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May 1, 2017

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, MN 55101-2147

Mr. William Grant
Deputy Commissioner
Division of Energy Resources
Minnesota Department of Commerce
85 Seventh Place East, Suite 500
St. Paul, MN 55101-2198

Re: Docket No. G004/M-17-_____
CIP Tracker and Demand Side
Management Incentive

Docket No. G004/CIP-12-573
2016 Conservation Improvement Program
Status Report

Dear Mr. Wolf and Mr. Grant:

Great Plains Natural Gas Co. (Great Plains), a Division of MDU Resources Group, Inc., herewith electronically files its 2016 Conservation Improvement Program (CIP) Status Report for the period of January 1, 2016 through December 31, 2016, its 2016 Conservation Improvement Program (CIP) Tracker filing (CCRA), and the Demand Side Management (DSM) Incentive for the period of January 1, 2016 through December 31, 2016.

The 2016 CIP expenditures were \$642,143, which exceeds the minimum spending requirement of \$151,847 and was approximately 23 percent less than the authorized budget for 2016, as established by Decision of the Deputy Commissioner, Department of Commerce on October 12, 2015. Great Plains' programs provided total annual energy savings of 56,669 dk, which was 190 dk or 0.3 percent more than the authorized level. The total lifetime energy reduction related to the 2016 CIP projects is 736,697 dk.

Pursuant to the Commission's Order issued on November 23, 2016, in Docket No. G004/M-16-384, Great Plains has calculated the CCRA based on the existing tracker

balance, as well as the projected sales, expenditures, financial incentive, and any pertinent adjustments that may occur over the period the CCRA will be in place. Carrying charges are calculated at the short-term debt cost authorized in Great Plains' most recent rate case, Docket No. G004/GR-15-879. The 2016 financial incentive is projected to be booked in September 2017, under the assumption that the Commission approves the incentive proposed herein by that time. Carrying charges are appropriately calculated to include the financial incentive. Please see Exhibit E, page 4 for a summary of the projected CIP tracker activity and ending balance on August 2018.

The CIP Tracker filing reflects a proposed CCRA of \$0.2097 per dk, which is a decrease of \$0.0028 per dk from the current CCRA. For a typical residential customer using 76 dk per year, this reflects a decrease of \$0.22 annually or \$0.02 per month. Great Plains requests that the proposed CCRA be implemented September 1, 2017. Attachment A provides the Conservation Improvement Program Adjustment Clause tariff, 4th Revised Sheet No. 5-111.

Great Plains DSM Financial Incentive meets the four considerations required pursuant to Minnesota Statute, Section 216B.16. The net benefit derived from Great Plains' 2016 CIP program is \$2,774,777 which qualifies the Company to receive an incentive of \$345,928 for the 2016 CIP program year.

This filing includes the 2016 CIP Status Report, CIP Tracker filing, and CIP Demand-Side Management Incentive filing with all supporting attachments.

Please refer all inquiries regarding this filing to:

Ms. Tamie A. Aberle
Director of Regulatory Affairs
Great Plains Natural Gas Co.
400 North Fourth Street
Bismarck, ND 58501

Great Plains respectfully requests this filing be accepted as being in full compliance with the filing requirements of this Commission and the Department of Commerce.

Sincerely,

/s/ Tamie A. Aberle

Tamie A. Aberle
Director of Regulatory Affairs

cc: Brian M. Meloy

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**GREAT PLAINS NATURAL GAS CO.
2016 CONSERVATION INCENTIVE PROGRAMS (CIP) STATUS REPORT**

Pursuant to Minnesota Statute 7690.0550 and the Minnesota Department of Commerce, Division of Energy Resources (Department) October 19, 2012 Decision, the May 13, 2013 Decision and the October 12, 2015 Decision on the 2016 extension to the 2013-2015 CIP Triennial Filing in Docket G004/CIP-12-573, Great Plains submits this status report on its Conservation Improvement Program (CIP). This report covers the 2016 CIP year: January 1, 2016 through December 31, 2016.

I. Overall Summary:

The approved 2016 budget for the CIP was \$832,597, while Great Plains' actual expenditures for the twelve month period ending December 31, 2016 were \$642,143, which exceeds the minimum spending requirement of \$151,847. The low income expenditures of \$80,810 exceeded the minimum spending requirement of \$54,662 based on the methodology established in the 2013 legislation. Please see Attachment B for a summary of the details of the expenditures, participants and decatherm (dk) savings for 2016.

Great Plains achieved 77.1 percent of its total expenditure goal and 47.5 percent of its Low Income expenditure goal, as demonstrated below:

	Expenditures			% of Authorized
	Authorized	Actual	Difference	
Residential and Small Commercial				
Space Heating Equipment	\$162,777	\$160,232	(\$2,545)	98.4%
Water Heating Equipment	14,786	8,055	(6,731)	54.5%
Attic Insulation and Bypass	8,446	0	(8,446)	0.0%
Pilotless Fireplace	2,112	464	(1,648)	22.0%
Residential Energy Assessment	22,877	7,261	(15,616)	31.7%
Total Residential	\$210,998	\$176,012	(\$34,986)	83.4%
Low Income				
Weatherization	\$96,200	\$38,277	(\$57,923)	39.8%
Furnace Replacement	69,154	42,238	(26,916)	61.1%
Furnace/Boiler Tune-up	4,811	295	(4,516)	6.1%
Total Low-Income	\$170,165	\$80,810	(\$89,355)	47.5%
Commercial & Industrial				
Space Heating Equipment	\$43,131	\$39,082	(\$4,049)	90.6%
Water Heating Equipment	2,846	5,249	2,403	184.4%
Commercial Boiler Equipment	27,522	745	(26,777)	2.7%
Foodservice Equipment	4,529	621	(3,908)	13.7%
Custom	310,531	317,933	7,402	102.4%
Building Certification Program	5,176	0	(5,176)	0.0%
Commercial Energy Assessment	12,291	0	(12,291)	0.0%

Industrial Energy Assessment	19,408	0	(19,408)	0.0%
Total Commercial and Industrial	\$425,434	\$363,630	(\$61,804)	85.5%
CIP Assessments	26,000	21,691	(4,309)	83.4%
Total CIP Program	<u>\$832,597</u>	<u>\$642,143</u>	<u>(\$190,454)</u>	<u>77.1%</u>

Great Plains achieved 100.3 percent of its 2016 authorized dk savings target.

	Dk Savings			% of Authorized
	Authorized	Actual	Difference	
Residential and Small Commercial				
Space Heating Equipment	10,019	9,923	(96)	99.0%
Water Heating Equipment	3,120	1,046	(2,074)	33.5%
Attic Insulation and Bypass	372	0	(372)	0.0%
Pilotless Fireplace	88	22	(66)	25.0%
Residential Energy Assessment	0	0	0	0.0%
Total Residential	13,599	10,991	(2,608)	80.8%
Low Income				
Weatherization	1,050	277	(773)	26.4%
Furnace Replacement	525	186	(339)	35.4%
Furnace/Boiler Tune-up	74	4	(70)	5.4%
Total Low-Income	1,649	467	(1,182)	28.3%
Commercial & Industrial				
Space Heating Equipment	3,295	2,879	(416)	87.4%
Water Heating Equipment	151	165	14	109.3%
Commercial Boiler Equipment	5,320	791	(4,529)	14.9%
Foodservice Equipment	465	189	(276)	40.6%
Custom	32,000	41,187	9,187	128.7%
Building Certification Program	0	0	0	0.0%
Commercial Energy Assessment	0	0	0	0.0%
Industrial Energy Assessment	0	0	0	0.0%
Total Commercial and Industrial	41,231	45,211	3,980	109.7%
CIP Assessments				
Total CIP Program	<u>56,479</u>	<u>56,669</u>	<u>190</u>	<u>100.3%</u>

The overall dk savings achieved was 56,669 dk, which is more than the authorized goal of 56,479 dk for the year and is an 18.3 percent decrease in dk savings compared to 2015 results. In summary, Great Plains achieved:

- The Residential Space Heating Equipment program provided additional savings of 376 dk over last year, at a cost per unit in total \$0.10 per dk less than authorized.
- The Custom Program provided savings of 41,187 dk, representing a 28.7% increase over authorized, at a cost of \$7.72 per dk, or \$1.98 per dk less than authorized.

- 210 fewer customers participated in the Conservation Improvement Program in 2016 as compared to 2015.
- The total portfolio cost per dk increased from \$10.44 in 2015 to \$11.33 in 2016.

Great Plains plans to build upon its program successes, and market its programs through its website, bill inserts, direct mail campaigns, and other marketing media as appropriate. Great Plains' CIP Program Manager will continue to work directly with the local contractor network on program awareness and education and will continue the involvement with the custom programs.

The cost per dk for the total portfolio is \$11.33 per dk or \$3.41 per dk below the authorized level, as shown in the table below. The total cost per dk saved for the Residential sector is slightly above the authorized cost per dk. The cost per dk saved for the Low Income sector is also higher than authorized. The primary driver for this increase in cost per dk saved compared to authorized is higher furnace replacement costs per participant. For the Commercial and Industrial sector, the actual cost per dk saved was lower than authorized, primarily due to the low level of participation in the Boiler Equipment and Food Service Equipment programs.

The authorized and actual cost per dk saved are:

	Cost per Dk Saved			% of Authorized
	Authorized 2/	Actual	Difference	
Residential				
Space Heating Equipment	\$16.25	\$16.15	(\$0.10)	99.38%
Water Heating Equipment	4.74	7.70	2.96	162.45%
Attic Insulation and Bypass	22.70	0.00	(22.70)	0.00%
Pilotless Fireplace	24.00	21.09	(2.91)	87.88%
Residential Energy Assessment	0.00	0.00	0.00	0.00%
Total Residential	15.52	16.01	0.49	103.16%
Low Income				
Weatherization	91.62	138.18	46.56	150.82%
Furnace Replacement	131.72	227.09	95.37	172.40%
Furnace/Boiler Tune-up	65.01	73.75	8.74	113.44%
Total Low Income	103.19	173.04	69.85	167.69%
Commercial & Industrial				
Space Heating Equipment	\$13.09	\$13.57	\$0.48	103.67%
Water Heating Equipment	18.85	31.81	12.96	168.75%
Commercial Boiler Equipment	5.17	0.94	(4.23)	18.18%
Foodservice Equipment	9.74	3.29	(6.45)	33.78%
Custom	9.70	7.72	(1.98)	79.59%
Building Certification Program	0.00	0.00	0.00	0.00%
Commercial Energy Assessment	0.00	0.00	0.00	0.00%
Industrial Energy Assessment	0.00	0.00	0.00	0.00%
Total Commercial & Industrial	\$10.32	\$8.04	(\$2.28)	77.91%
Total CIP Program 1/	\$14.74	\$11.33	(\$3.41)	76.87%

1/ Includes indirect assessment.

2/ 2016 Extension Plan for Natural Gas CIP, Docket No. G004/CIP-12-573.

Approved by the MN DOC on October 12, 2015.

The total portfolio and each program that had participation were cost effective with a Utility Cost Test ratio of 1.00 or greater, with the exception of the Low Income programs, which had a Utility Cost Test ratio under 1.00. The results of the cost/benefit analysis are shown below:

	<u>RIM</u>	<u>Utility</u>	<u>Societal</u>	<u>Participant</u>
Residential				
Space Heating Equipment	0.69	5.30	3.21	4.06
Water Heating Equipment	0.73	8.60	9.48	13.96
Attic Insulation and Bypass	---	---	---	---
Pilotless Fireplace	0.67	4.27	2.85	4.22
Residential Energy Assessment	0.00	0.00	0.00	1.14
Total Residential Portfolio	0.68	4.77	2.86	3.71
Low Income				
Weatherization	0.40	0.79	1.65	4.13
Furnace Replacement	0.29	0.45	0.86	2.08
Furnace/Boiler Tune-up	0.17	0.21	0.25	1.51
Total Low Income Portfolio	0.34	0.61	1.19	2.89
Commercial and Industrial				
Space Heating Equipment	0.75	7.50	7.90	6.70
Water Heating Equipment	0.64	2.83	6.32	8.38
Commercial Boiler Equipment	0.80	52.46	1.73	1.49
Foodservice Equipment	0.80	21.74	10.17	8.28
Custom Program	0.73	7.54	7.51	7.42
Building Certification Program	---	---	---	---
Commercial Energy Assessment	---	---	---	---
Industrial Energy Assessment	---	---	---	---
Total Commercial & Industrial Portfolio	0.74	8.19	8.19	7.50
Total Portfolio	0.70	5.47	4.53	6.21

The BENCOST Summary for Great Plains' overall CIP program for 2016, as well as the summary for each program is provided as Attachment C. The Project Information Sheets, Attachment D will be filed after the ESP Reporting system is available for 2016 Actual results.

Great Plains did not have any expenditures related to research and development, distributed and renewable generation projects or evaluation.

Program Modifications

On March 14, 2013 in Docket No. G004/CIP-12-573, Great Plains submitted a modification to its 2013–2015 Triennial Plan to comply with the Sustainable Building 2030 (SB 2030) provisions set forth in Minnesota Statute §216B.241, subd. 9(e), which was approved in a Decision dated May 13, 2013. The Company offered a SB 2030 program as a component of its existing Commercial Building Certification program. The SB 2030 program is designed to offer qualified customers design assistance and modeling, financial incentives, and verification of proper installation of energy efficient design components.

II. Status Report by Project:

Residential and Small Commercial Programs

1. Residential Space Heating Program

Great Plains offers a \$25 rebate for a programmable thermostat, available in conjunction with the installation of a high efficiency furnace, a \$300 rebate for a 94 percent AFUE or greater furnace, a \$400 rebate for a 96 percent AFUE or greater furnace, a \$300 rebate for a boiler 84 percent AFUE or greater, a \$500 rebate for a 91 percent AFUE or greater boiler, and a \$50 rebate for a furnace or boiler tune-up. The program is available to residential customers.

The Space Heating program overall achieved 81.1 percent of the participant goal and achieved 99.0 percent of its energy savings goal. The rebates for replacement of higher efficiency furnaces (96 percent AFUE or greater) exceeded the authorized level, which indicates that customers are interested in the higher efficiency appliances.

Great Plains tracked the number of rebates provided for installation in new homes versus for replacement equipment and type of dwelling information. Replacement equipment accounted for 95 percent of participants with 5 percent of participants representing new home construction. Great Plains has historically experienced low residential new construction growth in its service territory and expects the trend to continue.

Single family homes made up 97 percent of participants, duplexes represented 1 percent, town house and condos 1 percent and all other the remaining 1 percent of participants.

2. Water Heating Equipment Upgrade Incentive Program

Great Plains provides an \$85 rebate for the installation of a .64 EF or greater natural gas water heater, a \$100 rebate for the installation of a .67 EF or greater natural gas water heater, and a \$250 rebate for a .82 EF tankless natural gas water heater. This program also includes a free low-flow shower head kit upon request to customers that have natural gas water heating.

Great Plains achieved 33.5 percent of authorized dk savings with 54.5 percent of authorized expenditures and 33.3 percent of authorized participation levels in 2016. The .67 EF or greater program and tankless water heaters met or exceeded the authorized dk savings in 2016, while there were no participants in the .64 EF water heater program.

3. Residential Attic Insulation and Bypass

The Residential Attic Insulation Program provides a dollar per square foot rebate to customers for the installation or replacement of attic insulation and a cash rebate for sealing attic bypasses not previously sealed. In 2016, Great Plains did not have any participants in these programs. As a result, it did not meet its authorized participation and dk savings levels.

4. Pilotless Fireplace

The Residential Pilotless Fireplace Program is a program that offers residential customers a \$75 rebate for the installation of a qualifying pilotless natural gas fireplace. Participation, expenditures and dk savings were 25.0 percent, 22.0 percent and 25.0 percent of authorized, respectively.

5. Residential Energy Assessment

Great Plains offers residential customers, whose primary heat source is natural gas, a comprehensive energy assessment, which includes analyses and recommendations on ways to increase energy efficiency in existing residential homes. Customers are charged a co-pay of \$50, while low-income customers are not charged for an audit. In addition to the audit, customers receive weatherization materials valued at approximately \$25 which include weather stripping, caulk and a caulking gun, a filter whistle, outlet and switch plate gaskets and energy educational information.

The energy assessments are performed by state certified auditors and provide Great Plains' customers with information on energy conservation measures, potential costs for implementing the identified measures and the estimated energy savings for the measures. The assessment includes, at a minimum, a blower door test, carbon monoxide (CO) testing of combustion appliances, and if the home has atmospherically-vented appliances, natural draft and worst case depressurization (WCD) tests.

Great Plains saw an increase in participants in its Residential Energy Assessment program in 2016 compared to 2015, however, the increase in 2016 participation was not enough to meet the authorized participation level. Participation was 24.6 percent of authorized and expenditures were at 31.7 percent of authorized.

6. Low-Income Programs

Great Plains offers conservation measures to low income customers via three programs by funding weatherization measures through CAP agencies, funding for an emergency replacement of a furnace or boiler and funding for furnace and boiler tune-ups for qualified low-income customers. The maximum funding available to the

CAP agency for a qualified customer is \$1,800 for weatherization, \$2,500 for a furnace replacement, \$5,000 for a boiler replacement and \$200 for a furnace or boiler tune-up.

The Low-Income program participation was 28.9 percent of authorized while dk savings represents 28.3 percent of authorized. A summary of projects and dk savings is provided in Attachment B, page 8.

Commercial and Industrial Customer Programs

7. Commercial and Industrial Space Heating Equipment Program

The Commercial and Industrial Space Heating Equipment program provides commercial and industrial customers a cash rebate for the installation of qualifying high-efficiency space heating equipment with minimum input ratings. The program includes a rebate of \$300 for a 94 percent or greater AFUE furnace and \$400 for a 96 percent or greater AFUE furnace. The rebates for the 85 percent or greater high efficiency hot water boilers, 88 percent or greater high efficiency hot water boilers, 84 percent or greater AFUE low pressure boilers, and 83 percent or greater AFUE high pressure boilers vary based on the size and efficiency of equipment.

Overall, the participation was 70.8 percent of authorized with dk savings at 87.4 percent of authorized. There was a decrease in participation from 56 participants in 2015 to 34 participants in 2016.

8. Commercial and Industrial Water Heating Equipment Program

The Commercial Water Heating Equipment program provides commercial and industrial customers a cash incentive for the installation of qualifying commercial natural gas water heating equipment. The program includes a rebate of \$100 for a .64 EF or greater storage type (≥ 40 gallons) water heater and a rebate based on the installed BTUH size of the water heater for 88 percent Condensing Efficiency water heaters.

Overall participation was 214.3 percent of authorized. The corresponding dk savings was only 109.3 percent of authorized due to the efficiency of the installed equipment.

9. Commercial and Industrial Boiler Equipment Program

The Commercial Boiler Equipment program provides commercial and industrial customers a cash incentive for the repair or upgrade of boiler equipment with qualifying energy efficiency boiler equipment. The program includes boiler O2 controls, modulating burners, boiler stack dampers, boiler turbulators, boiler outdoor

air resets, boiler cut-out controls, boiler tune-ups and steam traps, with the rebate based on the type of equipment and kBTUH levels.

The Commercial and Industrial Boiler Equipment program had only two participants in 2016. Both participants were in the Tier 2 (>2,500 kBTUH) Modulating Burners program. Participation was 3.4% of authorized, with a corresponding dk savings of 14.9% of authorized.

10. Foodservice Equipment Program

The Foodservice program provides the restaurant industry and public facilities, such as schools and hospitals, cash incentives for the installation of natural gas foodservice cooking equipment. There are separate rebates for two groups of food service equipment. The first tier provides a \$500 rebate for the following equipment types: Convection Ovens, Fryers, Pasta Cookers, Charbroilers, Salamander Broilers, and Rotisserie Ovens. The second tier provides a \$1,000 rebate for the following equipment types: Conveyor Ovens, Combi-Ovens, Upright Broilers, Rotating Rack Ovens, and Griddles.

There was one Foodservice program participant in 2016. This participant was in Tier 1. The Foodservice Equipment Program achieved 20.0 percent participation with an associated 40.6 percent dk savings.

11. Commercial and Industrial Custom Program

The Commercial Custom Program offers commercial and industrial customers a cash rebate for an energy saving project that is not eligible under a prescriptive program. Custom projects require the involvement of both the customer and the Company working together to develop cost-effective energy saving projects specific to the individual customer's business. Each project is individually evaluated using established criteria and utilizing the BENCOST model to determine eligibility and rebate amounts. Great Plains offers an incentive of \$10 per dk or up to 50 percent of the equipment cost or buy down the project cost to a simple payback of one year, whichever is less.

There were four Commercial and Industrial Custom Program participants in 2016, which was 50.0 percent of the authorized participation. The program achieved energy savings of 41,187 dk, or 128.7 percent of the authorized savings level. The cost per dk for the program also came in below the authorized cost of \$9.70 per dk with an actual cost per dk of \$7.72.

A brief summary of the custom projects follows:

- Project #1: The installation of new, more efficient grain dryers for a large industrial agricultural processing facility.
- Project #2: An energy design assistance project for a hospital.
- Project #3: A boiler burner retrofit project for an industrial processing facility.

- Project #4: A make-up air project for an agricultural/food processing customer.

12. Building Certification Program

The Building Certification Program provides rebates to qualifying customers that participate in the Energy Star, Leadership in Energy and Environmental Design (LEED), or Green Globes Certified Buildings Programs.

Energy Star Labeled Buildings Program

Great Plains will grant a rebate of 50 percent of the cost of professional engineering services up to a maximum of \$3,000 per facility. This rebate is available to new and existing commercial or industrial buildings that meet the eligibility requirements as set by ENERGY STAR and that use natural gas as the primary heating source.

Leadership in Energy and Environmental Design (LEED) Building Certification Program

Great Plains will grant a rebate of 50 percent of the cost of application fees and/or professional engineering services up to a maximum of \$5,000 per facility. This rebate is available to new and existing buildings that are eligible under the requirements of the LEED rating systems and that use natural gas as the primary heating source.

Green Globes Certified Buildings

Great Plains will grant a rebate of 50 percent of the cost of independent third party review and site assessments up to a maximum of \$2,500 per facility. This rebate is available to new and existing commercial or industrial buildings that meet the minimum 35 percent threshold of the new construction self-assessment or the continual improvement for existing buildings assessment and that use natural gas as the primary heating source.

Great Plains did not have any participation in the building certification program in 2016.

13. Commercial Energy Assessment Program

The Commercial Energy Assessment Program provides commercial customers using more than 1,000 Dk annually a comprehensive energy assessment which includes analyses and recommendations on ways to increase energy efficiency in existing commercial buildings. The program offers the following services to participants: an analysis of recent natural gas usage (excluding process load) at the customer's facility, a thorough inspection of the customer's facility including the building envelope, insulation and installed natural gas equipment, a review of how the natural gas equipment is currently operated and a report of energy related opportunities identified during the assessment.

The commercial energy assessment is performed by third party certified energy managers and provides Great Plains' customers with information on energy conservation measures, potential costs for implementing the identified measures and the estimated energy savings for the measures. Customers are responsible for a co-payment of \$150 for the assessment which is refundable upon implementation of an energy saving project identified in the assessment.

Great Plains did not have any participation in the commercial energy assessment program in 2016.

14. Industrial Energy Assessment Program

The Industrial Energy Assessment Program provides industrial and grain-drying customers with a comprehensive energy assessment which includes analyses and recommendations on ways to increase energy efficiency in existing facilities. The program is available to customers with industrial processing load of at least 1,000 Dk annually and customers with natural gas grain-drying load.

The industrial energy assessment is performed by third party certified energy managers and provides Great Plains' customers with information on energy conservation measures, potential costs for implementing the identified measures and the estimated energy savings for the measures. Industrial customers are responsible for a co-payment of \$500 for an industrial assessment and \$250 per assessment for a grain dryer which is refundable upon implementation of an energy saving project identified in the assessment.

Great Plains did not have any participants in the industrial energy assessment program in 2016.

15. CIP Assessment Charges

The CIP Assessment Charges from the Department of Commerce, Division of Energy Resources (Department) related to Technical Assistance, Research and Development (R&D) grants and Facilities Energy Efficiency are fees assessed on a quarterly basis. These expenses are not directly related to Great Plains' CIP Program, but are tracked and recovered through the Conservation Cost Recovery Charge (CCRC) and the Conservation Cost Recovery Adjustment (CCRA) charged to the Company's customers

In 2016, CIP assessments amounted to \$21,691, which is below the \$26,000 authorized.

16. Employee Expenses

Pursuant to Minnesota Statutes 2008, Section 216B.16, Great Plains did not record any employee expenses for travel in 2016. Great Plains has not exceeded the 0.5 percent of total annual CIP expense limit of \$3,211.

	Employee Expenses		
	Residential and Commercial	Residential Attic	Total
Vehicles	\$0	\$0	\$0
Commercial Air	0	0	0
Personal Vehicle Use	0	0	0
Meals	0	0	0
Other Reimbursable Expenses	0	0	0
Total	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

**GREAT PLAINS NATURAL GAS CO.
CONSERVATION IMPROVEMENT PROGRAM
TRACKER REPORT**

III: Conservation Improvement Tracker Program:

Pursuant to the Order issued in Docket No. E,G-999/CI-08-133, Great Plains submits for approval its report on collections and expenditures from the Conservation Improvement Program (CIP) and the calculation of a proposed Conservation Improvement Resource Adjustment (CCRA) proposed to be effective September 1, 2017.

Attachment E, page 1 is the calculation of the proposed CCRA using estimated volumes excluding CIP-exempt customer volumes, as authorized in Docket No. G004/M-12-439. The proposed CCRA is \$0.2097 per dk for all non CIP-Exempt customers, a decrease of \$0.0028 from the current CCRA (established in Docket No. G-004/GR-16-384). For a typical residential customer using 76 dk per year, this reflects a decrease of \$0.22 annually or \$0.02 per month.

The CIP True-up on page 2 includes the balance in the CIP account at December 31, 2015, as well as the projected sales, expenditures, financial incentive, and any pertinent adjustments that may occur over the period the CCRA will be in place. The Company qualifies to receive a 2016 DSM financial incentive of \$345,928 which is projected to be booked in September 2017. Carrying charges are calculated at the short-term debt cost authorized in Great Plains' most recently filed rate case, Docket No. G004/GR-15-879, and appropriately calculated to include the financial incentive.

The detailed activity by month is shown on pages 3 and 4. The calculated DSM incentive for 2016 of \$345,928 is included in September 2017 expenses on Attachment E, page 4, and is shown on Attachment E, page 2.

Attachment A is the CCRA tariff sheet (Sheet No. 5-111) with the proposed rate per dk.

2016 DEMAND-SIDE MANAGEMENT (DSM) INCENTIVE

IV: Demand-Side Management Incentive:

Great Plains submits this report in compliance with the Commission's Order approving the natural gas DSM Financial Incentive program, Docket No. E,G-999/CI-08-133.

Attachment F shows the calculation of the DSM Incentive for 2016 based on the results of the 2016 CIP program. Great Plains earned an incentive in the amount of \$345,928. As shown in Attachment B, Great Plains total energy savings in 2016 were 56,669 dk, or 100.3 percent of goal. This level of achievement is below the 1.2% of revenue threshold, which results in the financial incentive award being calculated on Net Benefits @ Authorized Goal of \$2,774,777 multiplied by the Percent of Benefits Awarded of 12.46688% for an award of \$345,928.

The Commission approved a conservation improvement plan incentive program for gas and electric utilities in its January 27, 2010 Order Establishing Utility Performance Incentives for Utility Conservation in Docket No. G,E-999/CI-08-133. Great Plains' plan is consistent with the four considerations contained in Section 216B.16,subd.6c.

1. Whether the plan is likely to increase utility investment in cost-effective energy conservation.

The incentive plan is likely to increase Great Plains' investment in cost-effective energy conservation because the incentive for achieving each new increment of energy savings increases as the percent of goal achieved increases. No significant incentive is provided unless Great Plains meets or exceeds its expected energy savings at minimum statutory spending guidelines. The increasing increment of the incentive motivates Great Plains to exceed energy savings achievable at statutory spending levels.

The DSM Financial Incentive Plan has increased Great Plains' investment in cost-effective energy conservation because the mechanism encourages cost-effective spending above the statutory minimum.

2. Whether the plan is compatible with the interest of utility ratepayers and other interested parties.

Great Plains' Plan is compatible with the interest of utility customers and other interested parties because it does not receive a significant incentive until it extends beyond the energy savings goals associated with statutory spending requirements. In addition, the incentive never exceeds the incremental increase in net benefits that are created by surpassing the incentive energy savings goals. The incentive is only a fraction of the achieved net benefits and therefore customers receive the vast majority of benefits achieved under the CIP programs.

3. Whether the plan links the incentive to the utility's performance in achieving cost-effective conservation

Great Plains' DSM Financial Incentive Plan links the incentive to its performance in achieving cost-effective conservation. If Great Plains' CIP Program is not cost-effective, there are no net benefits, and, thus, no incentive. As a CIP Program's cost effectiveness increases (increased Mcf saved per dollars spent), net benefits increase, and thus, the incentive increases. Therefore, the plan is directly linked to the cost-effectiveness of the program.

4. Whether the plan is in conflict with other provisions of Minnesota Statute 216B

Great Plains' Plan does not conflict with other provisions of 216B, which requires that all rates be just and reasonable. Awarding incentives under the Plan will not result in unjust or unreasonable rates because the incentives are not cumulative and are only a small portion of the net benefits (avoided costs).

Attachment A

Attachment A



GREAT PLAINS NATURAL GAS CO.

A Division of MDU Resources Group, Inc.

State of Minnesota Gas Rate Schedule – MNPUC Volume 2

Section No. 5

4th Revised Sheet No. 5-111

Canceling 3rd Revised Sheet No. 5-111

CONSERVATION IMPROVEMENT PROGRAM ADJUSTMENT CLAUSE

of the distribution delivery charge authorized in Docket No. G004/GR-15-879. The CCRC is approved and applied on a per dk basis by dividing the test-year CIP expenses by the test-year sales volumes (net of CIP-exempt volumes).

Determination of Conservation Cost Recovery Adjustment:

The CCRA Factor shall be calculated for each customer class by dividing the allocated recoverable Conservation Improvement Program costs, not recovered through the Base Charge by the projected sales volumes, excluding CIP-exempt customer volumes, for a designated recovery period. The factor may be adjusted annually with approval of the Minnesota Public Utilities Commission.

The applicable rate that will be assessed to all non-CIP exempt customers in each rate class is:

Base Charge CCRC	Adjustment CCRA Factor
\$0.0556	\$0.2097

Exemption:

Any customer account determined by the Commissioner to qualify for a CIP exemption as a Large Customer Facility or a Commercial Gas Customer pursuant to Minnesota Statutes 216B.241 and 216B.2421, shall be exempt from the CCRC and the CCRA. Customer accounts granted exemption by a decision of the Commissioner after the beginning of the calendar year shall be credited for any CIP collections billed after January 1st of the year following the Commissioner's decision.

Any customer account determined by the MPUC to qualify for a CIP exemption as a Large Energy Facility pursuant to Minnesota Statutes 216B.16, subd. 6b(b) and 216B.2421, subd. 2(1), shall be exempt from the CCRC and the CCRA Factor.

For Large Customer Facilities, Commercial Gas Customers or Large Energy Facilities, determined to be CIP exempt, the Flexible Distribution Charge will be reduced by the CCRC for exempt customers served under a specific flexed contract. Exempt customers not served under a flexed contract will be billed a credit CCRC. Upon exemption from the conservation program charges, no exempted customer may participate in the Company's gas conservation improvement program unless the owner of the facility submits a filing with the Commissioner or the MPUC to withdraw its exemption.

Date Filed: May 1, 2017

Effective Date:

Issued By: Tamie A. Aberle
Director – Regulatory Affairs

Docket No.:



GREAT PLAINS NATURAL GAS CO.

A Division of MDU Resources Group, Inc.

State of Minnesota Gas Rate Schedule – MNPUC Volume 2

Section No. 5
3rd Revised Sheet No. 5-111
Canceling 2nd Revised Sheet No. 5-111

CONSERVATION IMPROVEMENT PROGRAM ADJUSTMENT CLAUSE

of the distribution delivery charge authorized in Docket No. G004/GR-15-879. The CCRC is approved and applied on a per dk basis by dividing the test-year CIP expenses by the test-year sales volumes (net of CIP-exempt volumes).

Determination of Conservation Cost Recovery Adjustment:

The CCRA Factor shall be calculated for each customer class by dividing the allocated recoverable Conservation Improvement Program costs, not recovered through the Base Charge by the projected sales volumes, excluding CIP-exempt customer volumes, for a designated recovery period. The factor may be adjusted annually with approval of the Minnesota Public Utilities Commission.

The applicable rate that will be assessed to all non-CIP exempt customers in each rate class is:

Base Charge CCRC	Adjustment CCRA Factor
\$0.0556	\$0.21250.2097

Exemption:

Any customer account determined by the Commissioner to qualify for a CIP exemption as a Large Customer Facility or a Commercial Gas Customer pursuant to Minnesota Statutes 216B.241 and 216B.2421, shall be exempt from the CCRC and the CCRA. Customer accounts granted exemption by a decision of the Commissioner after the beginning of the calendar year shall be credited for any CIP collections billed after January 1st of the year following the Commissioner's decision.

Any customer account determined by the MPUC to qualify for a CIP exemption as a Large Energy Facility pursuant to Minnesota Statutes 216B.16, subd. 6b(b) and 216B.2421, subd. 2(1), shall be exempt from the CCRC and the CCRA Factor.

For Large Customer Facilities, Commercial Gas Customers or Large Energy Facilities, determined to be CIP exempt, the Flexible Distribution Charge will be reduced by the CCRC for exempt customers served under a specific flexed contract. Exempt customers not served under a flexed contract will be billed a credit CCRC. Upon exemption from the conservation program charges, no exempted customer may participate in the Company's gas conservation improvement program unless the owner of the facility submits a filing with the Commissioner or the MPUC to withdraw its exemption.

Date Filed:	January 3, 2017	Effective Date:	Service rendered on and after January 1, 2017
Issued By:	Tamie A. Aberle Director – Regulatory Affairs	Docket No.:	G004/GR-15-879

**GREAT PLAINS NATURAL GAS CO.
SUMMARY OF 2016 CIP
AUTHORIZED VS. ACTUAL EXPENDITURES, PARTICIPANTS AND DK SAVINGS**

	Expenditures			% of Authorized	Participants			% of Authorized	Dk Savings			% of Authorized
	Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference	
Residential and Small Commercial												
Space Heating Equipment	\$162,777	\$160,232	(\$2,545)	98.4%	651	528	(123)	81.1%	10,019	9,923	(96)	99.0%
Water Heating Equipment	14,786	8,055	(6,731)	54.5%	836	278	(558)	33.3%	3,120	1,046	(2,074)	33.5%
Attic Insulation and Bypass	8,446	0	(8,446)	0.0%	30	0	(30)	0.0%	372	0	(372)	0.0%
Pilotless Fireplace	2,112	464	(1,648)	22.0%	20	5	(15)	25.0%	88	22	(66)	25.0%
Residential Energy Assessment	22,877	7,261	(15,616)	31.7%	65	16	(49)	24.6%	0	0	0	0.0%
Total Residential	\$210,998	\$176,012	(\$34,986)	83.4%	1,602	827	(775)	51.6%	13,599	10,991	(2,608)	80.8%
Low Income												
Weatherization	\$96,200	\$38,277	(\$57,923)	39.8%	60	17	(43)	28.3%	1,050	277	(773)	26.4%
Furnace Replacement	69,154	42,238	(26,916)	61.1%	17	10	(7)	58.8%	525	186	(339)	35.4%
Furnace/Boiler Tune-up	4,811	295	(4,516)	6.1%	20	1	(19)	5.0%	74	4	(70)	5.4%
Total Low-Income	\$170,165	\$80,810	(\$89,355)	47.5%	97	28	(69)	28.9%	1,649	467	(1,182)	28.3%
Commercial & Industrial												
Space Heating Equipment	\$43,131	\$39,082	(\$4,049)	90.6%	48	34	(14)	70.8%	3,295	2,879	(416)	87.4%
Water Heating Equipment	2,846	5,249	2,403	184.4%	7	15	8	214.3%	151	165	14	109.3%
Commercial Boiler Equipment	27,522	745	(26,777)	2.7%	58	2	(56)	3.4%	5,320	791	(4,529)	14.9%
Foodservice Equipment	4,529	621	(3,908)	13.7%	5	1	(4)	20.0%	465	189	(276)	40.6%
Custom	310,531	317,933	7,402	102.4%	8	4	(4)	50.0%	32,000	41,187	9,187	128.7%
Building Certification Program	5,176	0	(5,176)	0.0%	1	0	(1)	0.0%	0	0	0	0.0%
Commercial Energy Assessment	12,291	0	(12,291)	0.0%	10	0	(10)	0.0%	0	0	0	0.0%
Industrial Energy Assessment	19,408	0	(19,408)	0.0%	5	0	(5)	0.0%	0	0	0	0.0%
Total Commercial and Industrial	\$425,434	\$363,630	(\$61,804)	85.5%	142	56	(86)	39.4%	41,231	45,211	3,980	109.7%
CIP Assessments	26,000	21,691	(4,309)	83.4%								
Total CIP Program	\$832,597	\$642,143	(\$190,454)	77.1%	1,841	911	(930)	49.5%	56,479	56,669	190	100.3%

1/ 2016 Extension Plan for Natural Gas CIP, Docket No. G004/CIP-12-573. Approved by the MN DOC on October 12, 2015.

**GREAT PLAINS NATURAL GAS CO.
SUMMARY OF 2016 CIP
LOW INCOME AND RENTER PARTICIPANTS**

	Expenditures			% of Authorized	Participants			% of Authorized	Dk Savings			% of Authorized
	Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference	
Low Income Participants												
Weatherization	\$96,200	\$38,277	(\$57,923)	39.8%	60	17	(43)	28.3%	1,050	277	(773)	26.4%
Furnace Replacement	69,154	42,238	(26,916)	61.1%	17	10	(7)	58.8%	525	186	(339)	35.4%
Furnace/Boiler Tune-up	4,811	295	(4,516)	6.1%	20	1	(19)	5.0%	74	4	(70)	5.4%
Total Low-Income	\$170,165	\$80,810	(\$89,355)	47.5%	97	28	(69)	28.9%	1,649	467	(1,182)	28.3%
Renter Participants												
Space Heating Equipment 2/	\$7,001	\$13,891	\$6,890	198.4%	28	39	11	139.3%	431	794	363	184.2%
Water Heating Equipment 3/	53	502	449	947.2%	3	13	10	433.3%	11	51	40	463.6%
Attic Insulation - Retrofit	282	0	(282)	0.0%	1	0	(1)	0.0%	12	0	(12)	0.0%
Pilotless Fireplace	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0.0%
Residential Energy Assessment	352	0	(352)	0.0%	1	0	(1)	0.0%	0	0	0	0.0%
Total Renters	\$7,688	\$14,393	\$6,705	187.2%	33	52	19	157.6%	454	845	391	186.1%

1/ 2016 Extension Plan for Natural Gas CIP, Docket No. G004/CIP-12-573. Approved by the MN DOC on October 12, 2015.

2/ Includes rental property from the Furnace, Boiler, Furnace Tune-up and Programmable Thermostat programs.

3/ Includes rental property from the Water Heating Equipment and Low Flow Showerhead programs.

**GREAT PLAINS NATURAL GAS CO.
SUMMARY OF 2016 CIP
PROGRAM RESULTS**

Program	Expenditures			% of Authorized	Participants			% of Authorized	Dk Savings			% of Authorized
	Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference	
Residential and Small Commercial												
Space Heating Equipment												
Programmable Thermostat	\$2,640	\$3,138	\$498	118.9%	75	94	19	125.3%	300	376	76	125.3%
Furnace 94%+ AFUE - New	2,112	2,004	(108)	94.9%	5	5	0	100.0%	37	35	(2)	94.6%
Furnace 94%+ AFUE - Repl.	88,692	45,279	(43,413)	51.1%	210	113	(97)	53.8%	6,090	3,317	(2,773)	54.5%
Furnace 96%+ AFUE - New	1,126	3,740	2,614	332.1%	2	7	5	350.0%	18	66	48	366.7%
Furnace 96%+ AFUE - Repl.	36,603	84,951	48,348	232.1%	65	159	94	244.6%	2,002	4,970	2,968	248.3%
Furnace and Boiler Tune-up	19,357	8,431	(10,926)	43.6%	275	129	(146)	46.9%	1,018	496	(522)	48.7%
Boiler 84%+ AFUE	1,689	2,004	315	118.7%	4	5	1	125.0%	45	55	10	122.2%
Boiler 91%+ AFUE	10,558	10,685	127	101.2%	15	16	1	106.7%	509	608	99	119.4%
Total	\$162,777	\$160,232	(\$2,545)	98.4%	651	528	(123)	81.1%	10,019	9,923	(96)	99.0%
Water Heat Equipment Upgrade												
Water Heating (.64 EF)	\$2,393	\$0	(\$2,393)	0.0%	20	0	(20)	0.0%	26	0	(26)	0.0%
Water Heating (.67 EF)	1,268	2,122	854	167.4%	9	16	7	177.8%	20	43	23	215.0%
Tankless Water Heating (.82 EF)	2,464	2,321	(143)	94.2%	7	7	0	100.0%	34	34	0	100.0%
Low Flow Showerheads	8,661	3,612	(5,049)	41.7%	800	255	(545)	31.9%	3,040	969	(2,071)	31.9%
Total	\$14,786	\$8,055	(\$6,731)	54.5%	836	278	(558)	33.3%	3,120	1,046	(2,074)	33.5%
Attic Insulation and Bypass												
Attic Insulation	\$3,167	\$0	(\$3,167)	0.0%	15	0	(15)	0.0%	240	0	(240)	0.0%
Attic Bypass	5,279	0	(5,279)	0.0%	15	0	(15)	0.0%	132	0	(132)	0.0%
Total Attic Insulation and Bypass	\$8,446	\$0	(\$8,446)	0.0%	30	0	(30)	0.0%	372	0	(372)	0.0%
Pilotless Fireplace	\$2,112	\$464	(\$1,648)	22.0%	20	5	(15)	25.0%	88	22	(66)	25.0%
Residential Energy Assessment	\$22,877	\$7,261	(\$15,616)	31.7%	65	16	(49)	24.6%	0	0	0	0.0%
Total Residential Portfolio	\$210,998	\$176,012	(\$34,986)	83.4%	1,602	827	(775)	51.6%	13,599	10,991	(2,608)	80.8%
Low Income												
Weatherization	\$96,200	\$38,277	(\$57,923)	39.8%	60	17	(43)	28.3%	1,050	277	(773)	26.4%
Furnace Replacement	69,154	42,238	(26,916)	61.1%	17	10	(7)	58.8%	525	186	(339)	35.4%
Furnace/Boiler Tune-up	4,811	295	(4,516)	6.1%	20	1	(19)	5.0%	74	4	(70)	5.4%
Total Low Income Portfolio	\$170,165	\$80,810	(\$89,355)	47.5%	97	28	(69)	28.9%	1,649	467	(1,182)	28.3%

**GREAT PLAINS NATURAL GAS CO.
SUMMARY OF 2016 CIP
PROGRAM RESULTS**

Program	Expenditures			% of Authorized	Participants			% of Authorized	Dk Savings			% of Authorized
	Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference	
Commercial and Industrial												
Space Heating Equipment												
Furnace 94%+ AFUE - Repl.	\$6,986	\$5,584	(\$1,402)	79.9%	18	15	(3)	83.3%	934	543	(391)	58.1%
Furnace 96%+ AFUE - New	2,070	0	(2,070)	0.0%	4	0	(4)	0.0%	64	0	(64)	0.0%
Furnace 96%+ AFUE - Repl.	3,623	5,956	2,333	164.4%	7	12	5	171.4%	384	478	94	124.5%
Commercial Hot Water Boiler												
Tier 1 (85%+ AFUE)	6,159	0	(6,159)	0.0%	7	0	(7)	0.0%	333	0	(333)	0.0%
Tier 2 (88%+ AFUE)	21,220	27,542	6,322	129.8%	10	7	(3)	70.0%	1,428	1,858	430	130.1%
Commercial LP & HP Steam Boilers												
Tier 1 (<300,000 BTUH)	1,456	0	(\$1,456)	0.0%	1	0	(1)	0.0%	57	0	(57)	0.0%
Tier 2 (≥300,000 BTUH)	1,617	0	(1,617)	0.0%	1	0	(1)	0.0%	95	0	(95)	0.0%
Total Space Heating	\$43,131	\$39,082	(\$4,049)	90.6%	48	34	(14)	70.8%	3,295	2,879	(416)	87.4%
Water Heating Equipment												
Water Heater .64 EF+ (≥40 Gallons)	\$258	\$124	(\$134)	48.1%	2	1	(1)	50.0%	30	6	(24)	20.0%
Water Heater Storage 88% cond	2,588	5,125	2,537	198.0%	5	14	9	280.0%	121	159	38	131.4%
Total Water Heating	\$2,846	\$5,249	\$2,403	184.4%	7	15	8	214.3%	151	165	14	109.3%
Commercial Boiler Equipment												
O2 Control	\$7,763	\$0	(\$7,763)	0.0%	2	0	(2)	0.0%	378	0	(378)	0.0%
Modulating Burners												
Tier 1 (<2,500 kBTUH)	4,852	0	(4,852)	0.0%	3	0	(3)	0.0%	341	0	(341)	0.0%
Tier 2 (>2,500 kBTUH)	3,235	745	(2,490)	23.0%	1	2	1	200.0%	856	791	(65)	92.4%
Stack Dampers	1,941	0	(1,941)	0.0%	3	0	(3)	0.0%	1,035	0	(1,035)	0.0%
Turbulators	1,941	0	(1,941)	0.0%	3	0	(3)	0.0%	621	0	(621)	0.0%
Outdoor Air Reset	1,165	0	(1,165)	0.0%	3	0	(3)	0.0%	787	0	(787)	0.0%
Cut-Out Control	388	0	(388)	0.0%	3	0	(3)	0.0%	352	0	(352)	0.0%
Commercial Boiler Tune-Up												
Tier 1 (<2,500 kBTUH)	1,812	0	(1,812)	0.0%	7	0	(7)	0.0%	162	0	(162)	0.0%
Tier 2 (≥2,500 kBTUH)	1,165	0	(1,165)	0.0%	3	0	(3)	0.0%	485	0	(485)	0.0%
Commercial Steam Traps	3,260	0	(3,260)	0.0%	30	0	(30)	0.0%	303	0	(303)	0.0%
Total Commercial Boiler	\$27,522	\$745	(\$26,777)	2.7%	58	2	(56)	3.4%	5,320	791	(4,529)	14.9%

**GREAT PLAINS NATURAL GAS CO.
SUMMARY OF 2016 CIP
PROGRAM RESULTS**

Program	Expenditures			% of Authorized	Participants			% of Authorized	Dk Savings			% of Authorized
	Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference		Authorized 1/	Actual	Difference	
Food Service Equipment												
Tier 1 (\$500 Incentive)	\$1,941	\$621	(\$1,320)	32.0%	3	1	(2)	33.3%	240	189	(51)	78.8%
Tier 2 (\$1,000 Incentive)	2,588	0	(2,588)	0.0%	2	0	(2)	0.0%	225	0	(225)	0.0%
Total	\$4,529	\$621	(\$3,908)	13.7%	5	1	(4)	20.0%	465	189	(276)	40.6%
Custom Projects	\$310,531	\$317,933	\$7,402	102.4%	8	4	(4)	50.0%	32,000	41,187	9,187	128.7%
Building Certification	5,176	0	(5,176)	0.0%	1	0	(1)	0.0%	0	0	0	0.0%
Comm. Energy Assessment	12,291	0	(12,291)	0.0%	10	0	(10)	0.0%	0	0	0	0.0%
Industrial Energy Assessment	19,408	0	(19,408)	0.0%	5	0	(5)	0.0%	0	0	0	0.0%
Total Commercial and Industrial Portfolio	\$425,434	\$363,630	(\$61,804)	85.5%	142	56	(86)	39.4%	41,231	45,211	3,980	109.7%
Total	\$806,597	\$620,452	(\$186,145)	76.9%	1,841	911	(930)	49.5%	56,479	56,669	190	100.3%
Direct Assessment	\$26,000	\$21,691	(\$4,309)									
Grand Total All Portfolios	\$832,597	\$642,143	(\$190,454)									

1/ 2016 Extension Plan for Natural Gas CIP, Docket No. G004/CIP-12-573. Approved by the MN DOC on October 12, 2015.

**GREAT PLAINS NATURAL GAS CO.
COST PER DK SAVED
2016 ACTUAL TO AUTHORIZED**

	Actual Participants	Cost per Dk Saved			% of Authorized
		Authorized 2/	Actual	Difference	
<u>Residential and Small Commercial</u>					
Space Heating Equipment					
Programmable Thermostats	94	\$8.80	\$8.35	(\$0.45)	94.89%
Furnace 94%+ AFUE - New	5	57.08	57.26	0.18	100.32%
Furnace 94%+ AFUE - Repl.	113	14.56	13.65	(0.91)	93.75%
Furnace 96%+ AFUE - New	7	62.56	56.67	(5.89)	90.59%
Furnace 96%+ AFUE - Repl.	159	18.28	17.09	(1.19)	93.49%
Furnace and Boiler Tune-up	129	19.01	17.00	(2.01)	89.43%
Boiler 84%+ AFUE	5	37.53	36.44	(1.09)	97.10%
Boiler 91%+ AFUE	16	20.74	17.57	(3.17)	84.72%
Total Space Heating	528	\$16.25	\$16.15	(\$0.10)	99.38%
Water Heating Equipment					
Water Heating (.64 EF)	0	\$92.04	\$0.00	(\$92.04)	0.00%
Water Heating (.67 EF)	16	63.40	49.35	(14.05)	77.84%
Tankless Water Heating (.82 EF)	7	72.47	68.26	(4.21)	94.19%
Low Flow Showerheads	255	2.85	3.73	0.88	130.88%
Total Water Heating	278	\$4.74	\$7.70	\$2.96	162.45%
Attic Insulation and Bypass					
Attic Insulation	0	\$13.20	\$0.00	(\$13.20)	0.00%
Attic Bypass	0	39.99	0.00	(39.99)	0.00%
Total Attic Insulation and Bypass	0	\$22.70	\$0.00	(\$22.70)	0.00%
Pilotless Fireplace	5	\$24.00	\$21.09	(\$2.91)	87.88%
Residential Energy Assessment	16	\$0.00	\$0.00	\$0.00	0.00%
Total Residential Portfolio	827	\$15.52	\$16.01	\$0.49	103.16%
<u>Low Income</u>					
Weatherization	17	\$91.62	\$138.18	\$46.56	150.82%
Furnace Replacement	10	131.72	227.09	95.37	172.40%
Furnace/Boiler Tune-up	1	65.01	73.75	8.74	113.44%
Total Low Income Portfolio	28	\$103.19	\$173.04	\$69.85	167.69%
<u>Commercial and Industrial</u>					
Space Heating Equipment					
Furnace 94%+ AFUE - Repl. & New	15	\$7.48	\$10.28	\$2.80	137.43%
Furnace 96%+ AFUE - New	0	32.34	0.00	(32.34)	0.00%
Furnace 96%+ AFUE - Repl.	12	9.43	12.46	3.03	132.13%
Commercial Hot Water Boiler					
Tier 1 (85%+ AFUE)	0	18.50	0.00	(18.50)	0.00%
Tier 2 (88%+ AFUE)	7	14.86	14.82	(0.04)	99.73%
Commercial LP & HP Steam Boilers					
Tier 1 (<300,000 BTUH)	0	25.54	0.00	(25.54)	0.00%
Tier 2 (≥300,000 BTUH)	0	17.02	0.00	(17.02)	0.00%
Total Space Heating	34	\$13.09	\$13.57	\$0.48	103.67%

**GREAT PLAINS NATURAL GAS CO.
COST PER DK SAVED
2016 ACTUAL TO AUTHORIZED**

	Actual Participants	Cost per Dk Saved			% of Authorized
		Authorized 2/	Actual	Difference	
Water Heating Equipment					
Water Heater .64 EF+ (≥40 Gallons)	1	\$8.60	\$20.67	\$12.07	240.35%
Water Heater Storage 88% cond	14	21.39	32.23	10.84	150.68%
Total Water Heating	15	\$18.85	\$31.81	\$12.96	168.75%
Commercial Boiler Equipment					
O2 Control	0	\$20.54	\$0.00	(\$20.54)	0.00%
Modulating Burners					
Tier 1 (<2,500 kBTUH)	0	14.23	0.00	(14.23)	0.00%
Tier 2 (>2,500 kBTUH)	2	3.78	0.94	(2.84)	24.87%
Stack Dampers	0	1.88	0.00	(1.88)	0.00%
Turbulators	0	3.13	0.00	(3.13)	0.00%
Outdoor Air Reset	0	1.48	0.00	(1.48)	0.00%
Cut-Out Control	0	1.10	0.00	(1.10)	0.00%
Commercial Boiler Tune-Up					
Tier 1 (<2,500 kBTUH)	0	11.19	0.00	(11.19)	0.00%
Tier 2 (≥2,500 kBTUH)	0	2.40	0.00	(2.40)	0.00%
Commercial Steam Traps	0	10.76	0.00	(10.76)	0.00%
Total Commercial Boiler	2	\$5.17	\$0.94	(\$4.23)	18.18%
Foodservice Equipment					
Tier 1 (\$500 Incentive)	1	\$8.09	\$3.29	(\$4.80)	40.67%
Tier 2 (\$1,000 Incentive)	0	11.50	0.00	(11.50)	0.00%
Total Foodservice	1	\$9.74	\$3.29	(\$6.45)	33.78%
Custom Program	4	\$9.70	\$7.72	(\$1.98)	79.59%
Building Certification Program	0	0.00	0.00	0.00	0.00%
Commercial Energy Assessment	0	0.00	0.00	0.00	0.00%
Industrial Energy Assessment	0	0.00	0.00	0.00	0.00%
Total Commercial and Industrial Portfolio	56	\$10.32	\$8.04	(\$2.28)	77.91%
Grand Total All Portfolios 1/	911	\$14.74	\$11.33	(\$3.41)	76.87%

1/ Includes indirect assessment.

2/ 2016 Extension Plan for Natural Gas CIP, Docket No. G004/CIP-12-573.
Approved by the MN DOC on October 12, 2015.

**GREAT PLAINS NATURAL GAS CO.
SUMMARY OF LOW INCOME PROGRAMS
2016**

Agency/ Customer Number	Weatherization			Furnace/Boiler Replacement			Furnace/Boiler Tune-up			Total Low Income		
	Incentive Expense	Dk Savings	\$/Dk	Incentive Expense	Dk Savings	\$/Dk	Incentive Expense	Dk Savings	\$/Dk	Incentive Expense	Dk Savings	\$/Dk
Mahube												
1	\$1,327	30.0	\$44.23							\$1,327	30.0	\$44.23
2	1,195	18.6	64.25	\$2,579	25.7	\$100.35				3,774	44.3	85.19
3	1,620	16.1	100.62							1,620	16.1	100.62
4	1,858	48.9	38.00	2,170	28.0	77.50				4,028	76.9	52.38
	<u>\$6,000</u>	<u>113.6</u>	<u>\$52.82</u>	<u>\$4,749</u>	<u>53.7</u>	<u>\$88.44</u>	<u>\$0</u>	<u>0.0</u>	<u>\$0.00</u>	<u>\$10,749</u>	<u>167.3</u>	<u>\$64.25</u>
Prairie V Community Action Council, Inc.												
5	\$1,723	8.2	\$210.12	\$2,750	20.1	\$136.82				\$4,473	28.3	\$158.06
6	1,740	16.0	108.75				\$220	3.8	\$57.89	1,960	19.8	98.99
7	1,780	14.6	121.92	2,750	11.8	233.05				4,530	26.4	171.59
8	1,974	10.5	188.00	2,750	19.3	142.49				4,724	29.8	158.52
9	1,926	14.9	129.26							1,926	14.9	129.26
10	1,968	17.8	110.56	2,750	13.3	206.77				4,718	31.1	151.70
11	1,852	15.5	119.48	5,500	20.9	263.16				7,352	36.4	201.98
12	1,053	9.7	108.56	2,750	5.3	518.87				3,803	15.0	253.53
13	1,890	15.7	120.38	2,750	13.5	203.70				4,640	29.2	158.90
14	1,968	14.4	136.67							1,968	14.4	136.67
	<u>\$17,874</u>	<u>137.3</u>	<u>\$130.18</u>	<u>\$22,000</u>	<u>104.2</u>	<u>\$211.13</u>	<u>\$220</u>	<u>3.8</u>	<u>\$57.89</u>	<u>\$40,094</u>	<u>245.3</u>	<u>\$163.45</u>
West Central MN Communities Action, Inc.												
15	\$1,729	9.6	\$180.10	\$4,726	28.0	\$168.79				\$6,455	37.6	\$171.68
16	1,075	6.3	170.63							\$1,075	6.3	\$170.63
17	1,845	10.4	177.40							\$1,845	10.4	\$177.40
	<u>\$4,649</u>	<u>26.3</u>	<u>\$176.77</u>	<u>\$4,726</u>	<u>28.0</u>	<u>\$168.79</u>	<u>\$0</u>	<u>0.0</u>	<u>\$0.00</u>	<u>\$9,375</u>	<u>54.3</u>	<u>\$172.65</u>
Total Low Income	<u>\$28,523</u>	<u>277.2</u>	<u>\$102.90</u>	<u>\$31,475</u>	<u>185.9</u>	<u>\$169.31</u>	<u>\$220</u>	<u>3.8</u>	<u>\$57.89</u>	<u>\$60,218</u>	<u>466.9</u>	<u>\$128.97</u>
Total Participants	17			10			1			28		
Average Dk/Participant Saved										16.7		

Company: Great Plains Natural Gas Co.
 Project: Total Natural Gas Portfolio with Indirect Programs

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$6.20	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$146,302
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	474,150
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$620,452
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$1,109
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part)	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	0.26%	20) Project Life (Years) =	13
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	62.2
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	279 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	911
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	56,669
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$520.47
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	3.06%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$681.07	Ratepayer Impact Measure Test	(\$1,432,185)	0.70
Cost per Participant per MCF =	28.77921157	Utility Cost Test	\$2,774,777	5.47
Lifetime Energy Reduction (MCF)	736,697	Societal Test	\$4,080,565	4.53
Societal Cost per MCF	1.56998196	Participant Test	\$5,266,256	6.21

Company: Great Plains Natural Gas Co.
 Project: Total Residential Portfolio

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$8.55	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$43,441
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	132,571
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$176,012
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$517
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part)	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	1.00%	20) Project Life (Years) =	12
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	13.3
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	271 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	827
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	10,991
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$160.30
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	2.67%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$212.83	Ratepayer Impact Measure Test	(\$395,610)	0.68
Cost per Participant per MCF =	54.87458065	Utility Cost Test	\$663,372	4.77
Lifetime Energy Reduction (MCF)	131,892	Societal Test	\$876,585	2.86
Societal Cost per MCF	3.57110363	Participant Test	\$1,159,026	3.71

Company: **Great Plains Natural Gas Co.**
 Project: **Total Residential Space Heating Equipment**

Input Data		2016
1) Retail Rate (\$/MCF) =	\$8.55	
Escalation Rate =	4.28%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	2.80%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/MCF) =	\$4.34	
Escalation Rate =	4.28%	
4) Demand Cost (\$/Unit/Yr) =	\$239.13	
Escalation Rate =	4.28%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/MCF) =	\$0.0424	
Escalation Rate =	4.28%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	
Escalation Rate =	2.80%	
8) Non-Gas Fuel Loss Factor	5.80%	
9) Gas Environmental Damage Factor =	\$0.3500	
Escalation Rate =	1.73%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213	
Escalation Rate =	1.73%	
11) Participant Discount Rate =	2.67%	
12) Utility Discount Rate =	8.96%	
13) Societal Discount Rate =	2.67%	
14) General Input Data Year =	2012	
15a) Project Analysis Year 1 =	2016	
15b) Project Analysis Year 2 =		
15c) Project Analysis Year 3 =		
16 Utility Project Costs		
16 a) Administrative & Operating Costs =		\$40,270
16 b) Incentive Costs =		119,962
16 c) Total Utility Project Costs =		<u>\$160,232</u>
17) Direct Participant Costs (\$/Part.) =		\$782
18) Participant Non-Energy Costs (Annual \$/Part.) =		\$0
Escalation Rate =		1.73%
19) Participant Non-Energy Savings (Annual \$/Part)		\$0
Escalation Rate =		1.73%
20) Project Life (Years) =		14
21) Avg. MCF/Part. Saved =		18.8
22) Avg Non-Gas Fuel Units/Part. Saved =		425 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used		0 kWh
23) Number of Participants =		528
24) Total Annual MCF Saved =		9,923
25) Incentive/Participant =		\$227.20

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$303.47	Ratepayer Impact Measure Test	(\$382,519)	0.69
Cost per Participant per MCF =	57.73774984	Utility Cost Test	\$689,439	5.30
Lifetime Energy Reduction (MCF)	138,922	Societal Test	\$1,001,967	3.21
Societal Cost per MCF	3.262017535	Participant Test	\$1,263,409	4.06

Company: Great Plains Natural Gas Co.
 Project: Total Residential Water Heating Equipment

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$8.55	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$1,270
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	6,785
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$8,055
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$31
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	1.00%	20) Project Life (Years) =	10
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	3.8
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	278
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	1,046
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$24.41
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	2.67%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$28.97	Ratepayer Impact Measure Test	(\$26,188)	0.73
Cost per Participant per MCF =	15.78284741	Utility Cost Test	\$61,257	8.60
Lifetime Energy Reduction (MCF)	10,460	Societal Test	\$83,826	9.48
Societal Cost per MCF	0.945315488	Participant Test	\$111,650	13.96

Company: Great Plains Natural Gas Co.
 Project: Residential Pilotless Fireplace

Input Data		2016
1) Retail Rate (\$/MCF) =	\$8.55	
Escalation Rate =	4.28%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	2.80%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	
3) Commodity Cost (\$/MCF) =	\$4.34	
Escalation Rate =	4.28%	
4) Demand Cost (\$/Unit/Yr) =	\$239.13	
Escalation Rate =	4.28%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/MCF) =	\$0.0424	
Escalation Rate =	4.28%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	
Escalation Rate =	2.80%	
8) Non-Gas Fuel Loss Factor	5.80%	
9) Gas Environmental Damage Factor =	\$0.3500	
Escalation Rate =	1.73%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213	
Escalation Rate =	1.73%	
11) Participant Discount Rate =	2.67%	
12) Utility Discount Rate =	8.96%	
13) Societal Discount Rate =	2.67%	
14) General Input Data Year =	2012	
15a) Project Analysis Year 1 =	2016	
15b) Project Analysis Year 2 =		
15c) Project Analysis Year 3 =		
16 Utility Project Costs		
16 a) Administrative & Operating Costs =		\$114
16 b) Incentive Costs =		350
16 c) Total Utility Project Costs =		<u>\$464</u>
17) Direct Participant Costs (\$/Part.) =		\$193
18) Participant Non-Energy Costs (Annual \$/Part.) =		\$0
Escalation Rate =		1.73%
19) Participant Non-Energy Savings (Annual \$/Part)		\$0
Escalation Rate =		1.73%
20) Project Life (Years) =		15
21) Avg. MCF/Part. Saved =		4.4
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used		0 kWh
23) Number of Participants =		5
24) Total Annual MCF Saved =		22
25) Incentive/Participant =		\$70.00

Cost Summary	2016	Test Results	Triennial	Triennial
			NPV	B/C
Utility Cost per Participant =	\$92.80	Ratepayer Impact Measure Test	(\$982)	0.67
Cost per Participant per MCF =	64.95454545	Utility Cost Test	\$1,515	4.27
Lifetime Energy Reduction (MCF)	330	Societal Test	\$1,991	2.85
Societal Cost per MCF	3.26969697	Participant Test	\$3,112	4.22

Company: Great Plains Natural Gas Co.
 Project: Residential Energy Assessment Program

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$8.55	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$1,787
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	5,474
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$7,261
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$300
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part)	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	1.00%	20) Project Life (Years) =	10
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	-
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	16
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	0
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$342.13
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	2.67%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$453.81	Ratepayer Impact Measure Test	(\$7,261)	0.00
Cost per Participant per MCF =	#DIV/0!	Utility Cost Test	(\$7,261)	0.00
Lifetime Energy Reduction (MCF)	0	Societal Test	(\$6,587)	0.00
Societal Cost per MCF	#DIV/0!	Participant Test	\$674	1.14

Company: Great Plains Natural Gas Co.
 Project: Total Low Income Programs

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$8.55	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$20,592
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	60,218
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$80,810
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$2,024
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part)	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	1.00%	20) Project Life (Years) =	19
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	16.7
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	239 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	28
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	467
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$2,150.64
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	2.67%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$2,886.07	Ratepayer Impact Measure Test	(\$93,700)	0.34
Cost per Participant per MCF =	294.0162532	Utility Cost Test	(\$31,539)	0.61
Lifetime Energy Reduction (MCF)	8,873	Societal Test	\$14,782	1.19
Societal Cost per MCF	8.70776513	Participant Test	\$107,065	2.89

Company: Great Plains Natural Gas Co.
Project: Low Income Weatherization

Input Data		2016
1) Retail Rate (\$/MCF) =	\$8.55	
Escalation Rate =	4.28%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	2.80%	
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	
3) Commodity Cost (\$/MCF) =	\$4.34	
Escalation Rate =	4.28%	
4) Demand Cost (\$/Unit/Yr) =	\$239.13	
Escalation Rate =	4.28%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/MCF) =	\$0.0424	
Escalation Rate =	4.28%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	
Escalation Rate =	2.80%	
8) Non-Gas Fuel Loss Factor	5.80%	
9) Gas Environmental Damage Factor =	\$0.3500	
Escalation Rate =	1.73%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213	
Escalation Rate =	1.73%	
11) Participant Discount Rate =	2.67%	
12) Utility Discount Rate =	8.96%	
13) Societal Discount Rate =	2.67%	
14) General Input Data Year =	2012	
15a) Project Analysis Year 1 =	2016	
15b) Project Analysis Year 2 =		
15c) Project Analysis Year 3 =		
16 Utility Project Costs		
16 a) Administrative & Operating Costs =		\$9,754
16 b) Incentive Costs =		28,523
16 c) Total Utility Project Costs =		\$38,277
17) Direct Participant Costs (\$/Part.) =		\$1,333
18) Participant Non-Energy Costs (Annual \$/Part.) =		\$0
Escalation Rate =		1.73%
19) Participant Non-Energy Savings (Annual \$/Part)		\$0
Escalation Rate =		1.73%
20) Project Life (Years) =		20
21) Avg. MCF/Part. Saved =		16.3
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used		0 kWh
23) Number of Participants =		17
24) Total Annual MCF Saved =		277
25) Incentive/Participant =		\$1,677.82

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$2,251.59	Ratepayer Impact Measure Test	(\$46,175)	0.40
Cost per Participant per MCF =	219.9133887	Utility Cost Test	(\$8,089)	0.79
Lifetime Energy Reduction (MCF)	5,540	Societal Test	\$21,142	1.65
Societal Cost per MCF	5.851083032	Participant Test	\$71,026	4.13

Company: Great Plains Natural Gas Co.
 Project: Low Income Furnace Replacement

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$8.55	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$10,763
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	31,475
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$42,238
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$3,382
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part)	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	1.00%	20) Project Life (Years) =	18
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	18.6
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	669 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	10
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	186
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$3,147.50
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	2.67%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	1st Yr	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$4,223.80	Ratepayer Impact Measure Test	(\$47,195)	0.29
Cost per Participant per MCF =	408.9139785	Utility Cost Test	(\$23,290)	0.45
Lifetime Energy Reduction (MCF)	3,348	Societal Test	(\$6,141)	0.86
Societal Cost per MCF	13.31630824	Participant Test	\$36,398	2.08

Company: **Great Plains Natural Gas Co.**
 Project: **Low Income Furnace and Boiler Tune-up Program**

Input Data		2016
1) Retail Rate (\$/MCF) =	\$8.55	16 Utility Project Costs
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =
		\$75
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =
Escalation Rate =	2.80%	\$220
Non-Gas Fuel Units (ie. kWh, Gallons, etc) =	kWh	16 c) Total Utility Project Costs =
		\$295
3) Commodity Cost (\$/MCF) =	\$4.34	17) Direct Participant Costs (\$/Part.) =
Escalation Rate =	4.28%	\$200
4) Demand Cost (\$/Unit/Yr) =	\$239.13	18) Participant Non-Energy Costs (Annual \$/Part.) =
Escalation Rate =	4.28%	\$0
		Escalation Rate =
5) Peak Reduction Factor =	1.00%	1.73%
6) Variable O&M (\$/MCF) =	\$0.0424	19) Participant Non-Energy Savings (Annual \$/Part)
Escalation Rate =	4.28%	\$0
		Escalation Rate =
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	20) Project Life (Years) =
Escalation Rate =	2.80%	2
8) Non-Gas Fuel Loss Factor	5.80%	21) Avg. MCF/Part. Saved =
		4.0
9) Gas Environmental Damage Factor =	\$0.3500	22) Avg Non-Gas Fuel Units/Part. Saved =
Escalation Rate =	1.73%	0 kWh
		22a) Avg Additional Non-Gas Fuel Units/ Part. Used
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213	0 kWh
Escalation Rate =	1.73%	23) Number of Participants =
11) Participant Discount Rate =	2.67%	1
12) Utility Discount Rate =	8.96%	24) Total Annual MCF Saved =
13) Societal Discount Rate =	2.67%	4
14) General Input Data Year =	2012	25) Incentive/Participant =
15a) Project Analysis Year 1 =	2016	\$220.00
15b) Project Analysis Year 2 =		
15c) Project Analysis Year 3 =		

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$295.00	Ratepayer Impact Measure Test	(\$311)	0.17
Cost per Participant per MCF =	123.75	Utility Cost Test	(\$232)	0.21
Lifetime Energy Reduction (MCF)	8	Societal Test	(\$207)	0.25
Societal Cost per MCF	34.375	Participant Test	\$101	1.51

Company: Great Plains Natural Gas Co.
 Project: Total Commercial and Industrial Portfolio

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$5.61	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$82,269
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	281,361
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$363,630
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$9,402
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part)	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	0.07%	20) Project Life (Years) =	17
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	807.3
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	409 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	56
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	45,211
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$5,024.30
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	8.96%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$6,493.39	Ratepayer Impact Measure Test	(\$1,055,114)	0.74
Cost per Participant per MCF =	19.68957371	Utility Cost Test	\$2,614,598	8.19
Lifetime Energy Reduction (MCF)	768,587	Societal Test	\$4,377,315	8.19
Societal Cost per MCF	0.79207819	Participant Test	\$3,424,561	7.50

Company: **Great Plains Natural Gas Co.**
 Project: **Total Commercial Space Heating Equipment**

Input Data		2016
1) Retail Rate (\$/MCF) =	\$8.11	
Escalation Rate =	4.28%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	2.80%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	
3) Commodity Cost (\$/MCF) =	\$4.34	
Escalation Rate =	4.28%	
4) Demand Cost (\$/Unit/Yr) =	\$239.13	
Escalation Rate =	4.28%	
5) Peak Reduction Factor =	1.00%	
6) Variable O&M (\$/MCF) =	\$0.0424	
Escalation Rate =	4.28%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	
Escalation Rate =	2.80%	
8) Non-Gas Fuel Loss Factor	5.80%	
9) Gas Environmental Damage Factor =	\$0.3500	
Escalation Rate =	1.73%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213	
Escalation Rate =	1.73%	
11) Participant Discount Rate =	8.96%	
12) Utility Discount Rate =	8.96%	
13) Societal Discount Rate =	2.67%	
14) General Input Data Year =	2012	
15a) Project Analysis Year 1 =	2016	
15b) Project Analysis Year 2 =		
15c) Project Analysis Year 3 =		
16 Utility Project Costs		
16 a) Administrative & Operating Costs =		\$7,586
16 b) Incentive Costs =		31,496
16 c) Total Utility Project Costs =		<u>\$39,082</u>
17) Direct Participant Costs (\$/Part.) =		\$1,679
18) Participant Non-Energy Costs (Annual \$/Part.) =		\$0
Escalation Rate =		1.73%
19) Participant Non-Energy Savings (Annual \$/Part)		\$0
Escalation Rate =		1.73%
20) Project Life (Years) =		18
21) Avg. MCF/Part. Saved =		84.7
22) Avg Non-Gas Fuel Units/Part. Saved =		531 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used		0 kWh
23) Number of Participants =		34
24) Total Annual MCF Saved =		2,879
25) Incentive/Participant =		\$926.35

Cost Summary	2016	Test Results	Triennial	Triennial
			NPV	B/C
Utility Cost per Participant =	\$1,149.47	Ratepayer Impact Measure Test	(\$96,941)	0.75
Cost per Participant per MCF =	33.39398569	Utility Cost Test	\$254,203	7.50
Lifetime Energy Reduction (MCF)	51,822	Societal Test	\$446,376	7.90
Societal Cost per MCF	1.247964185	Participant Test	\$325,553	6.70

Company: Great Plains Natural Gas Co.
 Project: Total Commercial Water Heating
 Equipment

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$8.11	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$1,019
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	4,230
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$5,249
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$175
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part)	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	1.00%	20) Project Life (Years) =	15
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	11.0
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	15
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	165
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$282.00
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	8.96%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$349.93	Ratepayer Impact Measure Test	(\$8,177)	0.64
Cost per Participant per MCF =	47.72121212	Utility Cost Test	\$9,594	2.83
Lifetime Energy Reduction (MCF)	2,475	Societal Test	\$19,382	6.32
Societal Cost per MCF	1.472323232	Participant Test	\$19,376	8.38

Company: **Great Plains Natural Gas Co.**
 Project: **Total Commercial Boiler Equipment**

Input Data		2016
1) Retail Rate (\$/MCF) =	\$5.41	
Escalation Rate =	4.28%	
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	
Escalation Rate =	2.80%	
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	
3) Commodity Cost (\$/MCF) =	\$4.34	
Escalation Rate =	4.28%	
4) Demand Cost (\$/Unit/Yr) =	\$239.13	
Escalation Rate =	4.28%	
5) Peak Reduction Factor =	0.00%	
6) Variable O&M (\$/MCF) =	\$0.0424	
Escalation Rate =	4.28%	
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	
Escalation Rate =	2.80%	
8) Non-Gas Fuel Loss Factor	5.80%	
9) Gas Environmental Damage Factor =	\$0.3500	
Escalation Rate =	1.73%	
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213	
Escalation Rate =	1.73%	
11) Participant Discount Rate =	8.96%	
12) Utility Discount Rate =	8.96%	
13) Societal Discount Rate =	2.67%	
14) General Input Data Year =	2012	
15a) Project Analysis Year 1 =	2016	
15b) Project Analysis Year 2 =		
15c) Project Analysis Year 3 =		
16 Utility Project Costs		
16 a) Administrative & Operating Costs =		\$145
16 b) Incentive Costs =		600
16 c) Total Utility Project Costs =		\$745
17) Direct Participant Costs (\$/Part.) =		\$16,383
18) Participant Non-Energy Costs (Annual \$/Part.) =		\$0
Escalation Rate =		1.73%
19) Participant Non-Energy Savings (Annual \$/Part)		\$0
Escalation Rate =		1.73%
20) Project Life (Years) =		12
21) Avg. MCF/Part. Saved =		395.5
22) Avg Non-Gas Fuel Units/Part. Saved =		0 kWh
22a) Avg Additional Non-Gas Fuel Units/ Part. Used		0 kWh
23) Number of Participants =		2
24) Total Annual MCF Saved =		791
25) Incentive/Participant =		\$300.00

Cost Summary	2016	Test Results	Triennial	Triennial
			NPV	B/C
Utility Cost per Participant =	\$372.50	Ratepayer Impact Measure Test	(\$9,939)	0.80
Cost per Participant per MCF =	42.3653603	Utility Cost Test	\$38,338	52.46
Lifetime Energy Reduction (MCF)	9,492	Societal Test	\$24,135	1.73
Societal Cost per MCF	3.467235567	Participant Test	\$16,111	1.49

Company: Great Plains Natural Gas Co.
 Project: Total Commercial Foodservice
 Equipment Programs

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$8.11	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$121
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	500
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$621
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$2,013
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	1.00%	20) Project Life (Years) =	11
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	189.0
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	4,855 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	1
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	189
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$500.00
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	8.96%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$621.00	Ratepayer Impact Measure Test	(\$3,284)	0.80
Cost per Participant per MCF =	13.93650794	Utility Cost Test	\$12,879	21.74
Lifetime Energy Reduction (MCF)	2,079	Societal Test	\$19,577	10.17
Societal Cost per MCF	1.026455026	Participant Test	\$14,650	8.28

Company: Great Plains Natural Gas Co.
Project: Commercial Custom Program

Input Data		2016	
1) Retail Rate (\$/MCF) =	\$5.41	16 Utility Project Costs	
Escalation Rate =	4.28%	16 a) Administrative & Operating Costs =	\$73,398
2) Non-Gas Fuel Retail Rate (\$/Fuel Unit) =	\$0.000	16 b) Incentive Costs =	244,535
Escalation Rate =	2.80%	16 c) Total Utility Project Costs =	\$317,933
Non-Gas Fuel Units (ie. kWh,Gallons, etc) =	kWh	17) Direct Participant Costs (\$/Part.) =	\$108,000
3) Commodity Cost (\$/MCF) =	\$4.34	18) Participant Non-Energy Costs (Annual \$/Part.) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
4) Demand Cost (\$/Unit/Yr) =	\$239.13	19) Participant Non-Energy Savings (Annual \$/Part) =	\$0
Escalation Rate =	4.28%	Escalation Rate =	1.73%
5) Peak Reduction Factor =	0.00%	20) Project Life (Years) =	15
6) Variable O&M (\$/MCF) =	\$0.0424	21) Avg. MCF/Part. Saved =	10,296.8
Escalation Rate =	4.28%	22) Avg Non-Gas Fuel Units/Part. Saved =	0 kWh
7) Non-Gas Fuel Cost (\$/Fuel Unit) =	\$0.027	22a) Avg Additional Non-Gas Fuel Units/ Part. Used	0 kWh
Escalation Rate =	2.80%	23) Number of Participants =	4
8) Non-Gas Fuel Loss Factor	5.80%	24) Total Annual MCF Saved =	41,187
9) Gas Environmental Damage Factor =	\$0.3500	25) Incentive/Participant =	\$61,133.75
Escalation Rate =	1.73%		
10) Non Gas Fuel Enviro. Damage Factor (\$/Unit) =	\$0.0213		
Escalation Rate =	1.73%		
11) Participant Discount Rate =	8.96%		
12) Utility Discount Rate =	8.96%		
13) Societal Discount Rate =	2.67%		
14) General Input Data Year =	2012		
15a) Project Analysis Year 1 =	2016		
15b) Project Analysis Year 2 =			
15c) Project Analysis Year 3 =			

Cost Summary	2016	Test Results	Triennial NPV	Triennial B/C
Utility Cost per Participant =	\$79,483.25	Ratepayer Impact Measure Test	(\$881,822)	0.73
Cost per Participant per MCF =	18.20791411	Utility Cost Test	\$2,079,183	7.54
Lifetime Energy Reduction (MCF)	617,805	Societal Test	\$3,290,005	7.51
Societal Cost per MCF	0.81805424	Participant Test	\$2,773,540	7.42

**GREAT PLAINS NATURAL GAS CO.
CIP RATE TRUE-UP FILING
DOCKET NO. G004/M-17-_____**

	Projected Dk 1/	Volumetric Allocation	Total Under/(Over) Recovery	Proposed CCRA	Current CCRA 2/	Change
Residential	1,468,300	22.1533%	\$307,883	\$0.2097	\$0.2125	(\$0.0028)
Firm General	1,243,400	18.7601%	260,725	0.2097	0.2125	(0.0028)
Interruptible	937,800	14.1493%	196,645	0.2097	0.2125	(0.0028)
Transportation	2,978,400	44.9373%	624,531	0.2097	0.2125	(0.0028)
Total	<u>6,627,900</u>	<u>100.0000%</u>	<u>\$1,389,784</u>			

Rate change for the average residential customer using 76 Dk per year.

	Dk 3/	CCRC	CCRA	Total	Total CIP Cost
Current Rate	76	\$0.0556 4/	\$0.2125	\$0.2681	\$20.38
Proposed Rate	76	0.0556	0.2097	0.2653	20.16
Change		\$0.0000	(\$0.0028)	(\$0.0028)	

The average residential customer will pay an annual CIP cost of \$20.16 per year.

1/ Docket No. G004/M-12-439 designates using projected dk throughput for the period in which the CCRA is proposed to be in effect.

The proposed time period is 12 months running from September 2017 - August 2018.

2/ Authorized in Docket No. G004/M-16-384, effective January 1, 2017.

3/ Reflects average normalized 2016 residential dk per customer.

4/ Authorized in Docket No. G004/GR-15-879, effective January 1, 2017.

GREAT PLAINS NATURAL GAS CO.
CCRA FILING AND DEMAND INCENTIVE
DOCKET NO. G004/M-17-____

<u>CIP True-Up</u>	<u>Beginning Balance</u>	<u>Expenses</u>	<u>Carrying Charges</u>	<u>Billed Recovery</u>	<u>Net Activity</u>	<u>Ending Balance</u>
2016 Activity	\$241,051	\$1,119,220	\$2,346	\$301,780	\$819,786	\$1,060,837
2017 Activity						
January - March Actual	\$1,060,837	\$79,332	\$3,829	\$525,966	(\$442,805)	
April - August 2017 Projected		359,667	3,477	465,823	(102,679)	
	<u>\$1,060,837</u>	<u>\$438,999</u>	<u>\$7,306</u>	<u>\$991,789</u>	<u>(\$545,484)</u>	<u>\$515,353</u>
2018 Activity						
Sept. 2017 - Aug. 2018 Projected	\$515,353	\$891,332	\$5,682	\$368,511 1/	\$528,503	\$1,043,856
Projected Balance September 1, 2018	<u>\$1,060,837</u>	<u>\$1,330,331</u>	<u>\$12,988</u>	<u>\$1,360,300</u>	<u>(\$16,981)</u>	<u>\$1,043,856</u>
2016 DSM Incentive to be recorded in September 2017						<u>345,928 2/</u>
Total projected Under/(Over) Recovery to be recovered through CCRA from Sept 2017 - August 2018						<u>\$1,389,784</u>

1/ Projected CCRC recovery from Sept 2017 - August 2018.

2/ Reflects 2016 Utility Cost Test result multiplied by the Percent of Benefits Awarded.

**GREAT PLAINS NATURAL GAS CO.
CIP PROGRAM
2016**

Month	Beginning Balance	Carrying Charge 1/	Current Month Charges	Billed Recovery			Ending Balance
				CCRC 2/	CCRA 2/	Total	
December 2015 3/							\$241,051
January 2016	\$241,051	\$151	\$40,622	\$27,301	\$13,070	\$40,371	241,453
February	241,453	151	27,163	48,243	(6,614)	41,629	227,138
March	227,138	142	36,732	43,072	(5,913)	37,159	226,853
April	226,853	142	24,516	36,129	(5,060)	31,069	220,442
May	220,442	138	31,206	28,454	(3,994)	24,460	227,326
June	227,326	142	29,708	17,901	(2,509)	15,392	241,784
July	241,784	151	136,752	11,599	(1,658)	9,941	368,746
August	368,746	230	17,689	15,586	(2,186)	13,400	373,265
September	373,265	233	79,662	13,884	(1,948)	11,936	441,224
October	441,224	276	18,677	17,290	(2,424)	14,866	445,311
November	445,311	278	81,261	31,996	(4,491)	27,505	499,345
December	499,345	312	595,232 4/	39,613	(5,561)	34,052	1,060,837
Total 2016		<u>\$2,346</u>	<u>\$1,119,220</u>	<u>\$331,068</u>	<u>(\$29,288)</u>	<u>\$301,780</u>	

1/ Reflects the authorized interest at the two-year U.S. Treasury Bond rate as of April 18, 2016 of 0.75%, divided over 12 months, per Order No. G004/M-14-358, issued December 17, 2014.

Authorized Rate of Return	0.7500%
Monthly Rate	0.0625%

2/ Rates effective with service rendered on and after January 1, 2016 - Docket No. G004/GR-15-879.

CCRC	\$0.0563
CCRA	(\$0.0079)

3/ CIP Tracker Account beginning balance and activity as resubmitted on January 10, 2017 pursuant to Ordering Point No. 5 in the Commission's Order issued in Docket No. G004/GR-15-879 on December 22, 2016 and authorized by Commission Order in Docket No. G004/M-16-384 on November 23, 2016.

4/ Includes 2015 DSM incentive amount of \$477,077 authorized by Commission Order in Docket No. G004/M-16-384 on November 23, 2016.

**GREAT PLAINS NATURAL GAS CO.
CIP PROGRAM
2017**

Month	Beginning Balance	Carrying Charge 1/	Current Month Charges	Billed Recovery			Ending Balance
				CCRC 2/	CCRA 2/	Total	
December 2016							\$1,060,837
January 2017	\$1,060,837	\$1,423	\$29,771	\$54,840	\$36,788	\$91,628	1,000,403
February	1,000,403	1,342	19,031	47,642	179,927	227,569	793,207
March	793,207	1,064	30,530	42,876	163,893	206,769	618,032
April - est.	618,032	829	36,757	29,290	111,945	141,235	514,383
May - est.	514,383	690	46,752	20,566	78,604	99,170	462,655
June - est.	462,655	621	44,575	15,718	60,074	75,792	432,059
July - est.	432,059	580	205,063	15,195	58,076	73,271	564,431
Aug. - est.	564,431	757	26,520	15,835	60,520	76,355	515,353
Total 2017 YTD		<u>\$7,306</u>	<u>\$438,999</u>	<u>\$241,962</u>	<u>\$749,827</u>	<u>\$991,789</u>	
Sept. - est.	\$515,353	\$691	\$465,387 3/	\$17,775	\$67,041	\$84,816	\$896,615
Oct. - est.	896,615	1,203	27,970	32,949	124,268	157,217	768,571
Nov. - est.	768,571	1,031	121,796	39,754	149,936	189,690	701,708
Dec. - est.	701,708	941	177,172	47,188	177,972	225,160	654,661
Jan. 2018 - est.	654,661	878	30,153	49,818	187,891	237,709	447,983
Feb. - est.	447,983	601	19,294	45,169	170,360	215,529	252,349
Mar. - est.	252,349	339	30,961	38,909	146,748	185,657	97,992
Apr. - est.	97,992	131	37,242	29,457	111,099	140,556	(5,191)
May - est.	(5,191)	(7)	47,383	20,633	77,820	98,453	(56,268)
Jun. - est.	(56,268)	(75)	45,140	15,757	59,429	75,186	(86,389)
Jul. - est.	(86,389)	(116)	207,840	15,234	57,458	72,692	48,643
Aug. - est.	48,643	65	26,922	15,868	59,848	75,716	(86)
Total 2018 YTD		<u>\$5,682</u>	<u>\$1,237,260</u>	<u>\$368,511</u>	<u>\$1,389,870</u>	<u>\$1,758,381</u>	

1/ Reflects the cost of short-term debt of 1.610% authorized in Docket No. G004/GR-15-879.

2/ Rates effective with service rendered on and after:

	Current:	Proposed:
	January 1, 2017 - August 31, 2017	September 1, 2017 - August 31, 2018
	<u>Docket No. G004/GR-16-384.</u>	<u>Docket No. G004/M-17-</u>
CCRC	\$0.0556	\$0.0556
CCRA	\$0.2125	\$0.2097

3/ Includes 2016 projected financial incentive of: \$345,928

**GREAT PLAINS NATURAL GAS CO.
PERFORMANCE INCENTIVE MODEL
2016 Shared Savings Model Calibrated to \$9.00 with a Cap of 1.25 Times Base**

Inputs:

Average Sales:	5,570,068	1/
1.0% Energy Savings:	55,701	
Historic Average Savings:	0.36%	
Earning Threshold:	0.10%	plus one unit of energy
Earning Threshold in Energy Savings:	5,570	
Award zero point:	0.00%	
Award zero point in Energy Savings:	0	
Steps from zero point to 1.5%	15.0	
Size of steps in Energy Savings:	5,570	

Incentive Calibration:

Average Incentive per unit at 1.5%:	\$9.00	
Incentive Cap (\$5.50 Incentive Base)	\$6.875	
Energy savings at 1.5%:	83,551	
Targeted incentive at 1.5%:	\$751,959	
Multiplier:	0.0122537	Percent of Net Benefits received for every 0.1% of sales saved
Actual Expense	\$642,143	
Annual Savings Achieved	56,669	
Net Benefits @ Authorized Goal	\$2,774,777	
Number of steps above award zero point:	10.17397	
Percent of Benefits Awarded	12.46688%	
Incentive	\$345,928	

Achievement Level	Dk	Percent of Benefits	Estimated Benefits	Correction Factor	Adjusted Benefits	With Cap	
						Award With Cap	Average Incentive per Dk Saved
0.0% of Sales	0	0.00000%	\$0	1.00	\$0	\$0	\$0.00
0.1% of Sales	5,570	0.00000%	272,736	1.00	272,736	0	0.00
0.2% of Sales	11,140	2.45077%	545,473	1.00	545,473	13,368	1.20
0.3% of Sales	16,710	3.67615%	818,209	1.00	818,209	30,079	1.80
0.4% of Sales	22,280	4.90154%	1,090,945	1.00	1,090,945	53,473	2.40
0.5% of Sales	27,850	6.12692%	1,363,682	1.00	1,363,682	83,552	3.00
0.6% of Sales	33,420	7.35231%	1,636,418	1.00	1,636,418	120,315	3.60
0.7% of Sales	38,990	8.57769%	1,909,155	1.00	1,909,155	163,761	4.20
0.8% of Sales	44,561	9.80308%	2,181,891	1.00	2,181,891	213,893	4.80
0.9% of Sales	50,131	11.02846%	2,454,627	1.00	2,454,627	270,708	5.40
1.0% of Sales	55,701	12.25385%	2,727,364	1.00	2,727,364	334,207	6.00
1.1% of Sales	61,271	13.47923%	3,000,100	1.00	3,000,100	404,391	6.60
1.2% of Sales	66,841	14.70462%	3,272,836	1.00	3,272,836	459,531	6.88
1.3% of Sales	72,411	15.93000%	3,545,573	1.00	3,545,573	497,825	6.88
1.4% of Sales	77,981	17.15539%	3,818,309	1.00	3,818,309	536,119	6.88
1.5% of Sales	83,551	18.38077%	4,091,046	1.00	4,091,046	574,413	6.88
1.6% of Sales	89,121	19.60616%	4,363,782	1.00	4,363,782	612,707	6.88
1.7% of Sales	94,691	20.00000%	4,636,518	1.00	4,636,518	651,002	6.88
1.8% of Sales	100,261	20.00000%	4,909,255	1.00	4,909,255	689,296	6.88
1.9% of Sales	105,831	20.00000%	5,181,991	1.00	5,181,991	727,590	6.88
2.0% of Sales	111,401	20.00000%	5,454,727	1.00	5,454,727	765,884	6.88
2.1% of Sales	116,971	20.00000%	5,727,464	1.00	5,727,464	804,179	6.88

1/ Excludes exempt customer dk throughput.