, CO 80111
nsstoffel@hollandhart.com

Kelly Crandall
Keyes, Fox & Wiedman LLP
1400 16th St
16 Market Square, Suite 400
Denver, CO 80202
kcrandall@kfwlaw.com

Albert Clark
142 Buccaneer Drive
Leesburg, FL 34788
aclark154@yahoo.com

Jack Pous
14 Shell Avenue SE
Ft. Walton Beach, FL 32548
jpous@ducinc.net

John Wilson
J W Wilson & Associates Inc.
1601 N. Kent Street, Suite 1104
Arlington, VA 22209-2105
john@jwwa.com

Electronic Service Only:
ppenn@hollandhart.com
aclee@hollandhart.com
crmayers@hollandhart.com

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-194

Regarding: Demand Allocation Factors.

Witness: Sara J. Cardwell

In response to MCC-113, a file titled "MCC-113 – 4, & 1 CP" was provided in support of the 12, 4, and 1 CP. Tab "Summary" of this file shows "Montana 12CP, 4CP, and 1 CP 2014," which are different from those calculated per books as shown on the other pages of the file. Please explain in detail all differences between them.

Response:

Please see the file titled MCC-194 Attachment A on the enclosed CD for the calculation of each rate's coincident peak scaled to Montana's actual peak as included on page 36 of the Montana Annual Report.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-195

Regarding: Minimum and Normal System Analysis.

Witness: Sara J. Cardwell

Tab "Summary" of the file named "MCC-117 – Distribution System" provided in response to MCC-117 shows a table with the Montana Distribution Percentages calculated from the Minimum and Normal System. However, this table shows values, but does not show any calculations, formulas or links to the other pages of the file. Please provide those calculations, formulas and links and explain in detail how the Minimum and Normal System costs were calculated for Pole, Overhead and URD Conductor, and provide all supporting calculations.

Response:

Please see the file provided as MCC-124 Attachment B.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-196

Regarding: Interim Retirements

Witness: Robinson/Most Appropriate Witness

Please identify the dollar level of retirement activity by production plant account associated with retirements relating to meeting EPA regulations or requirements by year for the past 10 years, by generating unit. If the information is not available by unit then provided the requested information in the greatest level of detail available. The information should be provided on electronic medium in Excel readable format.

Response:

The dollar level of the retirement activities for the past 10 years is provided in Response No. MCC-196 Attachment A on the enclosed CD. This information does not reflect retirement of equipment caused by obsolescence, deterioration or failure. It represents retirements due to new EPA regulations or requirements only. These retirements are anticipated to increase with the ever increasing regulations and requirements for fossil fuel plants. The industry is seeing these drive many upgrades and closures.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-197

Regarding: Account 312

Witness: Robinson/Most Appropriate Witness

Please identify what retired during age brackets beginning with age intervals 4.5, 5.5, 6.5, 8.5, 12.5, 15.5, and 41.5 years for Account 312 – Boiler Plant Equipment as set forth on page V-5 of the depreciation study. The information should specifically identify the unit associated with the retirements, as well as the cause of retirements (i.e., failed boiler tubes, EPA mandates to meet environmental requirements, etc.). Further, identify and justify why the Company believes retirements of the magnitude experienced at the various age intervals are indicative of what will transpire in the future for the remaining plant in service, along with all support and documentation for the Company's response.

Response:

The Company does not maintain detailed records of the specific forces (reasons for) of retirements.

The information requested is included in the yearly retirement files contained in the requested and provided response to data request MCC-143. The referenced retirements occurred over a range of the 20 year period for which Company retirement experience is available. Notwithstanding that the retirements referenced in the data request are for seven different specific age interval periods, the individual underlying retirement transactions are comprised of 276 individual retirement events. Notwithstanding the provision of all the Company's historical data, the file titled Response No. MCC-197 Attachment A on the enclosed CD contains a data base listing of the individual line items of retirements.

While specific future retirement activities are unknown events at the present time, it can be reasonably concluded that given the historical activity and the need to effectively maintain and operate the production facilities, future retirement generally representative of long term past experience can be reasonably anticipated.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-198

Regarding: Account 314

Witness: Robinson/Most Appropriate Witness

Please identify what retired during age brackets beginning with age intervals 5.5, 6.5, 8.5, 11.5, 14.5, 20.5, 27.5 and 29.5 years for Account 314 – Turbogenerator Units set forth on page V-9 of the depreciation study. The information should specifically identify the unit associated with the retirements, as well as the cause of retirements. Further, identify and justify why the Company believes retirements of the magnitude experienced at the various age intervals are indicative of what will transpire in the future for the remaining plant in service, along with all support and documentation for the Company's response.

Response:

The Company does not maintain detailed records of the specific forces (reasons for) of retirements.

The information requested is included in the yearly retirement files contained in the requested and provided response to data request MCC-143. The referenced retirements occurred over a range of the 20 year period for which Company retirement experience is available. Notwithstanding that the retirements referenced in the data request are for eight different specific age interval periods, the individual underlying retirement transactions are comprised of 85 individual retirement events. Notwithstanding the provision of all the Company's historical data, the file titled Response No. MCC-198 Attachment A on the enclosed CD contains a data base listing of the individual line items of retirements.

While specific future retirement activities are unknown events at the present time, it can be reasonably concluded that given the historical activity and the need to effectively maintain and operate the production facilities, future retirement generally representative of long term past experience can be reasonable anticipated.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-199

Regarding: Wind Farms

Witness: Robinson/Most Appropriate Witness

Please provide all support and justification for an assumed 20-year life span for the Company's investment in wind farms. The response should include all documents that support the Company's position.

Response:

See response to MCC-200.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-200

Regarding: Wind Farms

Witness: Robinson/Most Appropriate Witness

Please state whether a 25-year, as well as a 30-year, life span for the Company's investment in wind farms is not also reasonable and acceptable. To the extent the Company does not believe that either a 25- or a 30-year life span is also reasonable and appropriate for its investment in wind farms, please provide all support and justification for such position, including all related documentation.

Response:

No, the longer listed service lives of 25 or 30 years are not considered to be appropriate.

There are a few large entities that operate an extensive quantity (most of) the wind farms throughout the United States. In general, one of the largest operators, has a practice, that if the WTG (Wind Turbine Generator) is older and smaller, less than 1 MW, the life is routinely in the high teens. For the newer, more mid-sized ones, 1-1.5 MW, a life of around 20 years is used. Also supporting the use of the 20 year life is WTG purchase contracts where the manufacturers have indicated a design life of 20 years. The newest and largest ones, above 1.5 MW can have lives in the low 20's even though manufacturers routinely have a 20 year design life. Once wind farms approach the 20 year age it is not uncommon that cannibalization occurs to keep various units running. Furthermore, it is not uncommon for units, as they continue to age, to experience a variety of maintenance issues, and/or outright failures.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-201

Regarding: Software

Witness: Robinson/Most Appropriate Witness

Please identify each software system reflected in Account 303 – Miscellaneous Intangible Plant. Further, provide a detailed description of the software, the year it was first placed into service along with each year where an additions was made, and the corresponding cost by year totaling to amount as of December 31, 2014. Finally, identify if each system is still in physical service (not retired on an amortization basis, but rather still physically being utilized). The information should be provided on electronic medium in Excel readable format.

Response:

Please see Response Nos. MCC-201-203 Attachment A on the enclosed CD.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-202

Regarding: Software

Witness: Robinson/Most Appropriate Witness

Please identify each separate software system in Account 303 and its corresponding cost that was fully amortized during the past 10 years but physically remained in service. For each such occurrence, identify the date the software was placed in service, the date that it became fully amortized, and the date it was physically retired from service, if it has been. The information should be provided on electronic medium in Excel readable format.

Response:

Please see Response Nos. MCC-201-203 Attachment A on the enclosed CD.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-203

Regarding: Software

Witness: Most Appropriate Witness

Please identify each software system physically retired during the past 10 years prior to being fully amortized from an accounting standpoint. For each such occurrence, identify the software system, the date installed, the date physically retired, and its corresponding costs. The information should be provided on electronic medium in Excel readable format.

Response:

Please see Response Nos. MCC-201-203 Attachment A on the enclosed CD.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-204

Regarding: Software

Witness: Robinson/Most Appropriate Witness

Please identify the dollar level of plant and amortization expense for software system in Account 303 reflected in the Company's test year revenue requirement. If the plant level differs from the amount in the depreciation study, please provide a full reconciliation.

Response:

The dollar level of plant in Account 303 reflected in the Company's revenue requirement as of 12/31/2014 agrees to the dollar level shown in the depreciation study.

The revenue requirement reflects pro forma additions as shown in Rule 38.5.125, Statement C, Pages 13 and 14.

Assets in Account 303 are amortized based on each asset's life. See Statement Workpapers, I-8 and I-9 for the calculation of the amortization in the Company's revenue requirement.

**MONTANA-DAKOTA UTILITIES CO.
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DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-205

**Regarding: Account 397.80 – Network Equipment
Witness: Robinson/Most Appropriate Witness**

Please identify the different types of network equipment reflected in Account 397.80 in the greatest level of detail available, along with the corresponding cost for each different category of the account. Further, provide all support and justification for the assumed 5R3 life-curve combination proposed for the investment in the account.

Response:

Please see Response No. MCC-205 Attachment A on the enclosed CD. The investments in Account 397.80 are not depreciated. The Company has been authorized to use General Plant (Vintage Level) Amortization for this property group, not unlikely many if not most utilities, due to the fact that the property category is routinely comprised of many units of limited level investments that are often difficult and time consuming to track. Under General Plant Amortization the approved amortization period is used to amortize in vintage level investment until such time that the property investment is fully amortized and then the aggregate vintage amount is retired from service irrespective of whether the property is still being used or not. Likewise, if one or more of the items are physically no longer used prior to the end of the amortization period, no accounting entry is recorded.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-206

**Regarding: Account 397.60 – SCADA Systems
Witness: Robinson/Most Appropriate Witness**

Please identify the specific categories of investment reflected in Account 397.60 in the greatest level of detail available, along with the corresponding cost for each different category of the account. Further, provide all support and justification for the assumed 10R3 life-curve combination proposed for the investment in the account.

Response:

Please see Response No. MCC-206 Attachment A on the enclosed CD. The investments in Account 397.60 are not depreciated. The Company has been authorized to use General Plant (Vintage Level) Amortization for this property group, not unlikely many if not most utilities, due to the fact that the property category is routinely comprised of many units of limited level investments that are often difficult and time consuming to track. Under General Plant Amortization the approved amortization period is used to amortize in vintage level investment until such time that the property investment is fully amortized and then the aggregate vintage amount is retired from service irrespective of whether the property is still being used or not. Likewise, if one or more of the items are physically no longer used prior to the end of the amortization period, no accounting entry is recorded.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-207

Regarding: Account 396.2

Witness: Robinson/Most Appropriate Witness

Please provide a detailed narrative identifying what retired in age bracket 0.5 for Account 396.2 – Power Operated Equipment as set forth on page V-99 of the depreciation study. The response should further identify if and why the Company believes retirements of this magnitude at such an early age is indicative of the remaining investment in the account.

Response:

The information requested is included in the yearly retirement files contained in the requested and provided response to data request MCC-143. Notwithstanding the provision of all the Company's historical data, the item is related to 28 individual retirements spanning retirement years from 1998 through 2014 and totals \$1,116,610.86. The file titled Response No. MCC-207 Attachment A on the enclosed CD contains a data base listing of the individual line items of retirements. Additional details related to each of the specific items on the schedule are contained within the retirement schedules provided in response to MCC-143.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-208

Regarding: Account 396.2

Witness: Robinson/Most Appropriate Witness

Please provide a detailed narrative identifying what retired in age bracket 10.5 for Account 396.2 – Power Operated Equipment as set forth on page V-99 of the depreciation study. The response should further identify if and why the Company believes retirements of this magnitude at such an early age is indicative of the remaining investment in the account.

Response:

The information requested is included in the yearly retirement survivor files contained in the requested and provided response to data request MCC-143. Notwithstanding the provision of all the Company's historical data, the item is related to 46 individual retirements spanning retirement years from 1996 through 2013 and totals \$1,018,462.35. The file titled Response No. MCC-208 Attachment A on the enclosed CD contains a data base listing of the individual line items of retirements. Additional details related to each of the specific items on the schedule are contained within the retirement schedules provided in response to MCC-143.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-209

Regarding: Account 370

Witness: Robinson/Most Appropriate Witness

Please provide all support and justification for the assumed 20-year average service life of the investment in Account 370 – Meters. The response should specifically identify how the specific 20-year value was determined rather than any other value. Further, specifically state if the Company believes that a 25-year average service life would also be reasonable and appropriate, and if not, provide all support and justification for such position, including documentation supporting the response.

Response:

As per the discussion in Section 4 of the MDU depreciation study report, in more recent years, the Company replaced the overwhelming majority of its electric meters in conjunction with an AMR conversion project. Accordingly, the historical analysis of recent data, in which there was a wholesale change out of property, produced a shorter life indication (of approximately 15 years) for the property group than might be experienced for the current property. That is, the conversion project resulted in the Company now having an automated metering reading (AMR) technology of Meters which previously did not exist. This current new technologically driven property is routinely influenced by greater levels of upgrades, obsolescence, etc. than the prior mechanical meters.

For example, while the AMR technology provides improved efficiencies and enhanced technology capabilities, it only captures a limited part of the ultimate transformation to the current state of the art meter reading and plant utilization capabilities. Advanced Meter Infrastructure (AMI) and related Smart Grid will further expand the control capabilities of the electric network. Accordingly, it is only a matter of time until it will be necessary to complete further upgrades to its present Meter facilities. Thus, an average service life of 20 years is initially estimated for the present property group investment. The life of this property group needs to be monitored on an ongoing basis in conjunction with changing technology and the Company's needs to address such rapid changes.

Using a proposed life of 25 years "is not considered prudent or reasonable" given the uncertainty and potential for a rapid shift in current and future technology, and a corresponding un-recovery of imbedded costs in future years. In fact, that exact situation occurred in the recent transition of property, where the current book depreciation reserve as of December 31, 2014, is a negative balance of approximately \$375,000.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-210

Regarding: Account 355

Witness: Robinson/Most Appropriate Witness

Please provide detailed narrative of the significance given the one-year experience band associated with 2014 for Account 355 in estimating the life for that account. Further, provide all support and justification for any significance given the result of that actuarial analysis in the final determination of the proposed life-curve combination, along with all documents supporting such position.

Response:

Section 4, pages 4-36 and 4-37 of the Montana-Dakota - Electric depreciation study discusses and supports the proposed life for Account 355 in which it states:

“During the last several years the Company has been in an increasing growth mode having increased its plant investment by approximately a third. Historically, the activity has been more on the growth side as opposed to replacement of existing facilities; however, during the most recent study year replacements/retirements have accelerated rather dramatically. In fact while the overall and more 5 year experience band analysis produced life indication of an estimated 57 years’ average service life, the current 2014 band produced an average service life indication of 45 years. In future years it is anticipated that replacement of existing facilities will likely occur at higher levels.

Over the immediate coming 5 years management anticipates building approximately 100 miles of pole transmission line of which one half is expected to be continued growth/expansion while the remaining one half is expected to be replacement of existing property with further activity in more distant years. This significant increase in plant activity can be anticipated to continue the shorter life presently being experienced. Based upon the available recent study results, a reduction to the longer than normal average service life for the Company’s property is proposed. At the present time, an average service life of 50 years is estimated for the property group. As additional activity occurs in future years a further reduction will likely be warranted. Even at the estimated average service life of a 50-R3 life and curve, the recovery period is at the higher end of the industry range of service lives.”

The overwhelming majority of operating companies within the industry (See previously provided “Attach to MCC-147 Response-Elec Depr Stats”) use lives for the property group of less than 50 years. The life indication 57 years, from the study of Montana-Dakota’s growth period versus its anticipated move to more replacement of facilities, is unreasonably long and inappropriate for recovery of the Company rapidly increasing replacement of existing facilities and investment in new property.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

The depreciation study report includes both the overall band analysis as well as the 2014 retirement band to identify the change in life pattern that is occurring as a result of the Company's shift from growth to replacement.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-211

Regarding: Account 355

Witness: Robinson/Most Appropriate Witness

Please provide all support and justification identifying the magnitude of retirements and the timing of such retirements relating to the anticipated 100 miles of transmission line that management anticipates will occur for Account 355 as set forth on page 4-36 of the depreciation study, as well as the corresponding timing and magnitude of replacement activity expected by management.

Response:

Please see the file titled Response No. MCC-211 Attachment A on the enclosed CD, which provides the requested applicable documentation. As indicated in the response to MCC-210, during the last several years the Company has been in an increasing growth mode having increased its plant investment by approximately a third. Historically, the activity has been more on the growth side as opposed to replacement of existing facilities; however, during the most recent study year replacements/retirements have accelerated rather dramatically.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
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MCC-212

Regarding: Account 355

Witness: Robinson/Most Appropriate Witness

Please provide a detailed narrative explanation of what retired and what caused the retirements associated with the age intervals beginning with 1.5, 5.5, 9.5, and 19.5 years of age for Account 355 as set forth on page 5-33 of the Company's depreciation study.

Response:

The Company does not maintain detailed records of the specific forces (reasons for) of retirements.

The information requested is included in the yearly retirement survivor files contained in the requested and provided response to data request MCC-143. Notwithstanding the provision of all the Company's historical data, the item is related to 24 individual retirements spanning retirement years from 1995 through 2014 and totals \$593,174.83. The file titled Response No. MCC-212 Attachment A on the enclosed CD contains a data base listing of the individual line items of retirements. Additional details related to each of the specific items on the schedule are contained within the retirement schedules provided in response to MCC-143.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
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DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-213

Regarding: Account 355

Witness: Robinson/Most Appropriate Witness

Please identify the major property record units associated with the investment in Account 355 – Transmission Poles and Fixtures. In particular, identify whether crossarms are a separate property record unit reflected in the retirement data. To the extent crossarms are separately reflected in the retirement data, provide the dollar level of retirement activity by age bracket for cross arms as reflected in the observed life table for Account 355 for the 1995-2014 experience band.

Response:

For the overwhelming majority of cases, construction of Account 355-Poles facilities, the cost is developed as a dressed pole with no individual identification of cross arms. Accordingly, no retirements of sub-components are available. Only on a limited number of occasions, would an attachment (cross-arm) be identified as a retirement unit in Account 355 is for an under-build. For example, if there were a 46KV transmission line that ran under a 230KV transmission line.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
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MCC-214

Regarding: Data

Witness: Robinson/Most Appropriate Witness

Please identify the source of any industry data reviewed and/or relied upon in the development of life or net salvage parameters, and the time frame associated with each utility value.

Response:

See response to MCC-147 relative to the referenced industry data in conjunction with life estimates. Industry salvage data was not used for Company's salvage estimates.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-215

Regarding: Account 362

Witness: Robinson/Most Appropriate Witness

Please provide all support and justification for the shortening of the proposed average service life for Account 362 – Station Equipment based on the results of the 2012-2014 experience band. Provide all support and justification for such modification, including all analyses performed by MDU management demonstrating the timing and magnitude of anticipated construction programs due to upgrade replacements.

Response:

During the last several years the Company has been in an increasing growth mode having increased its plant investment by approximately a quarter. Historically, the activity has been more on the growth side as opposed to replacement of existing facilities, however during the most recent study year replacements/retirements have accelerated rather dramatically. In fact while the overall experience band analysis produced life indication of an estimated 57 years' average service life, the current 2012-2014 experience band produced an average service life indication of 45 years. In future years it is anticipated that replacement of existing facilities will likely occur at significantly higher levels.

Over the coming years management anticipates moving towards the upgrade replacement mode of construction as opposed to growth/expansion. This significant increase in plant replacement activity can be anticipated to shorten the life indication presently being experienced. Based upon the available recent study results, a reduction to the longer than normal average service life for the Company's property is proposed. At the present time, an average service life of 50 years is estimated for the property group. As additional activity occurs in future years a further reduction will likely be warranted. Even at the estimated average service life of a 50-R2.5 life and curve, the recovery period is nearly as long as the maximum average service life for the property group identified in an industry survey.

The depreciation study report includes both the overall band analysis as well as the 2012-2014 retirement bands to identify the change in life pattern that is occurring as a result of the Company's shift from growth to replacement.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
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MCC-216

Regarding: Account 364

Witness: Robinson/Most Appropriate Witness

Please provide all support and justification for the reduction in average service life to 50 years from the 56-year level reflected in the actuarial results for Account 364. Provide all support and justification for such modification, including all analyses performed by MDU management demonstrating the timing and magnitude of anticipated construction programs due to upgrade replacements.

Response:

During the last several years the Company has been in an increasing growth mode having increased its plant investment in the range of 15-20%. Historically, the activity has been more on the growth side as opposed to replacement of existing facilities, however during the most recent study year replacements/retirements have accelerated rather dramatically. In fact while the overall 5 year experience band analysis produced life indication of an estimated 56 years' average service life, the current 2014 experience band produced an average service life indication of 45 years. In future years it is anticipated that replacement of existing facilities will likely occur at significantly higher levels.

Over the coming years management anticipates moving towards the upgrade replacement mode of construction as opposed to growth/expansion. This increase in plant replacement activity can be anticipated to shorten the life indication presently being experienced. Based upon the available recent study results, a reduction to the longer than normal average service life for the Company's property is proposed. At the present time, an average service life of 50 years is estimated for the property group. As additional activity occurs in future years a further reduction will likely be warranted. Even at the estimated average service life of a 50-R1 life and curve, the recovery period is at the higher end of the industry range of service lives.

The depreciation study report includes both the overall band analysis as well as the 2014 retirement band to identify the change in life pattern that is occurring as a result of the Company's shift from growth to replacement.

**MONTANA-DAKOTA UTILITIES CO.
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MCC-217

Regarding: Account 364

Witness: Robinson/Most Appropriate Witness

Please identify what caused the level of retirement activity in age brackets beginning at 14.5 and 20.5 years for Account 364 as set forth on page 5-59 of the depreciation study.

Response:

The Company does not maintain detailed records of the specific forces (reasons for) of retirements.

The information requested is included in the yearly retirement survivor files contained in the requested and provided response to data request MCC-143. Notwithstanding the provision of all the Company's historical data, the 14.5-15.5 age interval retirements are related to 77 individual retirements spanning retirement years from 1995 through 2014 and totals \$198,186.85 while the 21.5-22.55 age interval retirements are related to 108 individual retirements spanning retirement years from 1995 through 2014 and totals \$119,251.827. The file titled Response No. MCC-217 Attachment A on the enclosed CD contains a data base listing of the individual line items of retirements. Additional details related to each of the specific items on the schedule are contained within the retirement schedules provided in response to MCC-143.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-218

Regarding: Account 365

Witness: Robinson/Most Appropriate Witness

Please provide all support and justification for the reduction in proposed average service life from 60 years to 55 years for Account 365 due to management's anticipation that a move towards upgrade replacements will occur. The response should specifically identify the dollar magnitude and the timing of such anticipated events, along with all supporting documentation.

Response:

During the last several years the Company has been in an increasing growth mode having increased its plant investment in the range of 20% plus or minus. Historically, the activity has been more on the growth side as opposed to replacement of existing facilities, however during the most recent study year replacements/retirements have accelerated rather dramatically. In fact while the overall 5 year experience band analysis produced life indication of an estimated 60 years' average service life, the current 2014 experience band produced an average service life indication of 45 years. In future years it is anticipated that replacement of existing facilities will likely occur at significantly higher levels.

Over the coming years management anticipates move towards the upgrade replacement mode of construction as opposed to growth/expansion. This increase in plant replacement activity can be anticipated to shorten the life indication presently being experienced. Based upon the available recent study results, a reduction to the longer than normal average service life for the Company's property is proposed. At the present time, an average service life of 55 years is estimated for the property group. As additional activity occurs in future years a further reduction will likely be warranted. Even at the estimated average service life of a 55-R1 life and curve, the recovery period is at the higher end of the industry range of service lives.

The depreciation study report includes both the overall band analysis as well as the 2014 retirement band to identify the change in life pattern that is occurring as a result of the Company's shift from growth to replacement.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-219

Regarding: Account 365

Witness: Most appropriate witness

Please provide a detailed narrative explaining what retired in the age bracket beginning at 14.5 years for Account 365 as set forth on page 5-66 of the Company's depreciation workpapers. The response should specifically indicate whether such level of retirement activity at the equivalent age is expected to reoccur in the future, and if so, provide all support and justification for such position.

Response:

The information requested is included in the yearly retirement survivor files contained in the requested and provided response to data request MCC-143. Notwithstanding the provision of all the Company's historical data, the item is related to 73 individual retirements spanning retirement years from 1995 through 2014 and totals \$207,063.75. The file titled Response No. MCC-219 Attachment A on the enclosed CD contains a data base listing of the individual line items of retirements. Additional details related to each of the specific items on the schedule are contained within the retirement schedules provided in response to MCC-143.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-220

Regarding: Account 369.2

Witness: Robinson/Most Appropriate Witness

Please provide all support and justification for the curve fit set forth on page 5-79 of the Company's depreciation study for Account 369.2 – Underground Services. The response should specifically address why the selected life-curve combination begins to deviate significantly from the observed life table at 30 years of age and attempts to match the observed life table beginning at approximately 55 years of age rather than other life-curve combinations which would continue to match the observed life table through approximately 40 years of age. The response should further include all authoritative sources that support the specific process employed by the Company.

Response:

The general shape of the raw data point experience did not lend themselves to track all of the data points to an Iowa Curve shape. The estimated Iowa 45-R3 life and curve is a reasonable and rational estimate in regard to the anticipated life for the property. With regard to actual curve fitting, the selected curve fit, an Iowa 45-R3, is above the raw data points suggesting a longer life than actually experienced (points with far greater levels of exposures and retirements) between the ages of 0 to 30 years, and then declines to be below the raw data points (points with far fewer levels of exposures and retirements) during the points past 30 years of age.

While not specifically referenced or used in the course of the depreciation study preparation, general industry data identifies that the overwhelming majority of companies are using average service lives of less than 45 years for Services.

As noted on various occasions, statistical fitting of historical data, is only a tool and not the end all in the service life estimation process. That is, it is specifically stated in page 126 of the NARUC Depreciation Practices Manual that "Depreciation analysts should avoid becoming ensnared in the mechanics of the historical life study and relying solely on mathematical solutions. The reason for making an historical life analysis is to develop a sufficient understanding of history in order to evaluate whether it is a reasonable predictor of the future. The importance of being aware of circumstances having direct bearing on the reason for making an historical life analysis cannot be understated. These circumstances, when factored into the analysis, determine the application and limitations of an historical life analysis."

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-221

Regarding: Account 364

Witness: Most appropriate witness

Pease provide a detailed narrative explaining why the life-curve combination set forth on page 5-54 for Account 364 begins to deviate from the observed life table at approximately 55 years of age rather than attempting to better match points on the observed life table past that age. Further, provide all underlying support and justification, including authoritative sources for the position taken by the Company.

Response:

With regard to actual curve fitting, the curve fit to the relevant historical data points is an excellent fit. The data points past 55 years are less relevant.

It must be noted that historical analysis is simply a tool, along with professional knowledge and experience, used to develop estimates of future service lives and patterns. The ultimate estimate of the depreciation parameters needs to give consideration to the range of historical study results, current operations, and future expectations. That is, while statistical curve fits or salvage averages are part of the historical analysis process, the ultimate estimation of depreciation parameters is not a simple mathematical exercise or ranking process.

It is specifically stated in page 126 of the NARUC Depreciation Practices Manual that "Depreciation analysts should avoid becoming ensnared in the mechanics of the historical life study and relying solely on mathematical solutions. The reason for making an historical life analysis is to develop a sufficient understanding of history in order to evaluate whether it is a reasonable predictor of the future. The importance of being aware of circumstances having direct bearing on the reason for making an historical life analysis cannot be understated. These circumstances, when factored into the analysis, determine the application and limitations of an historical life analysis."

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-222

Regarding: Account 390

Witness: Robinson/Most Appropriate Witness

Please identify any buildings sold by the Company during the past 20 years that were reflected in Account 390 – General Plant Structures and Improvements. For each such sale, identify and describe the building, its location, the year the sale transpired, the gross and net proceeds, the dollar level of retirement, and the year the investment was first placed into service.

Response:

Please see Attachment A.

**MONTANA-DAKOTA UTILITIES CO.
ELECTRIC UTILITY - MONTANA
ELECTRIC 390 ACCOUNT BUILDING DISPOSALS OVER THE PAST 20 YEARS**

Year	Retirement	Salvage	Cost of Removal	WO#	Vintage Year	
1995						
	\$ (21,447.15)	\$ (13,542.82)	\$ 470.00	35733	1957	Sold the Lemmon, SD Office-Company was closing offices in smaller communities
	<u>\$ (21,447.15)</u>	<u>\$ (13,542.82)</u>	<u>\$ 470.00</u>			
1996						
	\$ (34,767.97)	\$ (21,934.54)	\$ 538.91	37930	1946	Sold the Eureka, SD Office-Company was closing offices in smaller communities
	\$ (28,281.39)	\$ (17,190.65)	\$ 627.00	45207	1974	Sold the Ellendale, ND Office-Company was closing offices in smaller communities
	<u>\$ (63,049.36)</u>	<u>\$ (39,125.19)</u>	<u>\$ 1,165.91</u>			
1998						
	\$ (177,633.35)	\$ (84,878.69)	\$ 500.00	48274	1981	Sold the Kenmare, ND Office-Company was closing offices in smaller communities*
	<u>\$ (177,633.35)</u>	<u>\$ (84,878.69)</u>	<u>\$ 500.00</u>			

* MCC-223-Equals Retirement in age interval 16.5 on page 5-92 of the depreciation study.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-223

Regarding: Account 390

Witness: Robinson/Most Appropriate Witness

Please provide a detailed narrative explaining what retired at age bracket 16.5 for Account 390 as set forth on page 5-92 of the depreciation study. Further, state the reason for the retirement and why the Company believes that retirements of this magnitude will occur again in a similar manner in the future for the remaining investment in the account.

Response:

Please see Response No. MCC-222 Attachment A. The retired amount was related to the retirement of a small office located at Kenmare totaling only approximately \$178,000. The current surviving investment within the property group is only approximately \$835,000 which is comprised of a number of limited investments at locations including Plentywood, Kenmare, Scobey, Lemmon, Ellendale, Williston, and Sheridan, any of which could be replaced or retired during future years.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-224

Regarding: Data

Witness: Most appropriate witness

Please identify when the Company first initiated pole inspection programs for its transmission and distribution system. Further, identify the number and corresponding cost of poles retired, by year, as a result of the inspection programs initiated.

Response:

The Company first initiated a pole inspections program in 1961; however, records are available only back to 1989. The cost of pole retirements is included in the yearly retirement files contained in the requested and provided response to data request MCC-143 in total but is not maintained specific to program retirements. Please see the table below for the number of inspections and poles retired by year.

Pole Inspection Records
1989-2014

Year	Poles	
	# of Inspections	# of Retirements
1989	9,669	385
1990	10,919	448
1991	10,116	516
1992	10,997	845
1993	10,233	567
1994	8,624	506
1995	7,891	396
1996	7,603	343
1997	6,864	189
1998	6,999	371
1999	6,644	101
2000	10,389	361
2001	10,361	338
2002	9,732	232
2003	3,892	54
2004	11,309	115
2005	12,252	425
2006	12,310	241
2007	13,303	221
2008	12,702	158
2009	0	0
2010	0	0
2011	0	0
2012	1,616	11
2013	9,042	198
2014	0	0

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-225

Regarding: Net Salvage

Witness: Robinson/Most Appropriate Witness

Please identify the Company's policy regarding abandoning underground conductor at the time of retirement. Further, to the extent the Company does not abandon underground conductor at the time of retirement, provide all support and justification for removing such assets.

Response:

The Company's policy is to abandon underground conductors at the time of retirement from the system. In most cases the conductor is abandoned in place and mapped as an abandoned facility with the GIS system. There are instances when a conductor is removed from the ground however that is not a standard practice and rare.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-226

Regarding: Account 364

Witness: Robinson/Most Appropriate Witness

Please identify the number of poles by height and type of pole, along with the corresponding value of each category reflected in distribution Account 364 – Poles, Towers & Fixtures. The information should be provided on electronic medium in Excel readable format.

Response:

The Company does not have GIS or mapping records that can easily support the height, class, type of pole to correspond to the values reflected in Account 364. The source construction records in paper and electronic format are the only source data that could provide this, however, the work required would be extremely difficult and may not produce the desired total record.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-227

Regarding: Account 364

Witness: Robinson/Most Appropriate Witness

Please identify the type of chemical treatment utilized for each different type of wood pole reflected in Account 364 – Distribution Poles, Towers & Fixtures. Further, indicate the years during which each different type of treatment was implemented and the segregation of investment by poles, by type of treatment, including a category for any poles that are not treated. The information should be provided on electronic medium in Excel readable format.

Response:

The Company does not have GIS, mapping records, or in most cases construction records that support a complete history of the ground line treatment of wood poles. Currently the Company specification states that poles are to be treated with pentachlorophenol. Records show that this has been the pole treatment of specification for at least as far back as 1980. Pole treatment prior to the current established material standards is not in the Distribution Records.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-228

Regarding: Account 364

Witness: Robinson/Most Appropriate Witness

Please identify the number of poles, by height and type of pole, retired by year and account for Account 364 for the past 10 years along with the corresponding investment. The information should be provided on electronic medium in Excel readable format.

Response:

The numbers of poles by height and type of pole retired in the past 10 years is not in current records.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-229

Regarding: Account 367

Witness: Robinson/Most Appropriate Witness

Please identify the different types, quantities and corresponding dollars of underground conductor on the Company system (e.g., XLPE, EPR, etc.). Further, identify when the Company first began installing each type of underground conductor and when it ceased installing each different type of underground conductor, as well as the corresponding dollar value by type of underground conductor. Finally, list the specific reasons why the Company changed the type of underground conductor it installed historically.

Response:

The Company did not track Primary Underground Conductors by insulation type therefore within the record it cannot produce the quantities requested by type and corresponding dollars associated with Primary Underground Conductors. The history of the Company's use of Primary Underground Conductors starts with High Molecular Weight Polyethylene in the earliest years late 60's until about 1975. Next Cross Linked Polyethylene was purchased and installed until approximately 1983. Around 1984 the Company started installing Primary Underground with an overall Jacket on the conductor using Tree Retardant Cross Linked Polyethylene insulation. In 1992 the Company continued with the Tree Retardant Cross Linked Polyethylene insulation however went to 133% insulation thickness on the insulation. Montana-Dakota currently specifies 133% insulated TR Cross Linked PE along with 133% insulated EPR conductors. The first year for EPR insulation approval was 2014. Issues with the early insulation on Primary Underground Cables became very evident in that failures on these cables started happening early in the life cycle of these early vintage cable systems. The Company, along with the industry, had reliability issues with the early cable systems on most cables installed prior to 1984. The changes that Montana-Dakota has made in specifications of cables mostly mirrored the industry in trying to find better and more reliable cables to provide better service to its customers at an affordable expense.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-230

Regarding: Account 369

Witness: Robinson/Most Appropriate Witness

Please identify the number of underground and overhead services in Account 369 – Distribution Services.

Response:

As of December 31, 2014, the Company had 14,531 overhead services and 9,229 underground services in the state of Montana.

**MONTANA-DAKOTA UTILITIES CO.
MONTANA CONSUMER COUNSEL
DATA REQUEST
DATED OCTOBER 21, 2015
DOCKET NO. D2015.6.51**

MCC-231

Regarding: Production Life

Witness: Robinson/Most Appropriate Witness

Please state whether a 2046 Probable Retirement Year is reasonable and/or appropriate for the Big Stone Station. Further, to the extent the Company does not believe that a 2046 Probable Retirement Year is reasonable and/or appropriate for the Big Stone Station, provide all support and justification for such position, specifically addressing the reliance on such date by other owners of the same station. Finally, provide updated the pages in Sections 2 and 6 of the depreciation study reflecting a 2046 Probable Retirement Year for the Big Stone Station.

Response:

Montana-Dakota agrees that a 2046 Probable Retirement Year is appropriate for the Big Stone Station in order to treat the generating unit consistently with its partners, Ottertail Power and Northwestern Energy.

Please see the file MCC - 231 – DEPR TABLES MDU-Elec in the enclosed CD which shows the depreciation rates that reflect the change in the retirement year.