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December 30, 2019

VIA ELECTRONIC FILING

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

PUBLIC DOCUMENT—PRIVATE DATA ON INDIVIDUALS AND TRADE SECRET DATA HAS BEEN EXCISED

Re: In the Matter of a Petition by Minnesota Energy Resources Corporation for Approval of Farm Tap Customer-Owned Fuel Line Replacement Plan, Tariff Amendments, and Deferred Accounting
Docket No. G011/M-17-409

Report on Farm Tap Planning and Design Phase and Phase II Procedural Proposal

Dear Mr. Wolf:

Enclosed for filing in the above-referenced docket, please find Minnesota Energy Resources Corporation's ("MERC" or the "Company") Report on Farm Tap Planning and Design Phase and Phase II Farm Tap Proposal. This report is being submitted in accordance with the Minnesota Public Utilities Commission's (the "Commission") November 30, 2017, Order Approving Phase 1 of Farm Tap Replacement Project with Conditions.

The nonpublic version of this filing contains private customer data and trade secret information. Specifically, project cost information; project designs; and customer names, addresses, and energy usage data contained in Attachments C, D, and E are maintained by MERC as private customer data and trade secret data. This information is not generally known to, and not readily ascertainable by vendors and competitors of MERC who could obtain economic value from its disclosure. This information qualifies as "Trade Secret Data" pursuant to Minnesota Statutes Section 13.37, subdivision 1(b).

Please contact me at (414) 221-2374 if you have any questions regarding the information in this filing. Thank you for your attention to this matter.

Sincerely,

Mary L. Wolter
Director – Gas Regulatory Planning & Policy

Enclosures
cc: Service List

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Dan Lipschultz	Commissioner
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
John A. Tuma	Commissioner

In the Matter of a Petition by Minnesota Energy Resources Corporation for Approval of Farm Tap Customer-Owned Fuel Line Replacement Plan, Tariff Amendments, and Deferred Accounting	Docket No. G011/M-17-409 **Report on Farm Tap Planning and Design Phase and Phase II Procedural Proposal**

I. INTRODUCTION

On May 19, 2017, Minnesota Energy Resources Corporation ("MERC" or the "Company") filed a Petition for Approval of Farm Tap Customer-Owned Fuel Line Replacement Plan, Tariff Amendments, and Deferred Accounting (the "Petition") in the above-referenced docket, requesting approval from the Minnesota Public Utilities Commission (the "Commission") of a capital investment plan for the replacement of customer-owned fuel lines located between the interstate pipeline tap and the customers' premises, commonly known as farm taps, with utility-owned service lines to address significant safety concerns related to the existing farm tap customer-owned lines (the "Farm Tap Replacement Project").

MERC proposed a two-step regulatory approval process for the Farm Tap Replacement Project. First, MERC requested Commission approval to proceed with an initial scoping phase to complete engineering and design work to refine the total cost estimate to replace the existing lines ("Planning and Design Phase"), including approval to apply deferred accounting to the costs related to the Planning and Design Phase. Second, MERC proposed to submit the results of the Planning and Design Phase and to seek approval for the implementation of the Farm Tap Replacement Project (the "Implementation Phase").

In response to MERC's Petition and proposed Farm Tap Replacement Project, the Department of Commerce, Division of Energy Resources (the "Department") and the Office of the Attorney General–Residential Utilities and Antitrust Division (the "OAG") identified additional options and variations to be considered and evaluated as alternatives to MERC's Farm Tap Replacement Project proposal.

On November 30, 2017, the Commission issued an Order Approving Phase 1 of Farm Tap Replacement Project with Conditions ("Order"). In its Order, the Commission approved MERC's proposed Planning and Design Phase to develop a refined project scope and cost estimate for potential replacement of customer-owned fuel lines and also ordered MERC to address several of the additional proposals presented by the Department and the OAG.[1] The Commission also authorized MERC's request for deferred accounting treatment of the costs to complete the

[1] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11-12 (Nov. 30, 2017).

Planning and Design Phase and to evaluate other alternatives.[2] While recognizing the concern for continued safety and sustainability of privately-owned farm tap lines, the Commission concluded that it was impossible at that time to finally determine whether MERC's proposal to replace all non-conforming customer-owned fuel lines with Company-owned mains and service lines was the most prudent and reasonable approach relative to possible alternatives.

With respect to the evaluation of alternatives, the Commission required MERC to:

1. Provide a cost estimate of requiring [maximum allowable operating pressure] MAOP testing of the small number of locatable lines, and the potential savings that could be realized if the Company were to assume control of the lines with acceptable MAOP rather than replacement;

2. Provide cost estimates associated with refunding farm tap customers for lines replaced in the last 10 years that meet MERC's safety standards for the farm tap program which the Company would plan to take over and maintain as part of the farm tap program; and

3. Provide a cost estimate of converting current farm tap customers to either propane or electric service.[3]

The Commission further determined it would be helpful for MERC to provide additional analysis and information related to possible rate design alternatives for future evaluation of the implementation of the Farm Tap Replacement Project.[4] In addition to information regarding the customer bill impacts of MERC's proposal to socialize all of the costs of the Farm Tap Replacement Project, the Commission's Order required that MERC:

1. Provide a cost estimate of what farm tap customers would pay for the new service lines assuming MERC applied its current tariff for service line extensions;

2. Provide a cost estimate of what farm tap customers would pay under MERC's current service extension tariff assuming a greater free footage allowance due to farm tap customers having longer service lines than the typical firm customer; and

3. Provide an analysis of other rate design options MERC has considered that would allow for possible recovery of the program's costs directly from farm tap customers to reduce the costs to be socialized across MERC's entire customer base, along with a description of the cost implications of those options.

Finally, the Commission's Order required that MERC provide a detailed and specific procedural proposal for the Implementation Phase including dates, times, and locations for public hearings and a proposed notice to all customers regarding the farm tap project. The Order specified that the notice include MERC's proposal to socialize all of the costs of the project, associated customer bill impacts, and identification of all possible alternatives.[5]

[2] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 9-10, 12.
[3] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11.
[4] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 6.
[5] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11.

Based on the results of the Planning and Design Phase, MERC's evaluation of the alternatives identified in the Commission's Order, and evaluation of possible additional alternatives and rate impact considerations, MERC has identified a revised proposal aimed at mitigating the safety risks associated with continued service to farm tap customers while also attempting to mitigate the potential rate impacts associated with full replacement of all existing farm tap customer-owned fuel lines at this time.

MERC continues to believe that there are legitimate safety concerns with the customer-owned farm tap lines that may be difficult to identify and will be costly to resolve. As discussed in greater detail in this filing, the results of MERC's engineering and design analysis during the Planning and Design Phase have confirmed that the projected costs for replacement of all existing farm tap customer-owned fuel lines would be substantial. Direct charge of those costs to farm tap customers would be inequitable and prohibitive. MERC does not believe those customers could or should be required to pay for such replacement costs directly. Further, socialization of the projected costs of full replacement across all customers over a five-year replacement program as initially proposed would result in substantial rate impacts for all of MERC's customers and create concerns of rate shock, particularly in light of other current and planned system investments. MERC's efforts to obtain any contributions from Northern Natural Gas Company ("NNG") related to the Company's ongoing service to farm tap customers have been fruitless.

Additionally, MERC experienced significant disinterest on the part of farm tap customers in participating in the Planning and Design Phase and as a result, MERC has concerns that it will be even more difficult to gain customer acceptance for the replacement of customer-owned lines as initially proposed. As a result, MERC no longer recommends the full replacement of all existing farm tap customer-owned fuel lines at this time. As discussed below, MERC also continues to have concerns with the alternatives identified in the Commission's Order as proposed for consideration by the Department and the OAG. While the Company is providing the information ordered by the Commission, MERC does not believe these alternatives reasonably address the issue of continued service to farm tap customers.

Based on the Company's analysis and evaluation, and results of the Planning and Design Phase, MERC proposes a modified alternative to address the risks posed by existing customer-owned farm tap lines while balancing the associated costs and customer service. As discussed in greater detail below, MERC proposes:

- Implementation of additional farm tap customer safety education and outreach along with an initial replacement of only those farm taps within close proximity of MERC's distribution system, with those costs to be socialized across all customers. For other farm tap customers, MERC proposes to apply its Commission-approved customer extension model to determine any customer contributions in aid of construction ("CIAC") to extend utility-owned main and services to those customers;

- Outreach to other natural gas utilities serving areas near existing farm tap customers to determine the feasibility of connecting those customers to existing distribution systems;

- Providing service to new farm tap customers only with express approval from the Commission and under the terms and conditions of MERC's existing tariff extension rules and upon receipt of payment, as appropriate, of any customer CIAC;

- Submitting a report within five-years of approval of its proposal providing information, lessons learned, and a status update on farm tap customer service including an update regarding the number of customers converted to distribution service or disconnected due to inactivity, leaks/damaged lines, or other reasons. With that report, MERC would propose additional steps to manage the risks related to remaining farm tap customers; and

- Farm tap customers, in the meantime, could utilize MERC for ongoing maintenance of customer-owned lines at a cost of time and materials and for upgrades of service provided the customer can demonstrate the safety of their current customer-owned fuel lines. Farm tap customers would also have the option to have maintenance and/or upgrades completed by a qualified third-party contractor.

This measured approach will allow MERC to most efficiently and effectively address the safety and service issues related to farm taps while balancing cost and other considerations related to continued service to farm tap customers.

II. REPORT ON PLANNING AND DESIGN PHASE RESULTS AND ALTERNATIVES

A. Overview of Planning and Design Phase

The Planning and Design Phase consisted of completing engineering planning and design work on a statistically-significant sample of farm tap lines to develop a more reliable total cost estimate for the overall Farm Tap Replacement Project.

On February 14, 2018, the Company issued a Farm Tap Conversion Feasibility Study Scope of Work ("Scope of Work" or "SOW") inviting companies to submit a proposal to perform a feasibility study on the conversion of farm tap customer-owned fuel lines to utility main and service lines. A copy of the SOW is included as Attachment A. MERC received six responses to the SOW from two construction firms and four engineering firms, ultimately selecting HDR Engineering, Inc. ("HDR") to perform the work because HDR offered the least-cost proposal.

HDR gathered information to scope the current load infrastructure of randomly-selected farm tap customers and calculated cost estimates to replace those customer-owned lines with utility-installed mains, services, and meters. From that data, MERC extrapolated costs to the entire group of farm tap customers. In accordance with the Commission's Order, information regarding growth opportunities, whether customer-owned lines are locatable, and whether customers have replaced their lines within the past ten years was also considered.

B. Selection of Statistical Sample of Customers

As discussed in MERC's Petition, the Company determined that a statistically significant sample size of approximately 300 customers would be a representative sample of MERC's 1,801 farm tap customers.[6] Based on updated farm tap customer counts at the beginning of the Planning and Design Phase, including an updated number of inactive customers and customers who have had their farm taps removed, MERC updated the target sample size to be 275 farm taps for the Planning and Design Phase.

[6] Petition at 12 (May 19, 2017). The number of farm tap customers in 2016 was 1,801.

Initially, MERC randomly selected 323 customers who were mailed a Customer Notice for Participation in Engineering Study in April 2018, as approved by the Executive Secretary on March 30, 2018, in this docket. A large number of customers did not respond to MERC's initial request and a number of customers opted out of participation in the Planning and Design Phase. Therefore, MERC sent a second round of notices to 97 additional randomly-selected customers in May 2018, and a third round of an additional 100 letters in June 2018. After these three rounds of customer letters were sent (520 total letters in all), MERC obtained the 275 customers agreeable to participate in the study.

C. HDR's Information Gathering, Engineering, and Design Process

HDR initiated the information-gathering phase of the study in April 2018. To initiate contact, HDR personnel called landowners identified by MERC as part of the sample set. If HDR personnel were able to reach the customer, HDR followed the call script included as Attachment B to provide a high-level overview of the project, determine if the landowner was interested in allowing HDR to assess their existing customer-owned fuel line, and, if the landowner was willing, asked a series of preliminary questions regarding their gas facilities. If the customer stated that he or she was not interested in HDR performing a site visit, then HDR personnel took note of the customer's disinterest and told the customer that he or she would not be contacted regarding the survey again in the future.

After collecting the preliminary information from customers via phone, HDR scheduled and performed site visits. With the customers' permission, HDR collected the following information: (1) a hand sketch of the new line to be installed; (2) GPS coordinates of the current tap; (3) GPS coordinates of each building on the property; and (4) GPS coordinates of the proposed running line.

From the information gathered, HDR produced a proposed design for replacing the customer-owned fuel lines and corresponding construction time and material cost estimate for the below-grade facilities for each farm tap assessed in the sample set. To develop a consistent approach to the design and estimate of the below-grade facilities, the following design principles were followed:

- Each building served with gas shall have a meter installed;
- Common pipe segments serving more than one meter were designed to be 2-inch plastic main;
- Pipe segments serving an individual meter were designed to be 1-inch plastic service; and
- Pipe installation method was estimated to be open trench unless a significant obstacle existed that required boring.

An example design is included as Attachment C. An example cost estimate is included as Attachment D.

D. Results of Engineering, Design, and Information Gathering, and Extrapolation of Project Costs

Based on the engineering and design work and interviews conducted by HDR of the sample of farm tap customers, MERC developed a cost estimate for the replacement of customer-owned

lines with utility main and service lines for all active farm tap customers. In accordance with the Commission's Order, MERC also developed high-level cost estimates regarding alternatives, as discussed below.

1. Refined Cost Estimate for Farm Tap Replacement Project

Upon completion of the feasibility study, MERC assessed the data resulting from the planning and design work and updated the cost estimate for the Farm Tap Replacement Project based on the study results. The 275 cost estimates created during the feasibility study were used to create an average farm tap replacement cost by county that was then extrapolated out to the total 1,550 farm taps in the replacement project.[7] MERC estimates that the Farm Tap Replacement Project would cost approximately $46.6 million, broken down by cost categories provided in Table 1 below:

Table 1. Cost Estimate of Farm Tap Replacement Project

	Cost
Customer Contact & Design	$ 1,765,575
Project Management	$ 600,000
Construction Total	$ 26,150,947
Environmental Services	$ 800,000
Real Estate Services	$ 3,562,580
Legal Services	$ 1,000,000
Customer Notices	$ 500,000
Agency Assessments	$ 650,000
Internal Labor	$ 784,528
Contingency	$ 10,744,089
Total	**$ 46,557,719**

The cost estimate for the Farm Tap Replacement Project is based on a five-year construction schedule, with construction starting in 2020 and concluding in 2024.

a. Customer Contact and Design

As shown in Table 1, MERC estimates $1.8 million for Customer Contact and Design, which totals approximately 3.8 percent of total project costs. This cost category includes reaching out to customers and visiting them on-site to investigate farm tap locations, mapping these locations, and creating proposed routes. Charges already incurred for the customer contact and design performed by HDR for the 275 sample farm taps are included in this total.

b. Project Management

The Company estimates $600,000 in project management costs, which is approximately 1.3 percent of total project costs. This estimate assumes that MERC would hire a third party to oversee the project for the project duration including answering customer and contractor

[7] MERC reported 1,801 farm taps in 2016; by May 2019, there remained only 1,686 active taps. Approximately 90 farm taps will no longer be active as a result of NNG's abandonment of its A-line and J-line in southern Minnesota in 2023. MERC therefore assumes that approximately 1,550 farm taps would remain active by 2023 that could be subject to replacement.

questions, managing documentation, and generally ensuring that the project is moving along in a timely fashion. Because the farm tap customers are geographically disbursed throughout the state, a contractor devoted to project management will be much more effective than allocating the tasks among current employees who have other utility responsibilities.

c. Construction Total

As shown in Table 1, the majority of costs for the Farm Tap Replacement Project are associated with construction. MERC calculated the total construction costs to be $26.2 million, which is approximately 56.2 percent of the total Farm Tap Replacement Project costs. With preliminary designs of the sample of farm taps now completed, MERC was able to estimate the construction costs to implement the infrastructure as designed for the 275 sample farm taps and extrapolated those costs to the remaining farm tap customers to estimate the entire capital cost for the replacement project. These construction costs include the installation costs for main and service lines as well as restoration costs. Detail underlying the construction cost estimate is provided in Attachment E.

d. Environmental Services

MERC estimates $800,000 (or approximately 1.7 percent of total project costs) for costs associated with environmental services including permitting and environmental review. MERC would contract with a third party to conduct this environmental review. The cost estimate includes contractor costs, desktop reviews, permitting, and field work. The estimate includes an environmental study of 1,400 parcels, but does not account for any actual remediation or modifications to address any issues that arise as a result of the studies. If environmental issues are identified, additional costs could arise (e.g., rerouting to avoid certain areas identified as having an environmental impediment).

e. Real Estate Services

MERC estimates real estate services costs to be approximately $3.6 million for the Farm Tap Replacement Project, or approximately 7.7 percent of total project costs. This includes external third-party labor for on-site acquisition support, reimbursement for crop damage, surveying of farm tap parcels for easement data, and transaction costs to obtain necessary easements and permits. MERC would prepare easement documentation internally.

The $3.6 million estimate assumes that all of the farm tap parcels will require easements but does not account for easement compensation. In the event a customer does not want to grant an easement to a neighbor, MERC would need to reroute the service line.

f. Legal Services, Customer Notices, and Agency Assessments

The costs in these categories, totaling $2.15 million, were authorized to be spent in the Planning and Design Phase and deferred for future recovery.[8]

g. Internal Labor

MERC estimates that incremental costs associated with internal labor will total approximately $800,000, which is about 1.7 percent of the total project cost. The Company assumed that

[8] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 7.

incremental internal labor would total three percent of the total construction costs. This expense is related only to the Farm Tap Replacement Project. MERC also anticipates increased O&M expense related to ongoing maintenance on and service to the replaced facilities.

h. Contingency

MERC has included a $10.8 million contingency allowance, approximately 23.1 percent of the total project cost. Because the Farm Tap Replacement Project will require cooperation from landowners and neighbors to obtain easements that were previously held between farm tap customers and NNG – a level of complexity that is not typical in other utility replacement projects – the contingency would not only cover unforeseen costs, it would also cover potential litigation costs.

E. Alternatives to Farm Tap Replacement Project

As discussed above, the Department and the OAG proposed alternatives for consideration in addition to replacement of farm tap customer-owned lines with utility-owned main and service lines. While MERC identified concerns with those alternatives, the Company agreed that it could provide additional information, evaluation, and cost estimates regarding some of the alternatives identified. MERC discusses those alternatives below and provides details regarding the Company's additional alternative next steps for addressing the safety risk and continued service for farm tap customers.

At a minimum, MERC would propose that the Commission approve enhanced farm tap customer safety education programs to provide additional safety information to farm tap customers. These efforts would help to ensure customers are receiving necessary and relevant information regarding the safety risks they are assuming with respect to their customer-owned farm tap fuel lines and would outline steps that can and should be taken by the customers to mitigate those risks.

While the Company no longer recommends full replacement of all farm tap customer-owned fuel lines with utility-owned facilities over a five-year capital replacement program in light of customer and cost considerations, if the Commission determines that such replacement is necessary and prudent, MERC would undertake those replacements.

1. Cost Estimate of Pressure Testing Locatable Lines

First, the Commission's Order required that MERC "[p]rovide a cost estimate of MAOP testing of the small number of locatable lines, and the potential savings that could be realized if the Company were to assume control of the lines with acceptable MAOP rather than replacement."[9] This was in response to the Department's recommendation that MERC determine the potential for cost savings if the Company were to assume ownership of lines that pass an MAOP test. In regards to this recommendation, the Department acknowledged the safety risks if MERC were to ultimately acquire and use these lines: "Due to the low number of locatable lines, and the fact that often the materials and condition of the line are unknown, it is likely not useful to have the Company use existing Farm Tap lines that pass MAOP testing similar to the results of the Iowa and Nebraska proceedings."[10]

[9] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11 (Ordering Paragraph 1.a).
[10] Department Comments at 11 (Sept. 18, 2017).

MERC continues to share these concerns. Pressure testing locatable lines would not fully address the significant safety risks posed by these customer-owned lines. As discussed in MERC's previous filings, the requirements adopted by the regulatory commissions in Iowa and Nebraska for the utility to take ownership of and operate the customer-owned lines include much more than pressure testing. In particular, the customer lines must:

- Meet Department of Transportation Pipeline and Hazardous Materials Safety Administration ("PHMSA") pipeline safety standards[11];
- Be locatable;
- Be constructed of approved materials (for Nebraska, the line must be constructed of materials that meet the utility's approved safety standards and the Operations and Maintenance ("O&M") requirements imposed by the Nebraska State Fire Marshal); and
- Pass an MAOP test[12] (for Iowa, the line must be able to pass a pressure test of 100 psi).

In addition, the utility must be able to legally access the line on the customer's property. If the line runs across properties owned by persons other than the customer, the customer must obtain an easement to receive service.

In the case of the Nebraska and Iowa utilities, if the customer-owned lines fail any of these requirements, the utility will not assume ownership of the customer-owned line. Moreover, if, in the utility's sole opinion, any condition exists that is determined to be dangerous to life or property, the utility may discontinue service.[13]

Despite these concerns, MERC agreed to collect additional information, provide an estimate of the cost to complete MAOP testing on potentially-locatable lines, and further evaluate the viability and usefulness of MAOP testing during the Planning and Design Phase.[14]

At the time of MERC's Petition filing, the Company estimated that fewer than ten percent of the farm tap customer-owned lines were locatable.[15] During the Planning and Design Phase

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[11] On March 26, 2019, PHMSA issued an announcement of enforcement discretion with respect to portions of its regulations established in March 2017 that pertain to farm taps. *See* PHMSA, *Pipeline Safety, Exercise of Enforcement Discretion Regarding Farm Taps*, 82 FR 7972 (Mar. 20, 2019), *available at* https://www.federalregister.gov/documents/2019/03/26/2019-05677/pipeline-safety-exercise-of-enforcement-discretion-regarding-farm-taps.

[12] PHMSA regulations specify the engineering-based criteria that must be used to determine the pipeline's MAOP. A pipeline's design characteristics, pipe strength, diameter, and wall thickness are used to calculate the maximum pressure the pipeline can be subjected to without damage.

[13] Black Hills/Nebraska Gas Utility, LLC, d/b/a Black Hills Energy, Farm Tap Safety Proposal, Docket No. NG-0090, STIPULATION AND AGREEMENT at Ex. 1 (Redline and Clean Tariffs) (July 20, 2017), *available at* http://www.psc.nebraska.gov/natgas/NG0090/Complete%20Filing%20Documents%20w%20Exhibits.pdf.

[14] MERC Reply Comments at 5 (Sept. 28, 2017).

[15] MERC Petition at 17 (May 19, 2017) ("MERC estimates that approximately 90 percent of the lines are not locatable for excavation safety because the lines were not installed with tracer wire and there is no way to locate the line without a complete excavation. Further, though leak surveys are generally valuable tools to identify potential hazards and safeguard the distribution system, MERC's technicians cannot conduct an accurate leak survey if the line is not locatable.").

customer outreach, HDR asked selected customers whether their gas lines were locatable. Approximately 5.5 percent (15 out of the sample of 275) responded affirmatively to the question of whether their lines were locatable. While MERC anticipates that this number is a high estimate of the number of customer-owned lines that are actually fully locatable, the Company utilized this information to develop a general cost estimate to test customer-owned lines that are locatable and meet the other requirements and testing in accordance with the Commission's Order:

Table 2. Cost Estimate of Pressure Testing Locatable Lines[16]

Per Farm Tap	$ 2,340
Total	$ 198,866

Of note, Black Hills Iowa has submitted annual status reports on its farm tap inspection and replacement project. Most recently, Black Hills Iowa filed a report on February 28, 2019, reporting that of the 1,031 inspections completed, only 330 lines passed inspection. Notably, according to the detailed data filed by Black Hills, of those that passed inspection, only 24 were determined to meet all criteria for purchase, with 318 classified as having passed but needing to be re-built with associated costs. As of the end of 2018, Black Hills had identified only 22 existing farm tap lines to be purchased. Of those lines that had failed the inspection, 657 failed due to being non-locatable, 55 failed due to unsafe materials, and one failed pressure testing. Additionally, ten farm taps had leaks reported or otherwise did not complete the normal inspection process.[17]

The results in Iowa further support MERC's concerns that pressure testing locatable lines will not sufficiently address the significant safety concerns associated with customer-owned fuel lines.

After considering the results of the data collection in Phase 1 of the Farm Tap Replacement Project, MERC is still not willing to ultimately take ownership of any customer line, even if it met all of the Nebraska and Iowa requirements. MERC does not believe that these lines are adequate for utility distribution and does not support the Commission requiring MAOP testing on locatable lines to determine the potential for cost savings.

2. Cost Estimate For Lines Installed in the Last Ten Years

Second, the Commission required the Company to "[p]rovide cost estimates associated with refunding farm tap customers for lines replaced in the last 10 years that meet MERC's safety standards for the farm tap program which the Company would plan to take over and maintain as part of the farm tap program."[18] This request was in response to the Department's recommendation that MERC provide an estimate of the costs associated with paying farm tap customers for lines that were recently installed.

At the outset, MERC reiterates that in both the Nebraska and Iowa farm tap proceedings, which the Department relied upon to develop its proposal to evaluate potential reimbursement, farm tap customers are only reimbursed if their lines both (1) meet all of the MAOP and safety

[16] This cost estimate is based on projected labor and travel time for a three-man crew to undertake testing for a total of 85 customer-owned lines (5.5 percent) at 2020 contract rates.
[17] The February 28, 2019, Black Hills results are included as Attachment F to this filing.
[18] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11.

requirements outlined above, and (2) the customer is able to document that the line was installed within the past ten years, and at what cost. MERC assumes any reimbursement proposal would also require that the customer-owned line meet specified criteria and pass testing, consistent with the approach in Nebraska and Iowa, and in accordance with the language of the Commission's Order, which limits potential refunding to lines that meet MERC's safety standards.

While MERC had previously discussed in its comment filings calculating potential reimbursement to customers with lines that had been installed during the past ten years using the percentage of actual installation costs as approved in the Nebraska farm tap proceedings, customers generally did not have ready access to documentation regarding the cost of installation at the time of the Planning and Design Phase site visits. As a result, MERC has developed a cost estimate based on the $10 per foot amount as approved by the Iowa Utilities Board. During the Planning and Design Phase, HDR asked selected customers whether their natural gas lines had been replaced within the past ten years. Of the 275 customers surveyed, 35 customers (approximately 12.7 percent) responded that their lines had been replaced within the last ten years. While the ultimate method of determining the appropriate amount of reimbursement, if any, would need to be evaluated and take into consideration the value and age of the line, MERC developed the following high-level estimate based on an extrapolation assuming 12.7 percent of the total pool of farm tap customers had their lines replaced within the past 10 years.

Table 3. Cost Estimate to Reimburse Customers for Recently-Replaced Lines[19]

Per Farm Tap	$ 10,250
Total	$ 2,022,045

Under the reimbursement parameters agreed to in the Nebraska farm tap proceedings, the utility takes ownership of customer-owned lines that meet the necessary safety standards if the customer can prove that the line was installed within the last ten years and the customer has receipts showing the total costs of the installation. If the customer can satisfy these requirements, the Nebraska utility will compensate the customer based on the age of the installed line.

MERC continues to have concerns with acquiring the farm tap customer-owned lines for all the reasons discussed above. MERC does not seek approval to acquire any existing farm tap customer-owned lines regardless of their age.

3. Cost Estimate of Converting to Propane or Electric Service

Third, MERC was required to "[p]rovide a cost estimate of converting current farm tap customers to either propane or electric service."[20] For converting appliances from natural gas to propane, conversion kits for furnaces, dryers, and stoves cost anywhere from approximately $12 to $54 plus labor costs for installation. These costs are minimal and could reasonably be paid for by either the farm tap customers or socialized over MERC's remaining customer base. Conversion from natural gas to electricity, however, would require all new appliances and, depending on how the structure was initially wired, may require an electrician to install a

[19] Based upon an average footage, including main and service, of 1,025 feet.
[20] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11.

significant number of outlets. These costs would likely be more substantial. For instance, the average cost to install an electric furnace is $3,551 with a typical range of $1,197 to $5,904.[21] In either case, the farm tap customers would incur substantially more expensive energy costs every year by switching from natural gas to alternative fuels. Attachment G to this report is a high-level comparison of natural gas utility service to propane and electricity. As demonstrated in Attachment G, propane is $862 more expensive than natural gas annually and electricity is $1,979 more expensive than natural gas annually.

To be clear, however, MERC continues to maintain that paying to convert customers to an alternate fuel is not a preferred option for all existing farm tap customers. While MERC has provided natural gas billing and leak surveys on behalf of NNG, the farm tap customers have contributed to MERC's rate base and thus have greatly supported other customers on the system. As the Department itself noted in its Comments in this docket, terminating natural gas service to customers who have relied on that service for 85 years would not be prudent or reasonable.[22] The Company believes that a proposal to force farm tap customers to choose between terminating their natural gas service or paying a significant contribution to continue natural gas service is also not reasonable. MERC has, therefore, developed its proposal to mitigate the amount of the customer contribution required to maintain service and gradually phase out the existing customer-owned farm tap service lines over a period of several years.

4. MERC's Revised Farm Tap Phase II Proposal – Enhanced Customer Safety Education, Preliminary Facility Replacements, and Application of Customer Extension Model

In addition to the alternatives identified by the Department and the OAG, and ordered by the Commission for further evaluation, MERC evaluated the possibility of implementing enhancements to the Company's existing customer education and outreach efforts that could help address the ongoing safety risks associated with farm tap customer-owned fuel lines. The Company also evaluated options to balance the safety risks posed by farm tap customer-owned fuel lines against rate shock considerations in light of current and planned investments for utility service. Based on MERC's evaluation, the Company now proposes an initial replacement of existing customer-owned fuel lines with utility-owned main and service lines for farm taps located within one mile of the Company's existing distribution system along with other steps to improve customer education and to allow other farm tap customers to have customer-owned lines replaced with utility-owned facilities at a customer cost. MERC proposes to gather information based on the implementation of these actions and to report back to the Commission within five years regarding additional steps that should be taken to further mitigate the safety risks and ensure safe and reliable service to all of MERC's customers. The Company summarizes the details of its proposal below.

a. <u>Enhanced Customer Safety Education</u>

First, MERC proposes enhancements to current farm tap customer safety education efforts including the following:

[21] HomeAdvisor, *New Electric Furnace Costs, https://www.homeadvisor.com/cost/heating-and-cooling/electric-furnace-prices/* (last visited Dec. 26, 2019). These estimated are based on actual project costs as reported by 174 Home Advisor members.
[22] Department Comments at 9 (Sept. 18, 2017).

- Distribution of updated annual safety information and improved delivery to encourage customers to open and read the relevant information;

- Updated safety information on MERC's website specifically targeted at farm tap customers;

- Creation of a safety calendar specific to farm tap customers with meter read dates and safety information that would be provided to the customers at an annual customer visit. MERC proposes that the first such calendar would be for 2021 and distributed in person to farm tap customers in the summer of 2020.

MERC would recommend these enhancements to current farm tap customer safety education as a minimum step toward addressing the risks associated with continued service to these customers through NNG-owned meters and customer-owned fuel lines. If approved, the Company proposes to defer the incremental O&M costs associated with these improvements for recovery in a future gas utility infrastructure cost ("GUIC") rider or rate case. MERC proposes that the incremental costs of these education efforts not exceed $250,000 per year.[23]

b. Extend Distribution System to Farm Tap Customers within One Mile

Second, MERC proposes to extend its existing utility distribution system to serve any farm tap customers within one mile of such existing distribution facilities. This proposal would impact approximately 210 of MERC's farm tap customers (approximately 14 percent of total farm taps).

Extending MERC's distribution service to farm tap customers rather than continuing to serve those customers through existing farm taps on the NNG interstate pipeline would ensure those customers are receiving the same natural gas distribution service as others on MERC's system while mitigating the safety risks associated with existing farm tap service. This proposal also ensures the facilities serving farm tap customers are equivalent to the current infrastructure comprising MERC's system. Moreover, extending MERC's distribution system would result in the elimination of some existing facilities that require maintenance (e.g., odorizer fills). Existing farm taps are also above-grade facilities which are at higher risk of being damaged by farm equipment, passing cars, or other external forces. By extending MERC's existing distribution system to farm tap customers within one mile of such existing distribution facilities, the risk of damage to these above-grade facilities is minimized.

The estimated cost to extend MERC's distribution system to serve customers within one mile is approximately $7.1 million.[24] MERC proposes to separately meter each customer building, consistent with its current practices for installing service to new customers, which may result in multiple meters at a farm tap customer's location where there is currently only one.[25] MERC proposes to recover these infrastructure costs through a future rate case filing or its GUIC rider, dependent on the timing of a Commission decision in this proceeding.

[23] Incremental costs would include costs to produce safety materials, mileage, and costs for a third-party contractor to make personal visits to certain farm tap customers in remote areas of the state.

[24] The cost estimate of $7.1 million includes main, services, meters, internal labor costs, and a ten percent contingency.

[25] Customers will incur separate meter charges for each meter and the service lines would be appropriately sized to the underlying gas usage requirements.

MERC proposes that the farm tap customers identified as being within one mile of its existing utility distribution system who refuse to have their existing farm tap and customer-owned fuel lines replaced with utility-owned distribution facilities would be required to find another utility to serve them with natural gas or to switch to an alternative fuel within three years. MERC proposes that it would not continue to provide service of any kind to those customers on behalf of NNG via the customers' existing farm taps beyond the three-year period.

As a result of extending its existing distribution system to serve farm tap customers in close proximity, MERC estimates it could extend service to as many as 240 additional customers in those areas. Any new customers added to the system in this manner would be assessed a customer CIAC in accordance with MERC's standard feasibility model. These incremental new loads would eventually result in additional incremental revenues to offset the costs of socializing the expansion of the distribution system.

For the purposes of this proposal, MERC requests that the parameters of MERC's "existing utility distribution system" be defined as of the date of the Commission order in this Phase II of the farm tap proceeding. This will enable MERC to establish a defined project scope and avoid customer confusion as its system grows naturally during Phase II.

c. Other Farm Tap Customers May Request Distribution Extension

For farm tap customers who are not located within one mile of MERC's existing distribution system at the time of the Commission's order in this Phase II proceeding, MERC proposes to apply its existing Commission-approved customer extension model to evaluate any CIAC to be required. Those customers may request that MERC extend utility facilities to serve them but would be required to pay any CIAC as determined through the model. Essentially, they would be viewed as a new customer to MERC under the feasibility model, consistent with how they would be treated if they went to another utility for service instead of MERC.

While MERC hopes that some farm tap customers will come forward after receiving the enhanced safety information, it is likely that this will only occur when a farm tap customer experiences a problem (e.g., a leak or other repair) with their existing customer-owned facilities.

MERC provides additional discussion of the application of the Company's current Commission-approved natural gas extension model or a variation of that model to the evaluation of customer contributions for farm tap customers outside of the one-mile radius of the Company's existing distribution system below.

d. Encourage Other Gas Utilities to Extend Service to Nearby Farm Tap Customers

Additionally, MERC intends to engage in further investigation and outreach to other natural gas distribution utilities providing distribution service near other farm tap customers to determine the feasibility of those utilities extending service to any farm tap customers. Ultimately, the Company does believe that extending natural gas distribution service to these farm tap customers so they receive the same natural gas distribution service as any other customer is the best long-term solution to ensure adequate, reliable, and safe natural gas service.

e. Inactive and New Farm Tap Service

In order to avoid increasing the scope of the issues to be addressed, MERC requests Commission approval to decline extending farm tap service as it currently exists (i.e., allowing customers to install their own service lines) to any new customers exercising their NNG easement rights for the first time. MERC would extend existing distribution service to new customers if they are within one mile of MERC's existing distribution system, but any other prospective customers could only have service extended under MERC's Commission-approved customer extension model, discussed above. In the event a farm tap easement holder requesting new farm tap service is in closer proximity to another natural gas utility, MERC would attempt to work with that customer to see whether service could be extended by that utility.

Additionally, MERC proposes that currently inactive farm tap customers and those that become inactive during the course of this Phase II period may not reactivate their farm tap service under the current terms and conditions. MERC proposes to consider a farm tap customer inactive if no natural gas usage has been recorded for 12 consecutive months. MERC proposes to provide notice to customers that farm tap service will be suspended for any inactive customers and may only be reinstated if they meet the requirements of a new farm tap customer as defined herein.

f. Shut off Service to Farm Taps Where Leaks are Identified

Leak surveys are performed on 20 percent of the farm tap fuel lines annually, utilizing flame ionization equipment. The survey is performed at a point at least 100 yards away from significant structures along the assumed/apparent direction of the fuel line. If a dangerous leak is detected on a farm tap customer-owned fuel line in the regular course of MERC's annual inspection or as a result of an emergency or other customer call, MERC will shut-off service to that customer.[26] MERC proposes that service will not be restored to a customer that has been shut-off for a leak unless and until (1) the customer has repairs performed by MERC or another contractor from a MERC-approved list of contractors and provides proof of the repairs, or (2) the customer has repairs made by a contractor of their choosing and provides proof of the repairs along with a signed waiver indicating they have made repairs at their own risk. If the customer does not restore service under these conditions within 12 months of the shut-off date, they will be considered inactive and ineligible for future farm tap service.

g. Upgrading/Maintaining Service to Existing Farm Tap Customers

Existing farm tap customers occasionally require upgrades to their existing farm tap configuration to accommodate growth in their load. MERC's role in this process has historically been advisory. That is, MERC will design the necessary facilities to accommodate the request. MERC also performs maintenance on customer-owned facilities such as three-way valves and odorizers. MERC proposes to continue providing these services only in circumstances where MERC can determine if the customer-owned facilities are safe, as specified in part (f) above. Further, MERC proposes to charge the customer for the time and materials required to perform maintenance of customer-owned facilities.

[26] Non-hazardous leaks are documented and followed up on. MERC will shut off gas if deficiencies are not corrected.

h. Report on Status and Next Steps

Within five years following implementation of MERC's proposed plan, the Company will have gathered additional information, customer feedback, and lessons learned. At that time, MERC proposes to file a report and proposal for additional steps to manage the risk of continued service to remaining farm tap customers. We believe that this measured approach allows MERC to most efficiently and effectively address the safety concerns related to existing farm tap service while balancing the cost impacts of replacements.

F. Evaluation of Cost Recovery and Rate Design Alternatives

1. Socialization of Costs and Rate Design Alternatives

In the Company's initial Petition, MERC proposed to socialize the costs of replacing farm tap customer-owned fuel lines across all customers. Socialization of such costs is appropriate in light of the fact that the farm tap customers have been contributing to rate base for decades and because billing the farm tap customers directly for the cost of the replacement would be prohibitive. MERC evaluated the rate impacts of socialization of (1) the cost for replacement of all farm tap customer-owned fuel lines with utility-owned main and service, and (2) MERC's alternative proposal to extend distribution service to farm tap customers within one mile of the Company's existing distribution system.

Based on MERC's projected costs to replace all farm tap customer-owned fuel lines with utility-owned main and services, the socialization of costs across MERC's customers would add approximately $5 million per year to MERC's revenue requirement. Assuming the $46.6 million projected cost associated with replacement of all current farm tap customer-owned fuel lines with utility-owned main and services were recovered through MERC's GUIC rider based on the allocation methodology proposed by the Company for its 2020 GUIC rider,[27] the per therm charge and annual rate impact per customer class would be as follows:

[27] *In the Matter of the Petition of Minn. Energy Res. Corp. for Approval of 2020 Gas Util. Infrastructure Cost (GUIC) Rider Revenue Requirement and Revised Surcharge Factor*, Docket No. G011/M-19-282, MERC REPLY COMMENTS (Sept. 17, 2019).

Table 4a: Proposed 2020 GUIC Rider Surcharge Rates
Full Farm Tap Replacement Project

Customer Class	Proposed GUIC Rider Surcharge (Per Therm)	Average Annual Cost	Total Annual Cost Recovery	% of 2020 GUIC revenue requirement
Residential[28]	$0.01821	$16	$3,400,932	67.3%
Class 1 & 2 Firm (Sales and Transport)	$0.01094	$49	$1,073,976	21.2%
Class 1 & 2 Interruptible (Sales and Transport), Class 1 & 2 Grain Dryer, Class 1 Electric Generation	$0.01094	$465	$204,775	4.0%
Class 3 & 4 Firm (Sales and Transport)	$0.00184	$305	$7,306	0.1%
Class 3 & 4 Interruptible (Sales and Transport); Class 3 Grain Dryer	$0.00184	$1,036	$185,989	3.7%
Class 5, FLEX, Class 2 Electric Generation, Transport-for-Resale	$0.00184	$8,003	$183,663	3.6%
Direct Connect[29]	$0	$0	$0	0.0%
Total *(difference in total due to rounding)*			**$5,056,640**	**100%**

In contrast, MERC's revised farm tap Phase II proposal would involve capital costs of approximately $7.1 million to be socialized across all customers for the extension of MERC's distribution system to farm tap customers located within one mile of the Company's existing system. Including the proposed $250,000 cost of the expanded safety communications and the Planning and Design Phase costs of $2.3 million would bring the total proposed cost to be recovered to $9.6 million. The resulting per therm charge and annual cost would be about one-fifth of the full-cost option above, as shown in Table 4b below.

Table 4b: Proposed 2020 GUIC Rider Surcharge Rates
Revised Farm Tap Proposal

Customer Class	Proposed GUIC Rider Surcharge (Per Therm)	Average Annual Cost	Total Annual Cost Recovery	% of 2020 GUIC revenue requirement
Residential	$0.00360	$3	$671,586	67.3%
Class 1 & 2 Firm (Sales and Transport)	$0.00216	$10	$212,079	21.2%

[28] The Residential and firm class rates include both Farm Tap and non-Farm Tap customers.
[29] Note that all other customer class surcharge rates exclude any direct connect customers within those rate classes.

Customer Class	Proposed GUIC Rider Surcharge (Per Therm)	Average Annual Cost	Total Annual Cost Recovery	% of 2020 GUIC revenue requirement
Class 1 & 2 Interruptible (Sales and Transport), Class 1 & 2 Grain Dryer, Class 1 Electric Generation	$0.00216	$92	$40,437	4.0%
Class 3 & 4 Firm (Sales and Transport)	$0.00036	$60	$1,443	0.1%
Class 3 & 4 Interruptible (Sales and Transport); Class 3 Grain Dryer	$0.00036	$203	$36,728	3.7%
Class 5, FLEX, Class 2 Electric Generation, Transport-for-Resale	$0.00036	$1,566	$36,268	3.6%
Direct Connect	$0	$0	$0	0.0%
Total *(difference in total due to rounding)*			**$998,541**	**100%**

In addition to evaluating the rate impacts of proposed socialization of replacement costs, the Commission, in its Order, required that MERC "[p]rovide an analysis of other rate design options MERC has considered that would allow for possible recovery of the program's costs directly from farm tap customers to reduce the costs to be socialized across MERC's entire customer base, along with a description of the cost implications of those options."[30]

- One such option considered was the direct allocation of costs to each farm tap customer through a direct customer CIAC. The simple average cost per farm tap could be as much as $30,000 ($46.6 million / 1,550 farm tap customers), which MERC determined to be infeasible.

- Another option considered was to create a specific customer fixed charge and/or volumetric charge that could be applied only to farm tap customers or some combination of farm tap and other customers. Because MERC created a specific farm tap class in its recent rate case in Docket No. G011/GR-17-563, the Company has the flexibility to design rate recovery along a large spectrum of fixed and variable rate options that could be applied to farm taps only or any other subset of customers.

- Finally, MERC considered and recommends use of the GUIC rider and socializing the costs. Examples illustrating the rate impacts of allocating costs through the GUIC rider consistent with the Company's proposed 2020 GUIC rider rate design are provided in Tables 4a and 4b above.

Recovery through MERC's GUIC rider mechanism provided for under Minn. Stat. § 216B.1635, and approved by the Commission in Docket No. G011/M-18-281, is reasonable and appropriate as the proposed farm tap replacements meet the definition of "gas utility projects" under the GUIC rider statute. In particular, Minn. Stat. § 216B.1635, subd. 1(c) defines gas utility projects to include the replacement or modification of existing natural gas facilities, including surveys, assessments, reassessment, and other work necessary to determine the need for replacement

[30] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11.

or modification of existing infrastructure that is required by a federal or state agency. The Commission, a state agency, has already approved the evaluation and assessment of alternatives to address the ongoing safety, reliability, and service to farm tap customers. The Commission concluded that:

> [T]he Company's proposal serves an important public policy goal. This project will help ensure the continuation of delivery of safe natural gas service to farm-tap customers, which has been ongoing for some 85 years. Many if not most of these farm tap lines are no longer locatable, even by the land owners, and presumably have fallen into significant disrepair. Commencing the project of replacing this aging service with safe and reliable service, where MERC will be responsible for the placement of the lines, service, and maintenance, is prudent and reasonable.[31]

MERC's proposal presented in this filing includes the replacement and modification of existing natural gas facilities that would be undertaken in accordance with Commission evaluation and approval.

2. Application of MERC's Tariff Feasibility Model and Residential Footage Allowance

The Commission's Order also required that MERC "[p]rovide a cost estimate of what farm tap customers would pay for the new service lines assuming MERC applied its current tariff for service line extensions."[32] Consistent with the Commission's Order, MERC applied its current customer extension model, inclusive of the Residential 75-foot service line footage allowance, to determine the estimated customer CIAC that would be required for (1) replacement of all 1,550 farm tap customer-owned fuel lines with utility-owned main and service, and (2) MERC's alternative proposal to connect only the farm tap customers within one mile of the Company's distribution system to the distribution system.

Applying MERC's customer extension model and 2018 excess footage charges to the replacement of <u>all</u> existing farm tap customer-owned fuel lines with utility-owned main and service lines would require estimated customer contributions of approximately $9.86 million.[33] This includes customer CIACs totaling $7.87 million plus $1.99 million in excess footage charges..[34] Based on the results of the Planning and Design Phase, MERC estimates approximately 68 percent of all farm tap customers would be required to pay excess footage charges under a 75 foot allowance. Additionally, approximately 19 percent of farm tap customers would be required to pay a CIAC under MERC's customer extension model. This would result in an average excess footage charge of $1,879 per customer and an average CIAC of $27,384.

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[31] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 9.
[32] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11 (Ordering Paragraph 1.d.).
[33] MERC applied 2018 excess footage rates to calculate customer contributions. Those rates increase each year based on actual negotiated contract rates and are currently authorized up to $5.00 per foot.
[34] It should be noted that applying the customer extension model would not require a CIAC from every farm tap customer. As a result, some customers would not be charged a CIAC and others would have a CIAC much greater than the average based on the facilities required to provide service.

In contrast, applying MERC's customer extension model to MERC's alternative proposal to extend the Company's existing distribution system to serve farm tap customers located within one mile of the existing distribution system would require customer contributions of approximately $4.32 million plus $180,000 in excess footage costs.

Based on MERC's analysis, 64 percent of the 210 customers located within 1 mile would be required to pay for excess footage under a 75 foot allowance. The average excess footage charge for each affected customer would be approximately $1,321. Such excess footage costs would be in addition to any CIAC required under the customer extension model. MERC estimates that approximately 52 percent of customers would be obligated to pay a CIAC under the customer extension model, resulting in an average CIAC per customer of $39,601. Such contributions would likely be cost-prohibitive for affected customers.[35]

Table 5. Farm Tap Customer Out-Of-Pocket Estimates Consistent with Current Customer Extension Model

	Estimated CIAC	Estimated Excess Footage Charges	Total Farm Tap Customer Out-of-Pocket Costs
Full Replacement of All Farm Tap Customer-Owned Lines	$7,871,748	$1,991,376	$9,863,124
Replace Only Customer-Owned Lines within One Mile	$4,316,555	$178,324	$4,494,879

These cost estimates were developed based on the following assumptions:

- Customer usage is based on existing farm tap customers' actual usage in 2018.
- Current rates and customer classes as approved in Docket No. G011/GR-17-563.
- All of the impacted farm tap customers are considered new customers for purposes of applying the customer extension model.
- For Residential customers, the customer extension model only includes the cost of the main installation. Excess footage charges are applied for any service line greater than 75 feet in length based on the 2018 rate of $3.63 per foot.
- For Commercial and Industrial customers, the customer extension model includes the cost of the main and service line installation.

[35] As noted above, applying the customer extension model would not require a CIAC from every farm tap customer. As a result, some customers would not be charged a CIAC and others would have a CIAC much greater than the average based on the facilities required to provide service.

- For the full replacement of all farm tap customer-owned fuel lines with utility-owned main and service lines, estimates include the estimated farm tap modification costs.

- For the extension to customers within one mile of MERC's existing distribution system, farm tap customers were combined into one customer extension model if they are expected to be on the same route. The model does not include the costs or benefits of any potential new customers along the extension route typically included on a standard customer extension model.[36] This analysis does not incorporate specific costs associated with abnormal construction, which would require additional customer contributions under MERC's current tariffs. It is likely that abnormal conditions (such as rock) would be encountered on at least a portion of the facilities to be installed. MERC incorporated contingency costs to recognize such unknown but likely costs.

3. Analysis of Alternative Footage Allowances

The Commission also required that the Company "[p]rovide a cost estimate of what farm tap customers would pay under MERC's current service extension tariff assuming a greater free footage allowance due to farm tap customers having longer service lines than the typical firm customer."[37] Consistent with the Commission's Order, MERC performed the same analysis described in part (2) above but assuming free footage allowances of 600 and 1,000 feet instead of the currently-authorized 75-foot allowance. MERC evaluated both (1) replacement of all farm tap customer-owned fuel lines with utility-owned main and service, and (2) MERC's alternative proposal to connect farm tap customers within one mile of the Company's distribution system to the distribution system.

Table 6 below summarizes the estimated out-of-pocket charges due from the farm tap customers for the full replacement project, assuming greater footage allowances of 600 feet and 1,000 feet. These cost estimates assume that the currently authorized excess footage charge[38] would be applied to footage in excess of these two amounts. Based on MERC's Planning and Design Phase, approximately 25 percent of farm tap customers would be obligated to pay for excess footage under a 600 foot allowance and approximately 9 percent of farm tap customers would be required to pay for excess footage under a 1,000 foot allowance. Based on the results of the Planning and Design Phase, the average excess footage charge for each farm tap customer who would be obligated to pay under a 600 and 1,000 excess footage allowance would be approximately $1,802 and $2,638 respectively. Such excess footage costs would be in addition to any CIAC required under the customer extension model. Based on the Planning and Design Phase, approximately 19 percent of farm tap customers would be obligated to pay a CIAC under the customer extension model, resulting in an average CIAC per customer of $27,384. Requiring such direct customer contributions would likely be cost-prohibitive for those customers.

[36] Including all of the potential customers identified along the proposed route would result in an estimated CIAC that is approximately $500,000 lower.
[37] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11 (Ordering Paragraph 1.e).
[38] The 2018 excess footage charge of $3.63 per foot was used in the estimates provided herein.

Table 6. Analysis of Farm Tap Customer Out-of-Pocket Charges for Full Farm Tap Replacement Project Based on Alternative Footage Allowances ($3.63 Excess Footage Charge[39])

Footage Allowance (ft)	Estimated CIAC	Estimated Excess Footage Charges	Total Farm Tap Customer Out-of-Pocket Costs
600	$7,871,748	$710,864	$8,582,612
1,000	$7,871,748	$356,805	$8,228,553

Table 7 provides estimates of the out-of-pocket costs that would be required from farm tap customers under MERC's proposal to extend its distribution system only to the farm tap customers within one mile of the existing system. Based on MERC's analysis, approximately 14 percent of affected customers would be required to pay for excess footage under a 600 foot allowance and approximately 5 percent would be required to pay for excess footage under a 1,000 foot allowance. The average excess footage charge for each farm tap customer who would be obligated to pay under a 600 and 1,000 excess footage allowance would be approximately $1,576 and $1,653 respectively. Such excess footage costs would be in addition to any CIAC required under the customer extension model. MERC estimates that approximately 52 percent of affected customers would be obligated to pay a CIAC under the customer extension model, resulting in an average CIAC per customer of $39,601. Such contributions would likely be cost-prohibitive for affected customers.

Table 7. Analysis of Farm Tap Customer Out-of-Pocket Charges Assuming One Mile Extension and Alternative Footage Allowances ($3.63 Excess Footage Charge[40])

Footage Allowance (ft)	Estimated CIAC	Estimated Excess Footage Charges	Total Farm Tap Customer Out-of-Pocket Costs
600	$4,316,555	$45,702	$4,362,257
1,000	$4,316,555	$18,186	$4,334,741

MERC also estimated the contributions that would be required by the farm tap customers for the full replacement under footage allowances of 75, 600, and 1,000 feet at an excess footage price of $10.97 per foot. This is the estimated 2018 cost per foot for construction of an average service line specifically for a farm tap customer based on HDR's cost estimates developed during the Planning and Design Phase. Such cost per foot likely reflects a more accurate picture of the actual cost to install service lines for the Farm Tap Replacement Project. The resulting customer contributions are shown in Table 8. While it does not reflect the total estimated costs to replace the farm tap service lines, it does provide an alternative CIAC pricing option for consideration by the Commission.

[39] In accordance with MERC's Commission-approved tariffs, the actual per-foot installation costs are renegotiated annually; MERC is authorized to charge the actual footage cost charged by contract, not to exceed $5.00 per foot. The excess footage charge for 2018 was $3.63 per foot.

[40] Based on 2018 excess footage charges as noted above. This rate is updated annually in accordance with MERC's tariffs.

Table 8. Analysis of Farm Tap Customer Out-of-Pocket Charges for Full Farm Tap Replacement Project Based on Alternative Footage Allowances ($10.97 Excess Footage Charge Estimate)

Footage Allowance (ft)	Estimated CIAC	Estimated Excess Footage Charges	Total Farm Tap Customer Out-of-Pocket Costs
75	$7,871,748	$6,018,015	$13,889,763
600	$7,871,748	$2,148,258	$10,020,006
1,000	$7,871,748	$1,078,279	$8,950,027

Based on the results of the Planning and Design Phase, MERC estimates that approximately 68 percent of farm tap customers would be required to pay excess footage charges under a 75 foot allowance; approximately 25 percent of customers would be required to pay excess footage charges under a 600 foot allowance, and approximately 9 percent of farm tap customers would be required to pay excess footage charges under a 1,000 foot allowance. Additionally, MERC estimates that approximately 19 percent of farm tap customers would be required to pay a CIAC under MERC's customer extension model. On average, this would result in an excess footage charge of $5,679 under a 75 foot allowance; $5,445 under a 600 foot allowance; and $7,971 under a 1,000 foot allowance in addition to the CIAC of approximately $27,384 as discussed previously.

Finally, MERC evaluated the customer excess footage contributions for the Company's proposal to extend its distribution system to farm tap customers within one mile using the estimated 2018 cost per foot calculated for the sample of farm tap customers for which HDR undertook engineering and design. Those calculations are shown in Table 9.

Table 9. Analysis of Farm Tap Customer Out-of-Pocket Charges Assuming One-Mile Extension and Alternative Footage Allowances ($10.97 Excess Footage Charge Estimate)

Footage Allowance (ft)	Estimated CIAC	Estimated Excess Footage Charges	Total Farm Tap Customer Out-of-Pocket Costs
75	$4,316,555	$538,901	$4,855,456
600	$4,316,555	$138,112	$4,454,667
1,000	$4,316,555	$54,960	$4,371,515

Based on MERC's analysis, approximately 64 percent of the farm tap customers located within 1 mile of MERC's existing distribution system would be required to pay excess footage charges under a 75 foot allowance; 14 percent of customers would be required to pay for excess footage under a 600 foot allowance; and approximately 5 percent of customers would be required to pay for excess footage under a 1,000 foot allowance. The average excess footage charge for each farm tap customer who would be obligated to pay under a 75 foot, 600 foot, and 1,000 foot excess footage allowance would be approximately $3,992, $4,762, and $4,996 respectively. Such excess footage costs would be in addition to any CIAC required under the customer extension model. As noted above, MERC estimates that approximately 52 percent of

customers would be obligated to pay a CIAC under the customer extension model, resulting in an average CIAC per customer of $39,601. Such contributions would likely be cost-prohibitive for affected customers.

G. Continuation of Cost Deferral

In the November 30, 2017, Order, the Commission approved MERC's request for deferred accounting treatment of Phase I costs including costs related to the Planning and Design Phase engineering and information gathering work, regulatory proceeding, and customer notices.[41] Costs for these tasks were estimated to be in the amount of $2.3 million.

MERC requests continuation of the accounting deferral of these types of costs through Phase II of the Farm Tap Replacement Project. Costs will continue to be incurred for regulatory proceedings and customer notices, but the total is still estimated to remain under the initial estimate of $2.3 million. Additionally, as discussed above, MERC requests authorization to defer capital and O&M costs related to implementation of Phase II of the Farm Tap Replacement Project. In particular, MERC proposes to defer costs incurred to implement enhanced safety education and to replace customer-owned fuel lines with utility-owned distribution main and service for customers within one mile of MERC's existing distribution system. MERC requests continued deferred accounting treatment until the recovery of the Phase I and Phase II costs can be determined in either a GUIC Rider or a general rate proceeding.

As with those Phase I costs already authorized for deferred accounting, the costs proposed to be deferred for implementation of Phase II satisfy the Commission's criteria for deferred accounting. Those costs are (1) related to MERC's utility operations for which ratepayers have incurred costs or received benefits; (2) significant in amount; (3) unforeseen, unusual, or extraordinary; and (4) subject to review for reasonableness and prudence. MERC's costs for Phase II enhanced customer safety education and preliminary facility replacements are related to ensuring continued safe, adequate, and reliable natural gas service to all customers. Additionally, the incremental costs associated with enhanced customer safety education ($250,000) and the capital costs to connect farm tap customers within one mile of MERC's existing distribution system to distribution service ($7.1 million) are significant in amount to MERC's gas distribution business. These ongoing costs are large enough to have a substantial impact on the Company's financial condition. Further, as the Commission previously recognized in granting deferred accounting for Phase I, the timing and specific nature of the replacement project are unusual and extraordinary for utility service in Minnesota. Finally, MERC agrees that all costs are subject to review for reasonableness and prudence in a future rate case or GUIC rider filing.

III. PROCEDURAL PROPOSAL FOR PHASE II AND REQUEST TO REFER MATTER TO THE OFFICE OF ADMINISTRATIVE HEARINGS TO CONDUCT PUBLIC HEARINGS

The Commission's November 30, 2017, Order further required that the Company provide a detailed and specific procedural proposal for the Implementation Phase of the Farm Tap Project (Phase II), including dates, times, and locations for public hearings.[42]

[41] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 10.
[42] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 10, 11 (Ordering Paragraph 2).

MERC proposes the following procedural schedule for consideration and evaluation of MERC's revised Farm Tap Phase II proposal and alternatives.

MILESTONE	DATE(S)
Filing of Results of Planning and Design Phase, Proposal for Implementation of Phase II	December 2019
Other Parties' Comments on Initial Planning/Design Analysis and Replacement Proposal, Proposed Procedure for Phase 2, and Request for Assignment of ALJ to Conduct Public Hearings	January 2020[43]
Reply Comments on Initial Planning Design Analysis and Proposal	February 2020
Commission Meeting on Request for Assignment on ALJ to Conduct Public Hearings	March 2020
Commission Order Requesting Office of Administrative Hearings to Assign an ALJ to Conduct Public Hearings	March 2020
Public Hearings to be Held in Eveleth, Cloquet, North Branch, St. Cloud, Litchfield, Lakeville, Granite Falls, Rochester, Mankato, and Jackson.[44]	April 2020
ALJ Summary of Public Hearings and Public Comments	May 2020
Commission Hearing	August 2020

The Commission's Order also required MERC to develop a notice to send to all of its customers at the beginning of Phase II regarding the farm tap project including MERC's proposal to socialize all of the costs of this project, associated customer bill impacts, and all possible alternatives. A copy of this notice is provided in Attachment H.

IV. CONCLUSION

MERC respectfully requests that the Commission (1) find that MERC's revised Phase II farm tap proposal as presented in this report is the most prudent and reasonable approach in this record and allow MERC to move forward with the proposal; (2) accept the Company's Phase I report and permit continued deferred accounting of the costs incurred through the evaluation and implementation of Phase II; (3) find that MERC has provided the information required in the Commission's November 30, 2017, Order; (4) approve the proposed procedural schedule for the implementation of Phase II, as discussed above; and (5) determine that the costs incurred in Phase I and Phase II of the farm tap project, as approved in this proceeding, satisfy the

[43] Order Approving Phase 1 of Farm Tap Replacement Project with Conditions at 11 (Ordering Paragraph 5) ("All parties to this docket are requested to submit comments within 30 days following MERC's filing of its report on Phase 1, proposed procedural schedule for Phase 2, and request for the assignment of an Administrative Law Judge to conduct public hearings. Reply comments, if any, shall be filed within 10 days thereafter.").

[44] MERC proposes to determine the specific dates and times based on party and venue availability upon referral to the Office of Administrative Hearings to conduct public hearings.

definition of gas utility infrastructure costs under Minn. Stat. § 216B.1635, subd. 1, and are therefore eligible for recovery in a future GUIC Rider filing.

If additional information is required, please contact Mary Wolter at (414) 221-2374 or Kristin Stastny at (612) 977-8656.

DATED: December 30, 2019

Respectfully submitted,

BRIGGS AND MORGAN, P.A.

By: /s/ Kristin M. Stastny

Kristin M. Stastny
2200 IDS Center
80 South 8th Street
Minneapolis, MN 55402
Telephone: (612) 977-8656
KStastny@Briggs.com

Attorney for Minnesota Energy Resources Corporation

Attachment A

Farm Tap Conversion Feasibility Study Scope of Work

SCOPE OF WORK
Farm Tap Conversion Feasibility Study
Minnesota

INDEX

SCOPE OF WORK

SCHEDULE

PRICING

COMPANY RESPONSIBILITIES

CONTRACTOR RESPONSIBILITIES

1. Qualifications and Training
2. Safety
3. Staffing
4. Incidents / Accidents / Customer Issues
5. Scheduling, Logistics, & Communication
6. Change Order Policy
7. Customer Satisfaction
8. Project Specific Instructions

EXHIBITS:

A. Lump Sum Bid Sheet
B. Farm Tap Sample Map
C. Random Sample Locations

Farm Tap Conversion Feasibility Study
Minnesota

Date issued: February 14th, 2018
Bids Due: March 1st, 2018

SCOPE OF WORK

You (Contractor) are invited to submit a proposal to perform a feasibility study on the conversion of farm taps to service lines for Minnesota Energy Resources (Company).

Background:

Minnesota Energy Resources (MERC) has a current agreement with Northern Natural Gas (NNG), a natural gas transmission company, to perform maintenance for farm tap customers. A farm tap is a tap from the pipeline provider directly to a single customer.

Maintenance includes an annual review of the odorization facilities, odorant refill, annual meter reads (customer self reads the meter for monthly bills), and leak survey 100' from buildings. MERC provides bills to these customers for usage similar to customers served from a MERC town plant system. The meter, regulator, and tap are owned by NNG. The customer owns the odorizer and the line to their buildings.

MERC is responsible for any customer owned line that crosses public right of way for locating purposes through Gopher One State Call (GSOC). Many farm tap lines are of questionable materials and some are not suitable according to current gas line installation standards. As knowledge of these lines arises, MERC tags the line and requests that the customer replace their fuel line.

The 30-year agreement between MERC and NNG expired in 2017 and has been continuing on a month-to-month agreement. As part of an evaluation, MERC is reviewing options for this contract. One option is to replace and install a new fuel line, odorizer, and riser to the customer buildings at farm tap locations.

Feasibility Study

Approximately 1,750 farm taps exist throughout Minnesota. MERC has randomly selected 300 farm taps to complete a statistical analysis of at least 90% accuracy for pricing. Attached is a list of the city of each randomly selected farm tap so that the Contractor can estimate a cost for their services on this project. Specific information on the 300 samples will be provided upon award.

The work shall be completed in three phases: information gathering, service design, and growth potential study.

Phase 1:

For each location, the Contractor would contact the land owner via phone or visit the site in person to:

- Determine which buildings are currently served natural gas through the farm tap.
- Determine if the land owner has any additional buildings they would like served natural gas.
- Identify any agricultural fields where installation of a new line (1"-4" diameter) would require extra depth due to the 54" minimum depth required in Minnesota.
- Inquire if any nearby landowners would be interested in natural gas services
- Ask the following questions requested by the Minnesota Public Utilities Commission (MPUC):
    - Was the line replaced in the last 10 years? If so, do they have documentation of the installation?

Phase 2:

For each location, the Contractor would provide:

- A sketch of the new line to be installed
- Coordinates of the current tap
- Coordinates of each building on the property
- Coordinates of the proposed running line
- Complete a 3501 Site Visit form

Phase 3:

To complete the feasibility study the Contractor shall review each farm tap to determine the potential for future growth. A Google Earth .kmz file will be provided highlighting all potential customers that fall within a 2-mile radius of an existing farm tap.

SCHEDULE

The following milestone schedule shall apply to the work:

a.	Out for bid	February 14th
b.	Questions submitted	February 21st
c.	Addendum sent to bidders	February 23rd
d.	Bids due	March 1st
e.	Award Contract	March 5th
f.	Begin Study	March 12th
g.	Complete Study	June 1st

Contractor shall provide a proposed schedule for design, listing proposed start and completion.

PRICING

Contractor shall provide a lump sum bid per phase. A breakdown of pricing with personnel titles and estimated hours should be included.

Preparation Costs

MERC will not pay any expenses incurred by Provider in the preparation of its response to this RFP. All supporting documentation and manuals submitted with this proposal will become the property of MERC unless otherwise requested by Provider at the time of submission. Respondent will, at its own expense, procure any and all permits, licenses and insurance required to comply with all statutes, ordinances, rules, regulations and other applicable laws.
Conditions to Final Payment

COMPANY RESPONSIBILITIES

- Provide Company standards and policy documentation on digital media
- Provide Company facilities mapping information as required on digital media
- Provide detailed information on sample farm tap locations
- Evaluate quality and accuracy
- Monitor performance against the contract(s)
- Review and approve invoices
- Follow up on incidents or accidents
- Assist in the resolution of customer issues

The Company and its employees are committed to the following **values**. We expect the same commitment from the Contractors that we work with.

- Work safely, individually and as a team with a target of zero incidents and accidents.
- Satisfy every customer, every day, in every transaction.
- Conduct our business with honesty and integrity.
- Respect everyone. Value diversity. Be inclusive.
- Take personal responsibility for results and be accountable for our actions.
- Work efficiently and productively, striving to continuously improve our Company and ourselves.

CONTRACTOR RESPONSIBILITIES

1. Qualifications and Training

A. Contractor shall fully understand current Company construction standards, relevant codes and/or requirements called for by the specifications. Contractor shall provide copies of current Company standards, policy documents, and mapping facilities information, as required to

Contractor's employees, depending on the type of work. Gas Manuals are available for reference at the following web address: https://eroom.integrysgroup.com/Depts/GE_Standardization/MERCMGU/SitePages/Home.aspx

B. **External Codes/References:** Contractor shall perform all work in accordance with the following codes and best practice references as well as other applicable state and federal codes, regulations and local ordinances for such work:

i. Federal Pipeline Safety Code
ii. Minnesota Statute 216D
iii. Minnesota DOT Utility Accommodation Policy
iv. National Fuel Gas Code NFPA 54
v. Occupational Safety and Health Act of 1970

2. Safety

A. Contractor shall require its employees to utilize all necessary equipment, apparel, devices and procedures required to protect the safety and health of the Contractor employees and the general public while performing services on behalf of the Company. The Contractor is responsible for ensuring that any subcontractors or suppliers also meet this requirement.

B. Contractor shall perform all duties following all Federal, State and OSHA safety regulations.

C. Contractor employees shall immediately contact Gas Central Dispatch when a hazardous condition is found in the course of their work. The employee or crew who observes the hazardous situation shall stand-by at the site to protect and guard the public until appropriate Company personnel secure the site or they secure resources to make the situation safe.

D. In the event that the Contractor encounters a suspected hazardous material they will contact local Company supervision to coordinate handling of the material.

3. Staffing

A. Contractor shall provide supervisory and management staff sufficient in number and qualification to fulfill the requirements of the contract. Company reserves the right to request changes in Contractor personnel if performance is not meeting expectations.

B. Contractor shall provide 24 x 7 contact information for key employees.

C. Contractor shall make every effort to have a diverse workforce and the ethnic makeup of their crews mirror the neighborhood they are working in.

D. **Subcontracting:** Contractor shall inform the Company prior to assigning any subcontractor(s) to work on Contractor's behalf. Company reserves the right to consent to or reject the use of any subcontractor.

4. Incidents, Accidents, Customer Issues

A. Contractor management shall notify the Company Contract Management Group of all incidents, accidents or customer issues as follows:

i. Immediate contact to the assigned Contract Supervisor to relay location, time, nature and impact of incident/accident/customer issue as soon as possible after occurrence.
ii. All customer inquiries and issues must be addressed the same day that they arise. A phone call (at a minimum) is required.
iii. Provide an electronic preliminary report, using the Company provided form, within one (1) business day and an electronic final report within five (5) business days.
iv. Extensions to the deadlines may be allowed if a written request is made to the Contract Management Group.

5. Scheduling, Logistics, & Communication

A. Contractor shall provide and secure own show up sites, including interim storage of materials based on the volume of work being performed. However, on a case-by-case basis, Company may secure show up sites in advance.

B. Contractor is responsible to schedule and coordinate contractor crews on a daily basis in conjunction with the Company to meet customers' needs and Company scheduling parameters. The scheduling software tool the Company utilizes is LogicaCMG's WMIS system. The Company will supply the software license to allow the Contractor remote access to the system. The Contractor is responsible for providing the necessary computer hardware, printer, and telecommunications link.

C. The Contractor's employees shall at all times cooperate with Company personnel in the timely notification of job status, job completion, and the scheduling of work.

D. It is the Contractor's responsibility to ensure that each crew shall have a means of communication readily available. The Contractor and Company shall each assign a primary point of contact for each specified site or region. The names, direct contact phone number, and email address of the contact persons shall be provided to each party.

6. Change Order Policy

A. The Sarbanes-Oxley act and internal audit requires changes in design and construction methods to be fully documented and have proper approval in accordance with the Company authority levels.

B. There are changes that are considered minor and do not require further authorization. Minor changes include but are not limited to: a main footage change of 5% or 50 feet, whichever is longer, fitting changes with little dollar impact (butt fused vs. electrofuse).

7. Customer Satisfaction

Customer satisfaction is extremely important to the Company. Any interaction with Company's customers and property owners shall meet customer and Company expectations.

The Company has a goal to become the leader in customer satisfaction. Second only to safety, customer satisfaction is the highest priority of the Company. Customers view our Contractors as an extension of the Company, and Contractors' actions reflect directly on the Company's image. The goal of becoming the leader in customer satisfaction can only be accomplished by direct, proactive and caring engagement of all our Contractors. The Company expects its Contractors to support and demonstrate the Company's values by putting into place training, processes, and practices that equip every Contractor employee to effectively:

- Treat our customers with respect.
- Act with a true sense of urgency.
- Resolve customer problems — First time. Every time.
- Demonstrate that we care during every contact.
- If multiple steps are involved, communicate with the customer along the way.
- Eliminate embarrassing failures.

Specific Requirements and Expectations:

A. Contractor shall communicate with customers related to planned disruption of service by providing a minimum 48 hour notice, including letters, personal visits, door hangers, etc. Outage scheduling to be communicated with Company by providing customer contact sheets and a scheduled outage request form.

B. Contractor shall have a uniform dress policy in place. All field personnel must appear professional. In the absence of a uniform, all field personnel should wear appropriate clothing. For safety purposes a high visibility traffic vest is recommended when working in an urban setting or anywhere near streets or highways.

C. Contractor shall ensure that communications and contacts with customers are professional and polite whether the interaction is over the phone or in the field (face to face). It is critical to ensure a consistent message and high quality, customer oriented approach to include the following:

i. Introduce yourself.
ii. Explain the reason for the call or visit.
iii. Maintain a positive and accommodating attitude.
iv. Go into detail about what the customer can expect to see or encounter.
v. Explain any delays that we may encounter (Permits, ROW, easements, etc.).
vi. Talk specifically about surface restoration and who is responsible for what, when, etc.

vii. Talk specifically about environmental issues or erosion control requirements, if applicable, so that customers understand what we need to do to meet requirements.
viii. Explain that if other construction is to follow, the site will be left in a temporarily restored condition.
ix. Go over any and all issues of site anomalies and discuss alternatives to any challenges.
x. Go into and provide detail about the timing of the work in the field.
xi. Thank the customer for their time, cooperation and understanding.
xii. Provide a contact name and number for the customer to call in case they have questions or concerns.

D. Contractor must attempt to contact the property owner before any site surveys, walking around the site or performing any work on their site. This could be accomplished via a phone conversation or face to face. We do not want our customers to be surprised that someone is on their property.

E. Contractor must ensure the customer is notified when work is done for the day and whether there is some follow up work to be performed (provide detail if at all possible) or that all the work is completed. Provide a contact name and number for the customer to call in case they have questions or concerns.

F. Contractor shall document all restoration discussions with end customers for future reference. Photographs are also highly encouraged. If photographs are taken, they should be retained for a period of time for reference and resolution of questions.

G. Contractor management shall notify the Company as soon as possible for any issues or incidents involving a customer.

Attachment B

Farm Tap Planning and Design Customer Script

This script is intended for landowners that currently have a tap on their property. If the desktop app lists a tap number, then use this script.

- Review landowner details in desktop app prior to initiating the call
- Fill out drop down for which number call this is, the person making the call, and the time.
- If there are any call log already entered, review them.
- Try to call at a different time of day from the previous call(s) to maximize chance of reaching them.

START

Hello, is this Mr./Mrs. [landowner name]?

This is [your name] with HDR Engineering. I am calling to follow up on a letter you hopefully received from Minnesota Energy Resources inquiring about the existing natural gas service to your property. [*If they did not receive a letter, apologize and tell them we can get them a new letter. Confirm their address make a note in the follow up section and we will resend]*

Minnesota Energy Resources is currently evaluating all their existing farm taps in your area. Part of this work includes evaluating replacing current fuel lines. These new lines would be utility-owned, will meet all current safety and reliability standards, and will be designed for any future increase in service. In addition the lines would be outfitted with locating equipment and registered as part of the Gopher State One Call notification system to ensure the line is kept safe if you have work requiring digging in the vicinity. If this is something you are interested in, the next step would be to have our field team come out at a later time that works for you to meet you at your property. The purpose of this visit would be to obtain pertinent information from you and collect photos and GPS location points for the existing service lines. There is no cost to the landowner for this work. [*Photo and location would be of existing tap, buildings currently serviced, additional buildings they want service to, and preliminary routing info for the new line*].

Would you be interested in having us come out to review the existing gas line and talk to with you about performing a replacement?

(If no)

Thank you for your time, we will document that you are not interested so you are not contacted any further. If you change your mind at any point please use the number listed on the letter you received. (If they don't have the letter, but still want a point of contact, give them 888-380-8292).

(If they want to get back to you)

I completely understand. Are there any questions you would like answered before we get off the phone? [Answer all you are able to]. Thank you for your time and I will give you a follow up call in a few days to see if you have made a decision or have additional questions.

(If yes)

Fantastic. To proceed forward, I want to make sure all the information we have for you is correct.

- Is your physical address [address from desktop app]
    - If not get correct address and document in contact log
- What is the current use for your gas? (preferred monthly usage, but purpose if total isn't known)
- What is your anticipated future use? (preferred monthly usage, but purpose if total isn't known)
    - (we want to make sure the new line is design to meet all future needs)
- Any installation or maintenance notes you think need to be considered?
- Are there any special directions we would need to know for when we come out to meet?
- Is there a tenant at the property? [we want to know if there is a chance of running into non landowners while on site]
- Is this the best number reach you at?
    - If not get correct number and document in contact log
- Are there days or times that are better for you for the meeting?
- Are they any dogs or any other animals we should be aware of when we come on site?

We plan on making the field visits from middle to late May. Once we get an idea of the number of visits we need to make in the area we will reach back out to set an appointment.

Do you have any other questions you want to ask while we are on the phone?

Thank you for your time and have a good day.

END

- Review your call log notes and make sure everything is captured and all applicable drop downs have been answered
- Once you close the pop up in the app, confirm the marker adjusts to the correct color.
    - Green – They want us to come out
    - Yellow – You couldn't reach them or they need more time
    - Red – They don't want us to come out
    - Pink – If you made the third call and didn't reach them

---

(Voicemail) Only on the second and third call

Hi [name], this is [your name] with HDR Engineering. I am calling to follow up on the letter from Minnesota Energy Resources you hopefully received in the last few days. Minnesota Energy Resources is doing a farm tap study to determine if owners are interested in having their existing gas lines replaced with new lines that meet current safety and reliability standards. If you are interested in increasing your service please give me a call back at [x], or feel free to call the number at the bottom of the letter. Again this is [name] with HDR Engineering and my number is [x].

Attachment C

Design Example

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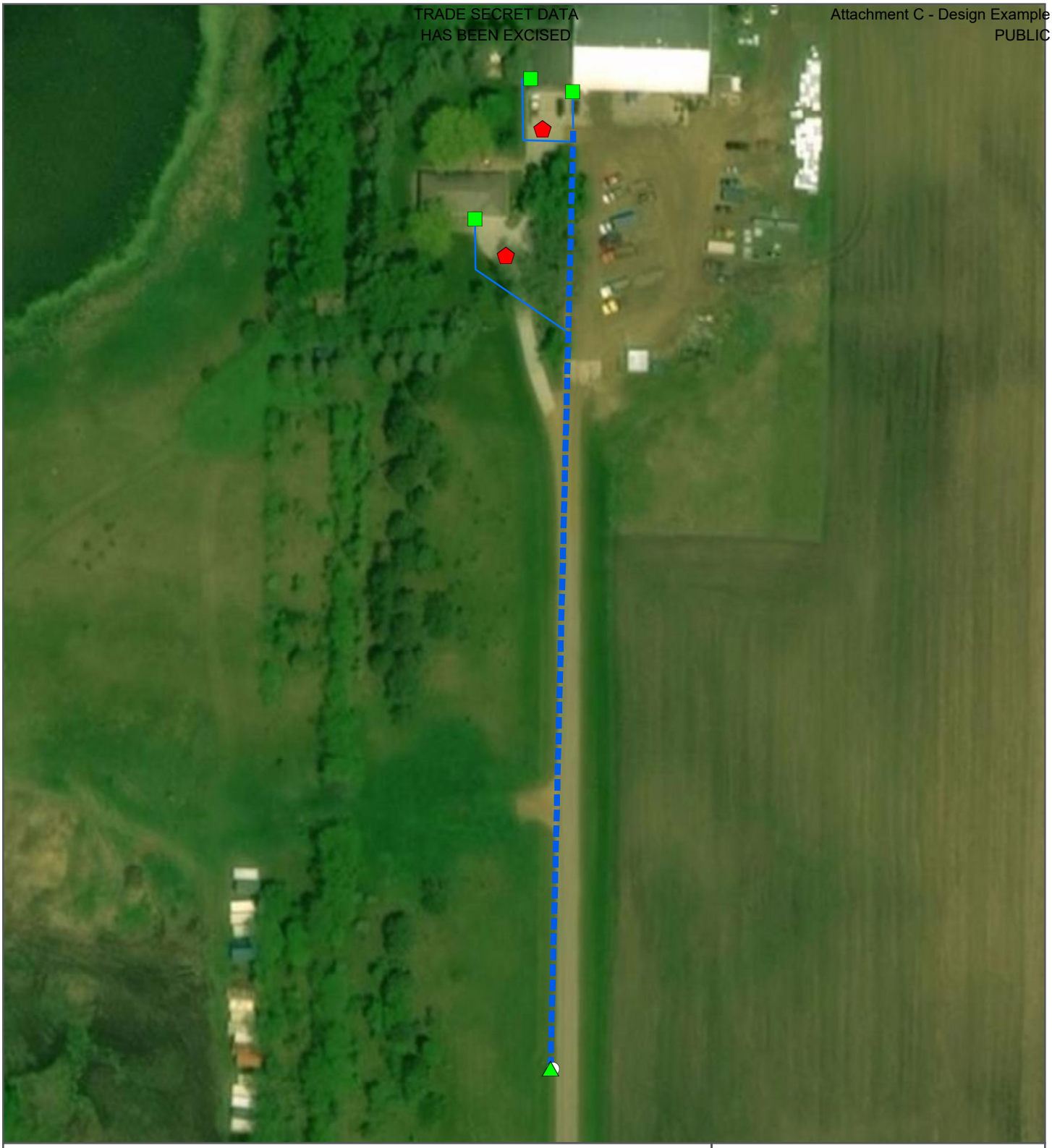

LEGEND

- Building
- Tap
- Obstruction
- Proposed Service Main
- Proposed Service Line

N

0 40 80 FEET

0 10 20 METERS

DATA SOURCES: HDR Inc. Esri Aerial

DISCLAIMER:

[TRADE SECRET DATA BEGINS..

[redacted]

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Attachment D

Estimate Example

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Estimate

[TRADE SECRET DATA BEGINS...

County	Blue Earth
No. Estimates	2
Estimator	HDR Engineering, Inc.
Landowners	Customers A & B

Date: 12/27/2019

Summary

Qty	Item
[redacted]	Number of Services
	Footage of Main
	Footage of Service
	Total Cost
	Average Cost Per Property

[TRADE SECRET DATA BEGINS...

Labor

...TRADE SECRET DATA ENDS]

[redacted]

Materials

[redacted]

Contractor Labor	[redacted]
Materials	
30% Contingency	
Total	

...TRADE SECRET DATA ENDS]

PUBLIC DOCUMENT
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Estimate

[TRADE SECRET DATA BEGINS...

Landowner [redacted]
Address
GPS Coord.
Customer ID
Estimator

Date: 12/27/2019

Summary

Qty	Item
[redacted]	Number of Services
	Footage of Main
	Footage of Service
	Total Cost

Trench + Extra Depth (Gravel) (LF)	Plow (Gavel) (LF)
[redacted]	

Trench + Extra Depth (Dirt) (LF)	Plow (Dirt) (LF)
[redacted]	

Trench + Extra Depth (Non Hard Pack) (LF)	Plow (Non Hard Pack) (LF)	# Drill Pits	Total Dirt
[redacted]			

Labor

[redacted]

[redacted]

Contractor Labor [redacted]
Materials
30% Contingency
Total

...TRADE SECRET DATA ENDS]

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[TRADE SECRET DATA BEGINS...

Estimate

Landowner [redacted]
Address
GPS Coord.
Customer ID
Estimator

Date: 12/27/2019

Summary

[redacted]

Item
Number of Services
Footage of Main
Footage of Service
Total Cost

Trench + Extra Depth (Gravel) (LF)	Plow (Gavel) (LF)
[redacted]	

Trench + Extra Depth (Dirt) (LF)	Plow (Dirt) (LF)
[redacted]	

Trench + Extra Depth (Non Hard Pack) (LF)	Plow (Non Hard Pack) (LF)	# Drill Pits	Total Dirt
[redacted]			

Labor

[redacted]

Materials

[redacted]

Contractor Labor	[redacted]
Materials	
30% Contingency	
Total	

...TRADE SECRET DATA ENDS]

Attachment E

Estimate Detail

Total Estimated Cost Overview

Estimated Total Based on Average per County

	Cost	
Customer Contact & Design	$	1,765,575.00
Project Management	$	600,000.00
Construction Total	$	26,150,946.63
Environmental Services	$	800,000.00
Real Estate Services	$	3,562,580.00
Legal Services	$	1,000,000.00
Customer Notices	$	500,000.00
Agency Assessments	$	650,000.00
Internal Labor	$	784,528.40
Contingency	$	10,744,089.01
Total	**$**	**46,557,719.03**

MINNESOTA ENERGY RESOURCES

Farm Tap Feasibility Study Results

Estimator: HDR Engineering
Sample Size: 275

Average Values Per County

	Total	Average
Number of Farm Taps	275	1
Number of Meters	478	2
Footage of Main	114,690	419
Footage of Service	166,814	607
Replacement Cost	$4,207,099.74	$15,298.54

	Est. Avg. Cost (No Contingency)
Service Line Cost/Ft	$ 10.97
Main line Cost/Ft	$ 11.13
Cost/meter	$ 1,058.32

[TRADE SECRET DATA BEGINS...

County	Number of Farm Taps in Study	Avg Footage of Main	Avg Footage of Service	Avg Number of Meters	Avg Total Repl Cost	Avg Excess Footage Charge (75 Feet Free)	Avg Excess Footage Charge (600 Feet Free)	Avg Excess Footage Charge (1,000 Feet Free)	Avg Excess Footage Charge (75 Feet Free, $10.97/ft)	Avg Excess Footage Charge (600 Feet Free, $10.97/ft)	Avg Excess Footage Charge (1,000 Feet Free, $10.97/ft)	Avg CEM CIAC
ANOKA	[redacted]											
BENTON												
BLUE EARTH												
BROWN												
CARLTON												
CARVER												
CHISAGO												
CROW WING												
DAKOTA												
DODGE												
DOUGLAS												
FARIBAULT												
FILLMORE												
FREEBORN												
GOODHUE												
HOUSTON												
ISANTI												
JACKSON												
KANDIYOHI												
LAKE												
LE SUEUR												
LYON												
MARTIN												
MCLEOD												
MEDFORD												
MEEKER												
MILLE LACS												
MORRISON												
MOWER												
NICOLLET												
OLMSTED												
PINE												
POPE												
REDWOOD												
RENVILLE												
RICE												
SCOTT												
ST LOUIS												
STEARNS												
STEELE												
STEVENS												
SWIFT												
WABASHA												
WASECA												
WASHINGTON												
WATONWAN												
WINONA												
WRIGHT												
YELLOW MEDICINE												

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Extrapolated Cost

County	Number of Farm Taps**	Extrapolated Total Cost	Extrapolated Total Excess Footage Charge (75' Free)	Extrapolated Total Excess Footage Charge (600' Free)	Extrapolated Total Excess Footage Charge (1,000' Free)	Extrapolated Total Excess Footage Charge (75' Free, $10.97/ft)	Extrapolated Total Excess Footage Charge (600' Free, $10.97/ft)	Extrapolated Total Excess Footage Charge (1,000' Free, $10.97/ft)	Extrapolated Total CEM CIAC
Anoka									
Benton									
Blue Earth									
Brown									
Carlton									
Carver									
Chisago									
Cottonwood*									
Crow Wing									
Dakota									
Dodge									
Douglas									
Faribault									
Fillmore									
Freeborn									
Goodhue									
Hennepin*									
Houston									
Isanti									
Itasca*									
Jackson									
Kanabec*									
Kandiyohi									
Lac qui Parle*									
Lake									
Le Sueur									
Lyon									
Martin									
McLeod									
Medford									
Meeker									
Mille Lacs									
Morrison									
Mower									
Nicollet									
Nobles*									
Olmsted									
Pine									
Pipestone*									
Pope									
Redwood									
Renville									
Rice									
Scott									
Sherburne*									
Sibley*									
St Louis									
Stearns									
Steele									
Stevens									
SWIFT									
Todd*									
Wabasha									
Waseca									
Washington									
Watonwan									
Winona									
Wright									
Yellow Medicine									
Total	1550	$23,663,311.43	$1,991,376.14	$710,863.92	$356,805.11	$6,018,015.49	$2,148,258.15	$1,078,278.79	$7,871,747.88

*These counties were not captured in the random sample. The average sample total cost is based on the nearest available county's average estimated total cost.

**Number of farm taps excludes any removed, locked, or inactive meters. Farm Taps on the NNG A-line and J-lines were not included.

		Base
Base Construction Cost Total		**$ 23,663,311.43**

Inflation Rates:

Base

5 year period, assume 5% increase each year:

2020	$	4,732,662.29
2021	$	4,969,295.40
2022	$	5,217,760.17
2023	$	5,478,648.18
2024	$	5,752,580.59
Total	**$**	**26,150,946.63**

...TRADE SECRET DATA ENDS]

NNG Farm Tap Customers

[TRADE SECRET DATA BEGINS...

Premise	Phase 1 letter sent?	Part of 275 study?	Rate Class	Meter Number	Customer ID	Name	Premise Address	City	State	Zip	County	Branch Line / Work Location	Coordinates
[redacted]													

...TRADE SECRET DATA ENDS]

[TRADE SECRET DATA BEGINS...

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Premise	Phase 1 letter sent?	Part of 275 study?	Rate Class	Meter Number	Customer ID	Name	Premise Address	City	State	Zip	County	Branch Line / Work Location	Coordinates
[redacted]													

...TRADE SECRET DATA ENDS]

Premise	Phase 1 letter sent?	Part of 275 study?	Rate Class	Meter Number	Customer ID	Name	Premise Address	City	State	Zip	County	Branch Line / Work Location	Coordinates
[redacted]													

PUBLIC DOCUMENT--TRADE SECRET DATA HAS BEEN EXCISED

[TRADE SECRET DATA BEGINS...

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Additional costs:

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METER

Description	
METER,GAS,AL425TC, 30LT	
AMI, ERT, 500G CELLULAR GAS MODULE	
METER INSTALLATION	
FOUR POST BARRICADE	
Total	

FARM TAP

Description	
6 IN. WICK ODORIZER WITH SITE GLASS, ASME CERTIFIED ROLLED TANKS	
OUTLET VALVE, 3 WAY	
5' FLEX HOSE	
2 MAN CREW	
Total	

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Labor/Material Mark-up for 2020 (based on contract rates)	0.0506
Contigency	30%

Estimated Farm Tap CIAC Contributions

CIAC	Estimated Total Farm Tap Customer CIAC
Excess Footage Allowance 75' ($3.63/ft)	$ 1,991,376.14
Excess Footage Allowance 600' ($3.63/ft)	$ 710,863.92
Excess Footage Allowance 1,000' ($3.63/ft)	$ 356,805.11
Excess Footage Allowance 75’ ($10.97/ft)	$ 6,018,015.49
Excess Footage Allowance 600' ($10.97/ft)	$ 2,148,258.19
Excess Footage Allowance 1,000' ($10.97/ft)	$ 1,078,278.79
CEM	$ 7,871,747.88

Attachment F

Black Hills Annual Farm Tap Report

Number of Total Farm Tap Lines

Black Hills has identified a total of 1632 Farm Tap Lines in its service area. Some of the farm tap lines have not had service for some time, and therefore are not active in Black Hills' customer information system. Historically, it is not unusual for a customer to convert to propane when a leak in the farm tap service line is detected. While the customer may not be receiving service from the farm tap, it is possible that service could be restored at some point in time.

Additionally, Black Hills also has 69 farm tap customers that are located off of Black Hills' transmission lines as identified by Mr. Peterson in his direct testimony in this docket[1]. Like the farm taps on the Northern Natural Gas (NNG) system, the service lines coming from these farm taps are customer owned lines that should be tested and future maintenance and safety testing assumed by Black Hills. Previously those lines had not been identified in the spreadsheet provided to the Board identifying the farm tap lines to be tested in this program, which reflected only the lines off the NNG pipeline. Black Hills' system identifies a farm tap by flagging it for odorant filling. The gas going through Black Hills' transmission lines is already odorized, unlike NNG's transmission lines, so previous queries requesting a list of all farm tap lines did not include taps on Black Hills' transmission lines.

Number of Farm Tap Lines to be Completed

Of the 1632 Farm Tap Lines, Black Hills has identified:

- 159 that will not be tested or completed as part of this farm tap replacement program. A List of these customers can be found on the tab "Lines Not to Be Completed" in the spreadsheet included with this report. Of those 159 lines:
    - 75 customers have had their farm tap service shut off for quite some time. There have been a few of these inactive customers decide to turn their service back on, and more could choose to do so in the future.
    - 71 customers are NNG A-Line customers that Black Hills was not able to serve due to the elimination of that line. Black Hills planned to move one of those customers over to the B-Line, but the customer instead ended-up choosing to convert to propane.
    - 2 customers have converted to propane. One converted because they could not get an easement from the neighbor, and one customer was in the process of converting to propane just as the project was starting and decided to continue the conversion process.
    - 1 customer was going to demolish the house and have the tap removed.
    - 10 customers have been switched over to Black Hills distribution service. The costs associated with moving the lines to a distribution network will not be included as part of the farm tap replacement project. Black Hills has identified several additional lines to be moved over to a distribution system but will remain on the "Farm Taps to Be Completed" tab until they are removed from the farm tap.

Summary of Farm Tap Line Inspections

Black Hills currently has identified 1473 farm taps to be tested (1632 total lines – 159 identified not to test =1473 lines to test). Black Hills, through its contractor InfraSource, has inspected farm taps in the

[1] Peterson Direct, p. 5.

following districts: Newton (212 lines inspected), Webster City (214), Denison (206), Council Bluffs (210) and Spencer (213). Three districts will be tested in 2019: Manchester (205), Decorah (208) and Dubuque (211).

Of the 1,473 customer owned farm tap lines to test:

- 1,031 inspections were completed prior to the end of 2018
  - 330 farm tap lines passed inspection and could have valves added in the field and the meter set moved to the house
  - 691 farm taps need replacement – most are complete replacements, a few are partial replacements
  - 10 farm taps either had a leak reported on the line and didn't go through the normal inspection process and were replaced, or the new line was the result of a conversion from the NNG A line to the NNG B line.
- Easement status for the 1,031 inspected lines:
  - 655 customers do not require easements
  - 371 do require easements
    - 165 easements have been signed, notarized and returned to Black Hills
    - 167 easements have been sent to the customer and landowner and have not been returned to Black Hills
    - 39 easements are currently being drafted and will be sent to the customer and the landowner that the easement is being sought from
  - 5 lines are currently being researched to verify that easements are indeed needed
- 358 farm taps were complete at the end of 2018:
  - 149 farm tap lines had passed inspection and have had new valves, EFVs and meter sets installed
  - 209 farm tap lines were replaced or had some portion of the line replaced. The reasons for a partial replacement would include:
    - A portion of the line was good and Black Hills was able to utilize it
    - A line to one building was good, however a connecting line that was installed at a different time, needed to be replaced.

Project Costs

As indicated in its implementation plan, Black Hills created 2 work order numbers to separately track testing costs and replacement or acquisition costs. For capital costs, Black Hills has been directly tracking the 3rd party installation contractor costs (InfraSource) and purchase costs by each farm tap location (see columns AU and AR in the spreadsheet filed with individual line information). However, many costs are generally accounted for under the blanket work order number. The reason for tracking costs under a blanket is due to the difficulty having to directly assign costs and attempting to administer a work order number for each small project; this would be overly cumbersome and costly with no real benefit. For example, Black Hills has to purchase materials such as pipe and EFV valves months in advance for these projects and in large quantities. Another example would be Black Hills' labor costs for project management. The project manager is providing support on all work being done and will spend more time on some lines and less on others.

The summary of costs associated with this project is summarized below.

IAG Farm Taps - Capital Costs and O&M Testing		2018		2017		Total
O&M Testing	**$**	**462,314**	**$**	**207,026**	**$**	**669,339**
Capital Costs						
Capital Costs minus Easement Preparation	$	2,667,952	$	597,139	$	3,265,091
Easement Preparation	$	652,269	$	130,886	$	783,155
Total Capital Costs	**$**	**3,320,221**	**$**	**728,025**	**$**	**4,048,245**
Total	**$**	**3,782,534**	**$**	**935,050**	**$**	**4,717,585**

The Board Order in Docket Number SPU-2015-0039, issued April 20, 2017 ("April Order"), indicated that recovery of costs should be from customers in the applicable rate class. At this time Black Hills has replaced lines in the Residential, General Service Non-Residential and Small Volume rate classes. Therefore, Black Hills is allocating the costs to only these rate classes. The allocation percentages are based on the allocation of costs that Black Hills has been able to directly allocate to individual customer lines. Attachment 3 in the attached Excel file provides the calculations for the allocations. First, Black Hills calculated an allocation percentage by rate class based on the installation and purchase costs identified in the line tracking workbook. Using those percentages, all capital costs, with the exception of easement preparation costs, were allocated to the rate classes. To determine the allocation of easement preparation costs, an allocation of the lines requiring easements by rate class was used. The two categories of capital costs by rate class were added together and overall allocation factors were calculated. The overall allocation factors were used for the rate design in Attachment 2.

Carrying Charge Calculation

In its application and supplemental direct testimony[2] throughout the farm tap docket, Black Hills made it clear to the Board that if the Company was to make the investment in service line replacement costs, the company needed to fully recover its cost of capital. The Company later agreed to accept the cost of debt (4.4%) as the cost of capital. As the company reviewed the farm tap tariff to prepare this filing, two interpretations of the tariff language were identified. Under one view, the twelve month average of Net Plant (factor NP) was calculated by adding the beginning (January) and ending (December) month Net Plant balances, then dividing by two, then multiplied that balance by 4.4 percent. Under the second interpretation, the average Net Plant balance was calculated for each month, then the balance was multiplied by 4.4 percent. Black Hills would calculate its cost of capital using the second method and feels the first interpretation would result in a gross under-recovery. Black Hills management feels it is appropriate to bring this interpretation to the Board's attention. The calculations shown on Attachments 1a and 1b in the attached Excel file reflect what Black Hills believes is the correct or intended calculation method.

[2] Amdor Supplemental Direct p.3

Responses to Board Requested Information from Orders Issued August 8, 2017 and April 20, 2017

1. ***An updated customer list by district***

   Please see spreadsheet titled "IA Farm Tap Working List – Tracking Document 2018.xlsx", for a complete list of identified farm tap lines and the associated district the line is located in.

2. ***A report on any leaks discovered that will include an action plan and repair dates***

   During this project, 16 leaking lines have been identified. When a leak in a farm tap line was identified, it was replaced immediately.

3. ***Details about purchases or acquisitions***

   On the Board's April Order, Black Hills was directed to break out the costs for purchasing customer-owned lines separately from the rest of its capital costs. Black Hills has identified 22 lines to be purchased at a total cost of $63,904 and has included these lines in its calculation of completed lines. However, at the end of 2018, eight customers have been paid for their line at a cost of $29,488. The remainder of the customer are being reimbursed in 2019 and will be included in the capital costs for 2019. Details concerning original cost and install date, as well as the Black Hills purchase cost can be found in columns AP through AS of the spreadsheet filed with this report. The purchase costs are identified in column AR and are highlighted either green or yellow. The lines that are highlighted in green indicate that the customer has been reimbursed for their line. The lines in yellow indicate that the customer will be reimbursed for their line in 2019 but the amount has been identified.

   In situations where BHE had to make minor repairs or was able to just install tracer wire to a line, BHE subtracted the cost of the work from the reimbursement paid to the customer.

4. ***The date BHE takes ownership or control of a purchased line***

   Please see column AQ "Date Completed mm/dd/yy" for the date Black Hills completed a line, which would be the same time Black Hills took ownership of a purchased line.

5. ***Details about any customers who convert to propane***

   There have been 2 farm tap customers that have converted to propane. One customer was in the process of converting at the time the project started and was not going to stay with natural gas service. The other customer converted to propane due to the inability to obtain an easement for the line.

6. ***Number of lines purchased or replaced for the year as well as how many remain outstanding***

   - 358 farm tap lines have been completed during 2017 & 2018
   - 1,115 farm tap lines remain

7. ***Detail should accompany the progress in relation to the completion goals set forth in the implementation plan broken down by:***

a. Customer Class

Black Hills' implementation plan states that the Company planned to replace approximately 50-100 in 2017, and the actual number of replaced lines in 2017 was 68.

To date Black Hills is currently behind on where it wants to be in the 3 year implementation plan. There have been several factors that have slowed progress, including weather and obtaining the necessary easements from landowners. The table below summarizes the total number of farm tap service lines to be tested and purchased or replaced, the number of lines that have been completed and the number of lines remaining.

Farm Tap Lines by Rate Class			
	Completed Lines	Remaining Lines	Total Lines
Residential	342	959	1301
GS Non-Residential	15	136	151
Small Volume	1	15	16
Large Volume	0	1	1
Not Identified	0	4	4
Total Lines	358	1115	1473

In 2019, Black Hills will be committing additional manpower resources to help speed up the process. There is currently one person managing this process, and there will now be two Black Hills employees managing or supervising this project. To help with the easement back log, Black Hills did begin sending easements to the landowners directly along with providing Black Hills contact information for any questions they might have about the project. Black Hills will also be looking at other ways to help manage the easement process.

b. Details about customer costs associated with any request for line upgrades or extensions beyond what the Board is authorizing BHE to replace without requiring any customer contributions (i.e. "Upsizing" longer lines/ larger pipe to accommodate the addition of grain dryers)

There have been very few modifications or additions to customer lines so far. When line upgrades were done, customers paid the determined contribution to construction, and it is noted in the spreadsheet filed with the report.

There have been several requests for additional or upgraded lines and those requests have also been noted in the spreadsheet under column AU, "Miscellaneous Comments".

8. Any new contracts BHE enters into with respect to farm tap service (i.e. Northern)

Black Hills has not entered into any new contracts with Northern Natural Gas with respect to farm tap service.

Attachment G

Alternative Fuel Cost Comparison

Residential Fuel Cost Comparison Calculation

Natural Gas Savings Calculators can be found on the Minnesota Energy Resources website at:
https://accel.minnesotaenergyresources.com/home/switch/calculators.aspx

Fuel	unit of measure	BTU/unit of measure
Propane	gallon	91,600
electricity	KWh	3,413
natural gas	cubic foot	1,000

Propane	usage per year (gallons)		1,000	Tank rental $0.00 per month
	cost per gallon	$	1.589	https://ycharts.com/indicators/minnesota_residential_propane_price
	BTU's burned		91,600,000	as of November 11, 2019
	fuel cost for 1 year	$	1,589	
	tank rental * 12		$0	
	cost for 1 year		$1,589	
Natural Gas	NG equivalent (CF)		91,600	Monthly Meter Charge $ 9.50
	cost per therm	$	0.66877	
	cost per CF	$	0.00669	
	cost per MCF	$	6.69	
	fuel cost for 1 year	$	612.59	
	monthly meter charge * 12	$	114.00	
	cost for 1 year	$	726.59	
	fuel savings	$	862	

Electric	usage per year (KWh)		18,000	
	cost per KWh	$	0.13910	August 2019 EIA MN Residential prices
	BTU's burned		61,434,000	
	fuel cost for 1 year	$	2,504	
Natural Gas	NG equivalent (CF)		61,434	Monthly Meter Charge $ 9.50
	cost per therm	$	0.66877	
	cost per CF	$	0.00669	
	cost per MCF	$	6.68770	
	fuel cost for 1 year	$	410.85	
	monthly meter charge * 12	$	114.00	
	cost for 1 year	$	524.85	
	fuel savings	$	1,979	

Attachment H

Proposed Customer Notice

What are current farm tap customer responsibilities?

- Currently, farm tap customers are responsible for the safety and condition of the natural gas line running from the meter to structures as well as any costs associated with the natural gas lost from a natural gas line leak.
- Farm tap customers are required to know the location and condition of their natural gas line and regularly read their own meter.
- Farm tap customers are required to have a qualified professional periodically inspect their lines for leaks. If a leak is discovered, depending on its location, a qualified contractor or the farm tap customer's local utility must make the repairs.

How will I benefit under the new proposal?

This proposal enhances the safety for you, your property, our employees and the public. In some cases, the farm tap customer will no longer have the responsibility of maintaining their own natural gas line.

Additional benefits include the following:

- All utility-owned pipelines will be locatable and added in the Gopher State One Call notification system to avoid accidental hits.
- Some natural gas lines will be replaced, ensuring that they meet all safety and reliability standards.
- Farm tap customers will continue to be eligible to participate in the Minnesota Energy Resources customer programs such as energy efficiency rebates.

Provide comments on the proposal:

We welcome your questions and comments on this proposal.

You can contact us by email at farmtap@minnesotaenergyresources.com or by phone at 651-322-8989.

Administrative Law Judge [INSERT] is holding ten public hearings. Any Minnesota Energy Resources customer or other person may attend or provide comments at the hearings. You are invited to comment on Minnesota Energy Resources' proposal, alternatives to the proposal, rate impacts of the proposal, or other related matters. You do not need to be represented by an attorney.

Date	Time	Location
TBD	TBD	Eveleth
TBD	TBD	Cloquet
TBD	TBD	North Branch
TBD	TBD	St. Cloud
TBD	TBD	Litchfield
TBD	TBD	Lakeville
TBD	TBD	Granite Falls
TBD	TBD	Rochester
TBD	TBD	Mankato
TBD	TBD	Jackson

Bad weather? To find out if a meeting is canceled – call (toll-free) 855-731-6208 or 651-201-2213 or visit mn.gov/puc.

Submit written comments

Online

Visit mn.gov/puc and select Comment. Reference docket number 17-409 with your comment submission.

Email

Email comments to consumer.puc@state.mn.us

U.S. Mail

Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

Written comments should include:

1. The Docket Numbers in the subject line or heading
   - MPUC Docket Number G-011/GR-17-409
2. Your name and connection to the docket
3. Anything you wish to say about the docket

Important: Comments are available to the public on the MPUC's website, except in limited circumstances consistent with the Minnesota Government Data Practices Act. The MPUC does not edit or delete personally identifying information from submissions.

Accommodations

If any reasonable accommodation is needed to enable you to fully participate in these meetings such as sign language or large print materials, please contact the Office of Administrative Hearings at 651-361-7000 (voice) or 651-361-7878 (TTY) at least one week in advance of the meeting.

For more information

Minnesota Energy Resources' current and proposed rate schedules are available at:

Minnesota Energy Resources
2685 145th Street West
Rosemount, MN 55068
farmtap@minnesotaenergyresources.com
Phone: 651-322-8989

Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101
Phone: 651-539-1534
Web: https://www.edockets.state.mn.us/EFiling/search.jsp
Select 17 in the year field, enter 409 in the number field, select Search, and the list of documents will appear on the next page.

Questions about the Minnesota Public Utilities Commission's review process?

Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101
Phone: 651-296-0406 or 1-800-657-3782
Email: consumer.puc@state.mn.us

Citizens with hearing or speech impairments may call through their preferred Telecommunications Relay Service.

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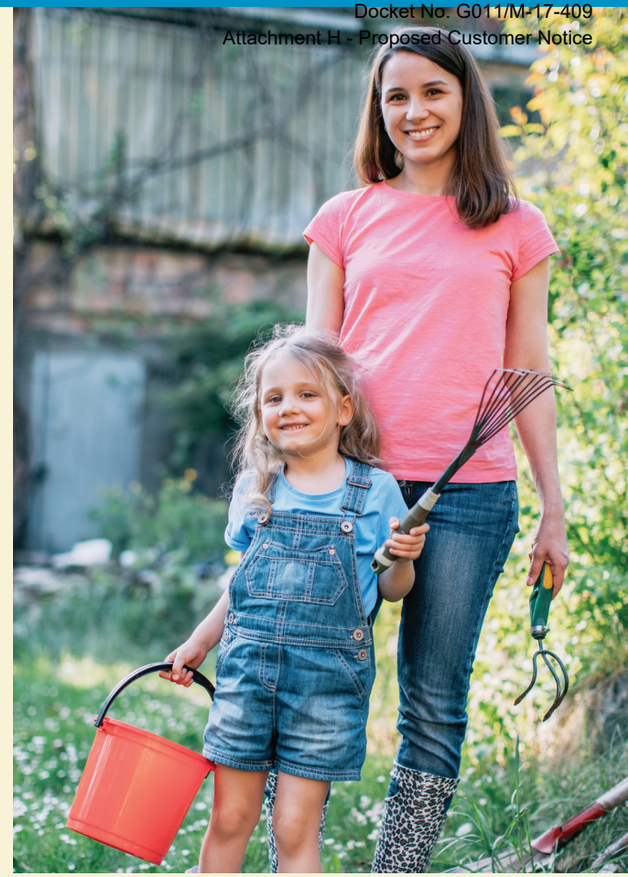


Important information

regarding farm tap proposal

MINNESOTA ENERGY RESOURCES®

***Energy** you can depend on*

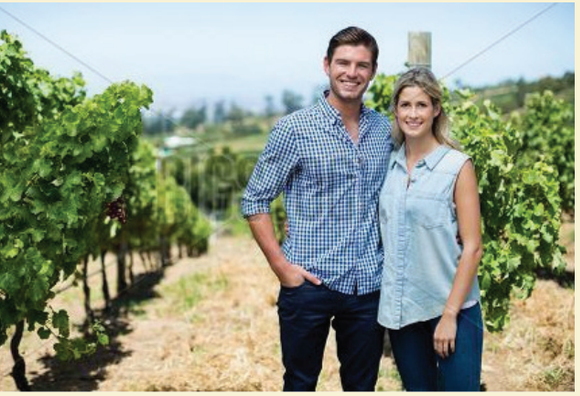
Important information regarding farm tap proposal

Minnesota Energy Resources has had the privilege of providing a variety of natural gas services to farm tap customers through an agreement with Northern Natural Gas for many years. Services provided include billing, customer service, responses to leak calls, odorizer maintenance, delivery pressure verification, and consultation on the installation and repair of customer-owned facilities.

Minnesota Energy Resources follows service line safety standards, maintains records and pipeline location data, and can access all company-owned mains and service lines. The company cannot monitor or access customer-owned farm tap lines in this way. This can create safety issues for customers, our employees and the general public when we cannot provide line locations, perform complete leak surveys or identify obsolete natural gas lines.

To resolve some of these issues, Minnesota Energy Resources has conducted an evaluation of potential alternatives and filed a proposal with the Minnesota Public Utilities Commission (MPUC) aimed at mitigating the safety risks associated with continued service to farm tap customers. Minnesota Energy Resources is proposing to recover the costs of its proposal from all current customers through a Gas Utility Infrastructure Cost Rider surcharge.

This notice is to inform you of the proposal, alternatives to the proposal, the potential rate impacts, and opportunities to provide comments and feedback.



Proposal highlights:

Customer-owned farm tap lines are not subject to the same oversight as mains and service lines owned by Minnesota Energy Resources. In an effort to increase safety and reliability of farm tap lines we are proposing to:

- Install new mains and service lines from our existing distribution system to existing farm tap customers located within one mile of our current system.
- Help ensure customer safety. If a leak is detected on a farm tap or customer-fueled line, it will be disconnected until proper repairs are made.
- Enhance customer safety education.
- Refrain from processing new requests for farm taps until direction is provided by the MPUC.

Farm tap customers will have the choice to discontinue natural gas service and have their energy needs met by alternative energy fuel providers rather than having their line replaced.

Alternatives evaluated:

In developing the proposal, Minnesota Energy Resource evaluated a number of alternatives to address the safety risks and continued service to farm tap customers. Some of those alternatives include:

- Continue without any changes to current service.
- Replace all farm tap lines with utility-owned and operated main and service.
- Replace the lines near our distribution system.
- Evaluate and pressure test existing farm tap customer-owned lines that are locatable and documented to determine whether those lines could be taken over by Minnesota Energy Resources.
- Reimburse farm tap customers who have replaced their lines recently where the customer-owned lines meet our safety and installation standards.
- Convert farm tap customers to alternative fuels such as propane or electric service.

Cost of proposal and recovery of costs:

While the actual rate impacts to customers will depend on the total project costs and final decisions regarding allocation and recovery of those costs, Minnesota Energy Resources has projected rate impacts to customers as follows based on average customer usage for each customer class.

Customer Class	Proposed Per Therm Charge	Average Annual Therm Usage Per Customer	Average Annual Cost of Proposed Farm Tap Project
Residential	$0.00360	878	$3
Class 1 & 2 Firm (Sales and Transport)	$0.00216	4,459	$10
Class 1 & 2 Interruptible (Sales and Transport) Class 1 & 2 Grain Dryer Class 1 Electric Generation	$0.00216	42,541	$92
Class 3 & 4 Firm (Sales and Transport)	$0.00036	165,821	$60
Class 3 & 4 Interruptible (Sales and Transport) Class 3 & 4 Grain Dryer	$0.00036	562,824	$203
Class 5 (Sales and Transport) FLEX Class 2 Electric Generation Transport-for Resale	$0.00036	4,349,617	$1,566
Direct Connect	Not Applicable	Not Applicable	Not Applicable

What is a farm tap?

Farm tap customers receive natural gas from a Northern Natural Gas transmission pipeline that runs on or near their property. Minnesota Energy Resources does not own this transmission pipeline or the natural gas line serving the property.

How is this different from other customers of Minnesota Energy Resources?

Typically, Minnesota Energy Resources owns and maintains the distribution mains and service lines from the town border station to the customer meter. In the case of a farm tap customer, the customer owns and is responsible for the maintenance of their customer-owned fuel lines.

What are the safety concerns with the current situation?

The majority of customer-owned natural gas lines were installed many years ago. Their condition and location are often unknown.

What services does Minnesota Energy Resources currently provide to farm tap customers?

Billing, customer service, responses to leak calls, odorizer maintenance, delivery pressure tests, and consultation on the installation and repair of customer-owned facilities.

What will change for farm tap customers?

Under the proposal, all farm tap customers located within one mile of our current system would have their fuel lines replaced with Minnesota Energy Resources-owned mains and service lines.

All other farm tap customers would remain as shown above. Enhanced customer safety education would be provided to these customers.

Why is the MPUC involved?

The MPUC is the state of Minnesota regulatory body that has authority over Minnesota investor-owned utilities. A Minnesota investor-owned utility must have MPUC approval before the company can move forward with a proposal such as this.

In the Matter of the Petition of Minnesota Energy Resources Corporation for Approval of Farm Tap Customer-Owned Fuel Line Replacement Plan, Tariff Amendments, and Deferred Accounting

Docket No. G011/M-17-409

CERTIFICATE OF SERVICE

I, Kristin M. Stastny, hereby certify that on the 30th day of December, 2019, on behalf of Minnesota Energy Resources Corporation (MERC), I electronically filed a true and correct copy of the enclosed Report on Farm Tap Planning and Design Phase and Phase II Procedural Proposal on www.edockets.state.mn.us. Said documents were also served via U.S. mail and electronic service as designated on the attached service list.

Dated this 30th day of December, 2019.

/s/ Kristin M. Stastny
Kristin M. Stastny

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Michael	Ahern	ahern.michael@dorsey.com	Dorsey & Whitney, LLP	50 S 6th St Ste 1500 Minneapolis, MN 554021498	Electronic Service	No	OFF_SL_17-409_M-17-409
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_17-409_M-17-409
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_17-409_M-17-409
Daryll	Fuentes	dfuentes@usg.com	USG Corporation	550 W Adams St Chicago, IL 60661	Electronic Service	No	OFF_SL_17-409_M-17-409
Michael	Krikava	mkrikava@briggs.com	Briggs And Morgan, P.A.	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	OFF_SL_17-409_M-17-409
Brian	Meloy	brian.meloy@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_17-409_M-17-409
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_17-409_M-17-409
Catherine	Phillips	catherine.phillips@we-energies.com	We Energies	231 West Michigan St Milwaukee, WI 53203	Electronic Service	No	OFF_SL_17-409_M-17-409
Catherine	Phillips	Catherine.Phillips@wecenergygroup.com	Minnesota Energy Resources Corporation (HOLDING)	231 West Michigan St Milwaukee, WI 53203	Electronic Service	No	OFF_SL_17-409_M-17-409
J. Gregory	Porter	greg.porter@nngco.com	Northern Natural Gas Company	1111 South 103rd St Omaha, NE 68124	Electronic Service	No	OFF_SL_17-409_M-17-409

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Generic Notice	Residential Utilities Division	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_17-409_M-17-409
Colleen	Sipiorski	Colleen.Sipiorski@wecenergygroup.com	Minnesota Energy Resources Corporation	700 North Adams St Green Bay, WI 54307	Electronic Service	No	OFF_SL_17-409_M-17-409
Kristin	Stastny	kstastny@briggs.com	Briggs and Morgan, P.A.	2200 IDS Center 80 South 8th Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_17-409_M-17-409
Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_17-409_M-17-409
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_17-409_M-17-409
Mary	Wolter	mary.wolter@wecenergygroup.com	Minnesota Energy Resources Corporation (HOLDING)	231 West Michigan St Milwaukee, WI 53203	Electronic Service	No	OFF_SL_17-409_M-17-409