MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	October 24, 2019	Agenda Item 4*
Company	Great Plains Natural Gas Co. (Great Plains), a Division of MDU Resources Group, Inc.	
Docket No.	**G-004/D-19-376**	
	In the Matter of Great Plains Natural Gas Co.'s Petition for Approval of its 2019 Depreciation Certification	
Issues	Should the Commission approve Great Plains Natural Gas Co.'s 2019 annual depreciation certification?	

Staff	Ray Hetherington	raymond.hetherington@state.mn.us	(651) 201-2203
	Ann Schwieger	ann.schwieger@state.mn.us	(651) 201-2238

✓ **Relevant Documents**	**Date**
Great Plains Natural Gas – Petition	May 31, 2019
Department of Commerce – Comments	July 31, 2019
Great Plains Natural Gas – Reply Comments	August 12, 2019
Department of Commerce – Response to Reply Comments	September 25, 2019
Great Plains Natural Gas –Reply Comments	October 2, 2019

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

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I. Statement of the Issues

Should the Commission approve Great Plains Natural Gas Co.'s 2019 annual depreciation certification?

II. Relevant Statutes, Rules and Procedures

A. Minn. Stat. § 216B.11. Depreciation Rates and Practices.

The commission shall fix proper and adequate rates and methods of depreciation, amortization, or depletion in respect of utility property, and every public utility shall conform its depreciation, amortization or depletion accounts to the rates and methods fixed by the commission.

B. Minn. Rules, pts. 7825.0500 – 7825.0900. Depreciation Certification.

1. Minn. Rules, pt. 7825.0600, subp. 1. Depreciation Certification.

Depreciation practices applicable to all utilities. All electric and gas utilities shall maintain, and have available for inspection by the commission upon request, adequate accounts and records related to depreciation practices as defined herein. Each utility has the prime responsibility for proposing the depreciation rates and methods that will be used. The commission shall certify by order to the utility the depreciation rates and methods which it considers reasonable and proper. Any allocation or adjustment of the depreciation reserve will require specific justification and certification by the commission.

Either the utility may submit or the commission may request a petition for depreciation certification because of unusual circumstances or unique situations.

2. Minn. Rules, pt. 7825.0600, subp. 2 & 3. Depreciation Certification (in part)

. . . [All utilities] shall review their depreciation rates annually to determine if they are still generally appropriate. Depreciation certification studies shall be made so that all primary accounts (class A & B utilities) or all functional groups of plant accounts (class C & D utilities) have been analyzed at least every five years. . . .

3. Minn. Rules, pt. 7825.0900. Petition for Certification Procedure (in part)

. . . Depreciation rates and methods, once certified by order, are binding on all future rate proceedings and will remain in effect until the next certification or until the commission shall determine otherwise. . .

C. Commission Practice

Depreciation methods, practices and rates are evaluated in depth once every five years in a depreciation study provided by the utility and then reviewed annually, usually in a request for certification of the remaining lives of the utility's assets. The depreciation rates established in these proceedings are incorporated into the Company's revenue requirement and rates in a general rate proceeding. These stand-alone depreciation filings allow for a thorough examination of the Company's depreciation methods, practices and rates independent of the other issues examined and analyzed within a rate case. This is one of the main reasons for having separate depreciation filings.

III. Background

On May 31, 2019, Great Plains Natural Gas Co. (Great Plains, GPNG, or the Company), a division of the MDU Resources Group, Inc., submitted a petition for approval of a Depreciation Certificate pursuant to Minn. Stat. §216B.11 and Minn. Rules, Parts 7825.0500 to 7825.0900. This submission is also required by the Minnesota Public Utilities Commission's (Commission) February 22, 2019 Order, in Docket No. G-004/D-18-369.

Great Plains requested an effective date of January 1, 2019 for the proposed depreciation rates.

In its Petition, Great Plains stated that this Annual Depreciation Study updated its five-year study from Docket No. G-004/D-17-450 to reflect the plant-in-service and book depreciation reserve balances as of December 31, 2018. The update resulted in an increase of $136,821 over current rates determined in Docket No. G-004/D-18-369, resulting in a proposed composite depreciation rate of 4.32 percent versus the current rate of 4.31 percent.

In response to the Commission's February 22, 2019 Order,[1] Great Plains also provided the following information:

1. A summary of plant-in-service account activity – additions, retirements, transfers, and adjustments – and their associated accumulated depreciation accounts.[2]
2. Minnesota-jurisdictional amounts in its plant-in-service accounts in the 2018 Jurisdictional Annual Report (JAR) filing and will continue to do so in the future.
3. An analysis of building retirements included in Account 390 – General Structures and Improvements.[3]

On July 31, 2019, the Minnesota Department of Commerce, Division of Energy Resources (Department) filed its comments reviewing Great Plains petition for compliance with applicable statutes, rules, and past Commission orders; reasonableness of the Company's proposed depreciation rates and other parameters; the capital asset activity that impacted the development of the proposed depreciation rates; and the progress of GPNG's PVC replacement program.
On August 12, 2019, Great Plains submitted reply comments including an electronic Excel file with depreciation expense provision calculation details as requested in the Department comments.

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[1] Docket No. G-004/D-18-369,

[2] See Great Plains Petition, Attachment A, Section 5, beginning on page 5-31, May 31, 2019.

[3] See Great Plains Petition, Attachment B, May 31, 2019.

IV. Parties' Comments

A. Great Plains' Petition

In its petition, Great Plains stated that the application of the proposed depreciation rates would result in an increase of $136,821 over the rates established in Docket No. G-004/D-18-369 and the composite annual depreciation rate would rise slightly to 4.32 percent compared to 4.31 percent in the previous docket.

Summary of Original Cost, Currently Approved Accrual Percentages and Amounts, and Updated Accrual Percentage and Amounts

Plant Group / Accounts	Original Cost	Annual Accrual 2018		Annual Accrual Updated	
Transmission Plant	$7,148,697	1.24%	$88,644	2.08%	$148,642
Distribution Plant	$47,269,936	4.55%	$2,150,782	4.66%	$2,203,883
General Plant	$6,680,528	3.94%	$263,213	4.30%	$286,935
TOTAL	**$61,099,161**	**4.31%**	**$2,502,639**	**4.32%**	**$2,639,460**

GPNG's consultant preparer Concentric Advisors (Concentric) stated that the annual depreciation rates and calculated amounts are based on the broad group straight line method of depreciation using the Average Life Group procedure and were applied using the remaining life technique. Any variances between actual book accumulated depreciation reserves and calculated accrued depreciation requirement are amortized over the remaining life of each group of assets.

Concentric noted a significant level of 2018 capital expenditures in Account 367.0 – Transmission Mains and 396.2 – Power Operated Equipment (additions of $4.556 and $0.376 million respectively)[4] resulting in increased depreciation rates.

The Company reported 2018 investments in Account 366.00 – Transmission Structures ($16,683 total capitalized amount). This account had not yet been included in a full five year depreciation study review and, because of this, it does not currently have approved depreciation rates. Concentric Advisors determined that these transmission structures are similar to structures installed in Account 375.00 – Distribution System Measuring and Regulating Station Structures. Therefore, the petition proposed using the average service life and net salvage parameters currently approved for Account 375.00 in the depreciation calculations.

Great Plains also reported on the progress of its PVC replacement program. The Company stated that, as of the end of 2018, approximately 45% of planned total mains and 55% of total services have been replaced.

[4] See Great Plains Petition, Attachment A, Section 5, page 5-32, May 31, 2019.

B. Department of Commerce – Comments

The Department reviewed Great Plains' Petition for the following primary purposes:

- to determine if the Petition complied with all applicable statutes, rules, and past Commission orders;
- to evaluate the reasonableness of proposed depreciation rates and parameters; and
- to examine 2018 capital asset activity (additions, retirements, transfers, and adjustments.

1. Compliance with Statutes, Rules, and Filing Requirements

According to Minnesota Statutes, Section 216B.11 and Minnesota Rules, parts 7825.0500-7825.0900 public utilities are required to seek Commission approval of their depreciation rates and methods. At least once every five years utilities must file comprehensive depreciation studies using Straight Line depreciation (unless the utility can justify a different method). In 2017, Great Plains filed its last five-year depreciation study in Docket No. G-004/D-17-450 and has continued to use the Straight Line depreciation method.

The Department observed that Great Plains is applying the remaining life technique in its depreciation methodology. When the remaining life technique is used the underlying life and salvage factors may remain unchanged, but depreciation rates must be updated annually to reflect the passage of time. Additionally, the impacts to plant account activity, such as additions and retirements, must be accounted for in updating the assets remaining lives. The instant Petition proposed the current year update as required.

The Department concluded that the Company has complied with the applicable statutes and rules.

2. Compliance with Prior Commission Orders

The Department reviewed Great Plains' compliance with previous orders and determined that:

- GPNG's petition properly requested that its proposed depreciation rates be effective on January 1, 2019 and was based on December 31, 2018 plant and reserve balances.
- The Company provided an analysis of accounts affected by its PVC replacement program.
- GPNG submitted a summary of plant-in-service accounts and accumulated depreciation activity (additions, retirements, transfers, and adjustments) as required by Minnesota Rule 7825.0700.
- The Company provided an explanation and footnotes for differences in 2018 beginning-of-year Minnesota-jurisdictional amount balances compared to 2017 year-end balances as reported in GPNG's Jurisdictional Annual Report.[5]

[5] Great Plains' 2018 report was filed in Docket No. E,G-999/PR-18-04 and its 2017 report was filed in Docket No. E,G-999/PR-17-04.

- GPNG supplied details for its 2018 building retirements in Account 390 – General Structures and Improvements.

The Department concluded that Great Plains has complied with past Commission orders.

3. Great Plains' Depreciation Methodology

a) Statistical Determination of Asset Lives and Retirement Patterns

The Department observed that GPNG, through its consulting firm, used Iowa curves to determine remaining lives and retirement patterns.[6] Great Plains has assigned Iowa curves to most of the Company's group property accounts[7] and applies average service lives (ASLs) to the different asset groups.[8] The Department noted that while the ASL of a group property account will remain consistent between years, the assets' remaining lives will tend to change each year due to impacts of account activity (additions, retirements, transfers, and adjustments) in addition to the results of Concentric's statistical analyses.

b) Depreciation Calculations

Generally, Great Plains depreciates its assets using the Straight Line method and Average Life Group (ALG or Broad Group) procedure applied on a remaining life basis. Starting with GPNG's 2018 annual depreciation study, the Company calculated remaining lives using a Vintage Group approach. Specialized software was used to calculate the ALG remaining life for each vintage under each group property account.

In calculating the *composite* remaining life, each vintage remaining life is weighted by the proportion of the *vintage* capitalization amount to the *total* amount and then the resulting weighted vintage remaining lives are added together.[9] Since the Company's change to use of the *vintage group* approach,[10] the annual depreciation accrual amount is the result of a more complex set of calculations and depends more on survivor curve statistics than in prior years. Still, the depreciation rate calculation continues like the Straight Line depreciation

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[6] "An Iowa curve is a survivor curve that represents a probability distribution relevant to the timing of asset retirements; the University of Iowa developed these standardized patterns of asset retirement dispersion during the 1950s." Department of Commerce Comments, page 4, July 31, 2019.

[7] Currently, GPNG does not assign Iowa curves to accounts 375.0, 378.0, 381.0, and 383.0 (these are all Distribution Plant accounts).

[8] For account 375.0 – Distribution System Measuring and Regulating Station Structures, the ASL is developed using the Life Span method; Great Plains uses the Life Span method exclusively for account 375.0. Great Plains' account 375.0 contains limited investments in distribution measuring and regulating station structures. See Great Plains' initial filing, dated May 23, 2017, in Docket G004/D-17-450 at page 4-17.

[9] Formula is: SUM OF[(original capitalized cost for vintage X / total capitalized cost for all vintages under account Y) x (remaining life of vintage X)] = composite remaining life for account Y

[10] The *vintage group* approach was introduced in 2018 under Docket No. G-004/D-18-369.

methodology: the total annual depreciation accrual is divided by the total original surviving capitalized cost included in the group property account.

4. Great Plains' Proposed Depreciation Rates and Parameters

Great Plains, in the instant Petition, proposed depreciation rates (effective January 1, 2019) that results in a composite rate of 4.32 percent compared to the approved 2018 depreciation rate of 4.31 percent.

The table below shows a comparison between 2018 approved rates and 2019 proposed rates at the plant group level.

Summary of Approved and Proposed Depreciation Rates[11]

Plant Group	Composite Depreciation Rate Percentage (%) 2018 Approved	Composite Depreciation Rate Percentage (%) 2019 Proposed	Proposed Percentage Increase (%)
Transmission	1.24	2.08	68
Distribution	4.55	4.66	2
General	3.94	4.30	9
Total Plant	**4.31**	**4.32**	**<1**

The Department noted that the depreciation rate increases are the result of 2018 capital asset activity (additions, retirements, transfers, and adjustments) and from the statistical analyses documented in Section 5 – "Detailed Depreciation Calculations" – included in Great Plains' Petition. The Department pointed out that the 68 percent increase in the Transmission plant group was largely due to capital additions to account 367 – Transmission Mains[12] and the inclusion of a new account, 366.0 – Transmission Structures.

The Department calculated the potential impact of the 2019 proposed depreciation expense as follows:

Theoretical Estimate of 2019 Annual Depreciation Expense	$2,639,460
Less: Actual Booked 2018 Annual Depreciation Expense	$2,540,871
Increase/(Decrease) in Depreciation Expense	$ 98,589

The Department also verified that Great Plains had not requested modifications to the established average service lives, salvage rates, or survivor curves and concluded that this is appropriate for an annual depreciation update. Even though the proposed 2019 rates are higher, the Department noted that ratepayers will continue to pay the rates established in Great Plains' most recent rate case.[13]

[11] Department of Commerce Comments, page 6, Table 1, July 31, 2019.

[12] The original surviving cost reported for account 367.0 was $1,541,179 at December 31, 2017 and $6,097,192 at December 31, 2018. See Table 1 in the November 5, 2018 depreciation study update filed by Great Plains in Docket No. G004/D-18-369 and Table 1 in the current Petition.

[13] On September 27, 2019, Great Plains submitted a general rate case, in Docket No. G-004/GR-19-511.

The Department recommended that, pending submission of other requested information detailed below, the Commission approve the Company's proposed depreciation rates.

Great Plains' reported capitalized assets in a new account: 366.0 – Transmission Structures. This account had an initialized capitalization of $16,683 and the Company stated that it does not anticipate further cost capitalization in this account in the futures. The Company said that, since account 366.0 has no retirement history, its consultants relied on their professional judgement and collective knowledge to estimate the most appropriate depreciation parameters. Since the Transmission Structure assets serve a similar purpose, function, and nature as assets in account 375.0 – Distribution System Measuring & Regulating Station Structures, Concentric recommended use of the same salvage rate (-5 percent) and average service life (85 years) as account 366.0 and proposed to use the 85-S1 Iowa curve.

The Department recommended approval of the depreciation parameters for account 366.0.

5. Great Plains' 2018 Depreciation Calculations and Corresponding Capital Asset Activities

The table below shows a summary of the history of capitalized plant-in-service costs and depreciation provisions from 2012 through 2018.

Great Plains' Plant-in-Service and Depreciation Provision Summary 2012 – 2018[14]

Year	Plant Balance ($)	Increase in Plant Balance ($)	Annual Depreciation Expense Booked ($)	Approved Composite Depreciati on Accrual Rate	Depreciation Reserve Balance ($)[15]	Increase in Depreciation Reserve Balance ($)	Deprecia tion Reserve Ratio
2018	64,019,822	8,403,694	2,540,871	4.31%	30,488,579	63,186	47.62%
2017	55,616,128	1,231,739	2,245,003	4.31%	30,425,393	1,273,926	54.71%
2016	54,384,389	6,029,130	2,073,206	3.81%	29,151,467	2,196,537	53.60%
2015	48,355,259	6,894,986	1,828,985	3.78%	26,954,930	993,921	55.74%
2014	41,460,273	2,984,892	1,515,365	3.65%	25,961,009	942,482	62.62%
2013	38,475,381	2,939,941	1,404,487	3.65%	25,018,527	1,134,601	65.02%
2012	35,535,440	N/A	1,491,215	4.20%	23,883,926	N/A	67.21%

The Department observed that Great Plains' reserve ratios significantly decreased between 2017 and 2018 (by 7.09 percentage points) and believes that this is consistent with the Company's continuing investments – particularly due to large investment amounts of 2018 plant-in-service activity.

The Department conducted a high-level analysis of 2018 depreciation expense provisions to determine whether they aligned with plant-in-service activity and remaining asset lives. Based

[14] Department of Commerce Comments, page 9, Table 2, July 31, 2019.

[15] For better comparability among all years documented in Table 2, the depreciation reserve balances for 2018 and 2017 exclude the Retirement Work in Progress (RWIP) reserve amounts.

on this analysis, the Department asked, in Information Request 11, that GPNG provide the actual 2018 depreciation expense calculations for the following accounts:

367-G-Mains	391-G-Computer Equipment-Server & Workstation
376-G-Mains	391-G-Office Furniture & Equipment
378-G-Measure/Regulation Distribution	392-G-Transportation Equipment
380-G-Services	396-G-Power Operated Equipment
381-G-Meters	

In its response, Great Plains said that "The depreciation provision for each of the accounts listed is calculated as the prior month's ending plant balance times the depreciation rate for that account."[16] This response did not provide the information the Department needed to determine the group account's monthly ending balances during the year. So, the Department requested that GPNG provide the actual, detailed depreciation expense provision calculations in the Company's Reply Comments.

The Department noted that, for certain accounts, the 2018 capital addition amounts in Petition Table 2 did not match the 2018 original cost of capitalization reported in Petition Section 5. In its response to Information Request No. 7, the Company explained that these relatively minor differences (approximately $161,000) were due to prior years errors that were identified and corrected in 2018. If known, the Department asked Great Plains to provided additional error detail in its Reply Comments.

Great Plains provided an analysis of asset retirements in Account 390.0 – General Structures and Improvements. The Company has retired and replaced the Marshall Warehouse ($101,934 retired). In its Information Request No. 10, the Department asked Great Plains for building information it had compiled in response to Docket No. G-004/D-18-369 (a schedule of buildings used for regulated utility operation with detail on costs, depreciation amounts and rates, in-service dates, location/address, operational purpose, and account numbers).

Regarding the update on Great Plains' PVC pipe replacement program, the Company reported that approximately 45 percent of total mains and 55 percent of total services have been replaced as of the end of 2018. Great Plains estimated that 556,370 feet of mains and 5,165 services remain to be replaced. The PVC replacement program is especially relevant to the depreciation rates of the following accounts: 378.0 – Measuring and Regulating State Equipment General; 381.0 Meters and Meter Installations; and 383.0 – House Regulators. The instant Petition proposed using the same depreciation rates approved in Great Plains' most recent 5 year depreciation study.[17] The Department noted that this is consistent with the depreciation rates approved in the Company's most recent annual update.[18]

[16] See Department Attachment 5.

[17] Docket No. G004/D-17-450.

[18] Docket No. G004/D-18-369.

The Department concluded that the depreciation rates used for PVC replacement is reasonable and recommended that the Commission continue to require Great Plains to provide updated information on its PVC replacement program in future depreciation studies.

6. Department Conclusions and Recommendations

The Department recommended that the Commission take the following actions:

- Approve Great Plains' proposed depreciation rates, as outlined in Table 1 of the Petition[19] with an effective date of January 1, 2019, pending the Company's submission of the following information:
  - Actual depreciation expense provision calculations for the accounts bulleted below – the calculations provided should include the actual numbers used to compute the 2018 depreciation provisions.
    - 367-G-Mains
    - 376-G-Mains
    - 378-G-Measure/Regulation Distribution
    - 380-G-Services
    - 381-G-Meters
    - 391-G-Computer Equipment-Server & Workstation
    - 391-G-Office Furniture & Equipment
    - 392-G-Transportation Equipment
    - 396-G-Power Operated Equipment
- Approve the depreciation parameters for Account 366.0 – Transmission Structures as outlined in Table 1 of the Petition.
- Require Great Plains to continue reporting retirements for Account 390.0 – General Structures & Improvements in future depreciation filings as the Company has done in Attachment B of the current Petition.
- Continue to require Great Plains to provide an update on the Company's PVC replacement program in its future depreciation studies.

In addition, the Department invites Great Plains to include in its Reply Comments the cause of the capitalized cost errors identified and corrected in 2018, if known.

C. Great Plains' Reply Comments

In its reply comments, Great Plains agreed with the Department's recommendations.

The Company noted that it supplied an electronic Excel file replicating the expense provision calculations (actually calculated using GPNG's fixed asset accounting software – "PowerPlan"), as requested by the Department.

The Company also noted that, using updated allocation factors applied to assets that provide service to both Minnesota and North Dakota, may result in immaterial beginning balance

[19] Table 1 at Petition, Attachment A, page 4-2.

differences because the accounting software is unable to retroactively adjust the depreciation provision for the month in which an allocation was updated.

The Company also explained the cause of certain capitalized errors that were identified and corrected in 2018:

> … Great Plains provides both total capital additions, which are additions to plant in service during 2018, and the capital additions for each vintage of assets placed in service. During 2018, certain capital additions were comprised of supplemental charges to existing plant in service placed in service prior to 2018. These supplemental charges were reported as 2017 vintage or prior assets as appropriate. Great Plains does not consider this practice to be an error. Rather, the practice is a better match to the life of each asset placed in service.[20]

D. Department of Commerce Reply Comments

In its July 31, 2019 comments, the Department recommended that the Commission approve Great Plains' Petition pending provision of information in two areas:

1. detailed depreciation calculations for the list of specific accounts in the Department's Conclusions and Recommendations (please see previous page of these briefing papers); and
2. an explanation of 2018 adjustments to costs capitalized in prior years.

In its reply comments of August 12, 2019, Great Plains provided the relevant depreciation calculations requested by the Department. The Department verified that, for the accounts requested, GP used the approved depreciation rates[21] to compute the 2018 depreciation expense provisions and correctly calculated depreciation expense.[22]

Regarding 2018 costs capitalized in prior years, Great Plains provided a spreadsheet detailing 2018 capital addition transactions. The Department examined these transactions and noted minor positive and negative variations associated with the 2017 vintage year. The Department concluded that these adjustments are reasonable.

In conclusion, the Department continued to recommend that the Commission:

- Approve Great Plains' proposed depreciation rates, as outlined in Table 1 of the Petition with an effective date of January 1, 2019.
- Approve the depreciation parameters for account 366.0 – Transmission Structures, as outlined in Table 1 of Great Plains' Petition.

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[20] Great Plains, reply comments, p. 2

[21] The Commission most recently approved Great Plains' depreciation rates in Docket No. G-004/D-18-369.

[22] Approved depreciation rate times prior month's ending plant-in-service balance.

- Require Great Plains to continue reporting retirements in account 390.0 – General Structures & Improvements in future depreciation filings as the Company has done in Attachment B of its Petition.
- Continue to require Great Plains to provide an update on the Company's PVC replacement program in its future depreciation studies.

E. Great Plains' Reply Comments

On October 2, 2019, Great Plains submitted a letter accepting the Department's recommendations.

V. Staff Comments

Staff appreciates the efforts by Great Plains to provide updated information on its capitalized asset plans and activities. Staff agrees with the Company's and the Department's recommendations to approve the 2019 Annual Depreciation Study and associated depreciation rates and parameters, as well as future reporting on building retirements and GPNG's PVC replacement program.

VI. Decision Alternatives

Instant Petition

1. Approve the depreciation parameters for new Account 366.0 – Transmission Structures, not previously included in Great Plains Natural Gas Co.'s (Great Plains') most recent 5-year depreciation study (*Great Plains, DOC*) **AND**
2. Approve Great Plains' proposed 2019 Annual Depreciation Study, effective January 1, 2019. (Great Plains, DOC) **OR**
3. Do not approve Great Plains Natural Gas Co.'s proposed 2019 Annual Depreciation Study.

Great Plains' Next Depreciation Filing

4. Require Great Plains to continue reporting retirements for account 390.0 – General Structures & Improvements in future depreciation filings as the Company has done in Attachment B of the current Petition. (*Great Plains, DOC*) **AND**
5. Require Great Plains to continue providing annual updates on the Company's PVC replacement program in its future depreciation studies. (*Great Plains, DOC*).

GREAT PLAINS NATURAL GAS CO.

TABLE 1. REVISED SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN GAS PLANT AS OF DECEMBER 31, 2018

- TOTAL -

ACCOUNT	DESCRIPTION	ESTIMATED SURVIVOR CURVE	NET SALVAGE PERCENT	SURVIVING ORIGINAL COST AS OF 12/31/2018	CALCULATED ACCRUED DEPRECIATION	BOOK RESERVE	ANNUAL ACCRUAL AMOUNT	ANNUAL ACCRUAL RATE	REMAINING LIFE
TRANSMISSION PLANT									
365.2	RIGHTS OF WAY	50-R2.5	0	158,152	101,961	125,291	1,199	0.76	17.8
366.0	TRANSMISSION STRUCTURES	85-S1	-5	16,683	309	39	600	3.60	29.1
367.0	TRANSMISSION MAINS	50-R3	-20	6,097,192	1,238,506	1,448,992	125,012	2.05	41.5
369.0	MEAS & REG STATION EQUIPMENT	40-R0.5	-10	876,671	169,310	222,360	21,831	2.49	33.0
TOTAL TRANSMISSION PLANT				**7,148,697**	**1,510,086**	**1,796,682**	**148,642**	**2.08**	
DISTRIBUTION PLANT									
374.2	RIGHTS OF WAY	50-R2.5	0	17,654	9,420	9,164	367	2.08	23.3
375.0	DISTR. MEAS & REG STATION STRUCTURES	N/A	-5	34,860	N/A	28,001	990 [1]	2.84	N/A
376.0	MAINS	46-R3	-55	20,844,261	9,725,081	10,215,541	663,973	3.19	32.2
378.0	MEAS & REG STATION EQUIP-GENERAL	N/A	-25	515,539	N/A	401,406	64,700 [2]	12.55	N/A
379.0	MEAS & REG STATION EQUIP-CITY GATE	28-R3	-5	489,650	149,186	132,883	20,089	4.10	19.9
380.0	SERVICES	39-R3	-75	16,990,592	8,662,388	9,676,121	669,027	3.94	27.6
381.0	METERS & METER INSTALLATIONS	N/A	-25	7,228,434	N/A	4,575,990	716,338 [3]	9.91	N/A
383.0	HOUSE REGULATORS	N/A	-5	965,429	N/A	443,088	63,911 [3]	6.62	N/A
385.0	INDUSTRIAL MEAS. & REG. STATION EQUIPMENT	40-S4	0	162,784	18,270	17,890	4,087	2.51	35.5
387.1	CATHODIC PROTECTION EQUIPMENT	25-R3	0	9,235	3,962	3,659	401	4.34	14.3
387.2	OTHER EQUIPMENT	30-R3	0	11,498	9,738	11,498	-	-	4.6
TOTAL DISTRIBUTION PLANT				**47,269,936**	**18,578,045**	**25,515,241**	**2,203,883**	**4.66**	
GENERAL PLANT									
390.0	GENERAL STRUCTURES & IMPROVEMENTS	45-R4	0	2,504,707	663,003	812,380	48,189	1.92	33.1
391.1	OFFICE FURNITURE & EQUIPMENT	16-SQ	0	89,305	57,385	56,978	5,446	6.10	5.7
391.3	COMPUTER & ELECTRONIC EQUIPMENT	4-SQ	0	105,067	95,378	88,199	15,622	14.87	0.4
392.1	TRANSPORTATION EQUIPMENT - TRAILERS	12-R1	10	22,349	12,533	23,335	-	-	4.5
392.2	TRANSPORTATION EQUIPMENT	7-L2	20	1,468,028	500,274	639,362	122,821	8.37	4.0
394.0	TOOLS, SHOP, & GARAGE EQUIPMENT	20-SQ	0	757,796	262,445	258,887	38,801	5.12	13.1
396.1	POWER OPERATED EQUIPMENT - TRAILERS	6-L0	65	158,027	17,575	35,215	4,217	2.67	4.1
396.2	POWER OPERATED EQUIPMENT	6-L0	65	1,163,907	101,201	243,640	30,164	2.59	4.5
397.0	COMMUNICATION EQUIPMENT	18-SQ	0	357,683	214,610	215,486	19,404	5.42	7.2
398.0	MISCELLANEOUS EQUIPMENT	25-SQ	0	53,659	22,275	20,516	2,271	4.23	14.6
TOTAL GENERAL PLANT				**6,680,528**	**1,946,679**	**2,393,999**	**286,935**	**4.30**	
TOTAL GAS PLANT STUDIED				**61,099,161**	**22,034,810**	**29,705,922**	**2,639,460**	**4.32**	

ACCOUNT	DESCRIPTION	SURVIVING ORIGINAL COST AS OF 12/31/2018
PLANT NOT STUDIED		
301.0	ORGANIZATION COSTS	5,006
302.0	FRANCHISE COSTS	73,680
303.0	INTANGIABLE ASSETS	2,784,752
365.0	LAND	5,585
374.0	LAND	2,978
389.0	LAND & LAND RIGHTS GENERAL	48,659
TOTAL PLANT		64,019,822

Notes:

[1] Interim Retirement Rate. Service lives vary.

[2] Based upon anticipated district regulator change out / eliminations.

[3] Based upon 20 ERT battery life and remaining PVC program term 2016 - 2026.

All currently approved rates include salvage portion.