
Minnesota Energy Efficiency Potential Study: 2020–2029

Appendix N: Advisory Committee Membership and Policy Comments

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Conservation Applied Research and Development (CARD) FINAL Report

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Overview

The full report that this appendix supports, *Minnesota Energy Efficiency Potential Study: 2020-2029*, is available for download on the [project website](#).

Minnesota has a thirty-plus year history of leadership in energy efficiency policy and achievements. In order to continue to maximize the benefits of cost-effective energy efficiency resource acquisition by utilities, the project team, consisting of Center for Energy and Environment (CEE), Optimal Energy (Optimal) and Seventhwave, was commissioned to:

- Estimate statewide electric and natural gas energy efficiency and carbon-saving potential for 2020-2029;
- Produce data-driven and stakeholder-informed resources defining market segments, end uses, measures, and programs that could be targeted in the decade ahead to realize the state's cost-effective energy efficiency potential; and
- Engage stakeholders in order to help advance robust energy policies and energy efficiency programs in the state, and to inform future efficiency portfolio goals.

In order to help achieve the goals of this project, an Advisory Committee was formed consisting of a diverse range of stakeholders. Over the course of the study, the Advisory Committee provided input on key project parameters, including:

1. Technologies that are suitable to be included in the potential study.
2. Programmatic approaches that can help advance CIP achievements.
3. Input on technical assumptions of the potential study, including such topics as avoided costs from energy and capacity displaced by energy efficiency, energy sales forecasts in 2020 and beyond, existing energy-efficiency measure saturation rates, and the impact of codes and standards on CIP.
4. Policy recommendations for the future of CIP.

This appendix includes the written comments submitted by Advisory Committee members, as well as some additional expert stakeholders, that helped form the policy conclusions of this study. These comments were solicited in two rounds, and can be found in their entirety in the second section of this appendix.

The project team thanks the Advisory Committee members for their time and expertise that they contributed throughout the course of this project. A list of the Advisory Committee members and their organizations can be found in the following section of this appendix.

List of Advisory Committee Members

Name	Title	Organization
Annie Levenson-Falk	Executive Director	Citizens Utility Board of Minnesota
Craig Johnson	Intergovernmental Relations Representative	League of Minnesota Cities
Jason Grenier	Manager of Market Planning	Otter Tail Power Company
Jeff Haase	Strategic Energy & Efficiency Program Representative	Great River Energy
Jill Curran ¹	Director of Environment Sustainability Programs	Minnesota Chamber of Commerce
Patrick Deal ²	Energy Efficiency Specialist	Minnesota Chamber of Commerce
Jim Horan	Director of Government Affairs and Counsel	Minnesota Rural Utilities Association
John O'Neil	Manager of Energy Efficiency & Member Support Programs	Southern Minnesota Municipal Power Agency
Lisa Severson	Energy Conservation Coordinator	Minnkota Power Cooperative
Matt Haley	President	Energy Insight Inc.
Nick Mark	Manager, Conservation & Renewable Energy Policy	CenterPoint Energy
Rob Scott-Hovland	State Legislative Representative	Missouri River Energy Services
Robert Jagusch	Director of Engineering and Policy Analysis	Minnesota Municipal Utilities Association
Shawn White	Manager, DSM Strategy & Financial Operations	Xcel Energy
Sue Nathan ¹	Vice President	Applied Energy (Representing Minnesota Energy Resources)
Ralph Nigro ²	Senior Vice President	Applied Energy (Representing Minnesota Energy Resources)
Tina Koecher	Manager - Customer Solutions	Minnesota Power
Will Nissen ¹	Director, Energy Performance	Fresh Energy
Kevin Lawless ²	Principal	The Forward Curve (Representing Fresh Energy)

¹ Indicates original Advisory Committee member who left position during course of project.

² Indicates replacement Advisory Committee member who joined during course of project.

Policy Issues – Request for Comments #1

The project team issued the first request for comments on policy issues related to the potential study on October 9, 2017. The following section includes the original request document, as well as all of the responses received, which were submitted by the following organizations:

- CenterPoint Energy
- Fresh Energy
- Great River Energy
- Minnesota Energy Resources
- Southern Minnesota Municipal Power Agency
- Xcel Energy
- American Council for an Energy-Efficient Economy
- Otter Tail Power Company

October 9, 2017

To: DSM Potential Study Advisory Committee Members

From: Mike Bull, Center for Energy and Environment

RE: DSM Policy Issues

Dear Advisory Committee members:

Thank you for another very productive Advisory Committee meeting – we very much appreciate how willing you are to share your thoughts and expertise.

As we've discussed, we'd like to solicit written comments on the policy issues that have arisen in our one on one conversations, the stakeholder survey and in our full advisory committee meetings. **Please provide your initial written thoughts to the following questions by Friday, December 1, 2017.**

In answering these questions, please be as clear as possible as to your preferred outcome and the rational for that outcome:

1. Whether and how to improve how behavioral and operational programs are incorporated into CIP?
2. Whether and how to best reflect the value of carbon reductions due to CIP?
3. Whether and how to further integrate demand response with CIP?
4. Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?
5. Whether and how to set the CIP efficiency goal – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?

6. Whether and how to track progress toward the CIP efficiency goal – the current method of first year savings and costs, cumulative savings, lifetime savings or use some other method or combination of methods?
7. Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? and how much?), or should the CIP goals be adjusted accordingly (again, how? and how much?) as efficiency codes and standards become more stringent and reduce the savings potential of utilities?
8. Any other topic you'd like to comment on.

These comments should be returned to me via email (mbull@mncee.org), but can be in the form of a pdf document. We'll use your written comments to help inform the policy discussion in the DSM Potential Study report, and will include the written comments as an appendix to that report.

We may follow up these written comments with another round of comments that would be due sometime in the spring of 2018. Also, one member of the Advisory Committee suggested that we spend additional time together in-person to work through policy issues. We'll discuss how best to move forward on CIP policy at the February advisory committee meeting.

Thanks again for all of your hard work and your willingness to provide the Statewide DSM Potential Study Team written comments on these policy questions. Please feel free to contact me if you have any questions.

Thank you!





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December 1, 2017

Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: CenterPoint Energy Comments on DSM Policy Issues

Dear Mr. Bull,

CenterPoint Energy, a division of CenterPoint Energy Resources Corporation, ("CenterPoint Energy" or the "Company") provides the following comments on the policy questions you posed to the Energy Potential Study Advisory Committee members in your letter of October 9, 2017.

1. Whether and how to improve how behavioral and operational programs are incorporated into CIP?

In previous proceedings on the topic of behavioral savings, CenterPoint Energy has taken the position that any adjustment to savings from behavioral programs should be empirically based. The Company continues to hold this opinion, but does not believe that the currently-available empirical information of which it is aware would justify a change to the current Average Savings Method (ASM). The ASM is to some extent arbitrary, and there exist methods of accounting for behavioral savings with better empirical support. However, it is the Company's understanding that these methods are complicated to implement, require significant study of factors such as savings decay rates, and ultimately produce savings results that are largely comparable to those produced by the ASM (which has the advantage of simplicity). It is not clear to the Company that the change to a new, potentially administratively cumbersome methodology is justified by the improvement in the empirical basis, given the similarity of results. Accordingly, the Company takes the position it is reasonable to continue using the ASM until there is reason to believe that an alternative methodology both has a superior empirical basis and produces a substantially different result in terms of energy savings, persistence, cost-effectiveness, or other relevant metrics.

2. Whether and how to best reflect the value of carbon reductions due to CIP?

CenterPoint Energy notes that the value of carbon reductions due to CIP is currently captured through the Societal Test by way of the Environmental Damage Factor (Input 9 to the BenCost for Gas CIPs), along with the impact of sulfur dioxide, particulate matter, carbon monoxide, nitrogen oxides, and lead. The values used to calculate this input are derived from externality values established by the Minnesota Public Utilities Commission (PUC). On July 27, 2017, the PUC reached an oral decision on a new social cost of carbon that will impact the valuation of

carbon reductions from CIP. As discussed in Department Staff's Proposed Decision in the process that established the BenCost inputs for the 2017-2019 Triennial (Docket No. G-999/CIP-16-36), the Company anticipates that when the PUC issues a written order reflecting the July 27 decision, the DER will update the Environmental Damage Factor and require utilities to make a compliance filing using the new factor. The Company does not believe additional action needs to be taken to reflect the value of carbon reductions due to CIP.

The Company notes that the process above only reflects the externality costs of carbon (and other) emissions and the corresponding value of reducing emissions. It may not fully capture the value of avoided compliance and/or mitigation costs should a future requirement limit carbon emissions. That value should be included in the establishment of the utility's avoided costs.

- 3. Whether and how to further integrate demand response with CIP?**
- 4. Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?**

The Company addresses questions 3 and 4 together in this response.

Minnesota statute already establishes that demand response that reduces overall energy use qualifies for CIP.¹ Statute also makes clear that the purpose of CIP is to increase energy efficiency, which means programs offered through CIP must reduce energy use either in absolute terms or on a per-unit-of-production basis. The Company does not support the inclusion in CIP of demand response or any other measure that results in an increase in overall energy use or fails to change total energy consumption; this would violate the purpose and intent of the statute. While such measures may have desirable benefits (e.g. potentially lower carbon emissions), if a given activity does not reduce the overall amount of energy used, then the activity should be supported with resources other than customer-funded energy efficiency programs. Demand response, fuel switching, load management, and similar activities should not be paid for with CIP funds unless they also result in lower energy consumption, and only to the extent to which they achieve that goal.

The Company believes that a three-part test can be useful in determining whether a given demand response, fuel-switching, or other measure should be permitted under CIP: Does the measure result in lower overall cost to the customer? Does the measure reduce overall emissions? And finally, does the measure result in lower overall energy consumption, measured on a source-BTU basis? Measures for which the answer to any one of these questions is "no" should not be considered for inclusion in CIP. The Company notes that for some end uses (e.g., water heating or space heating), the answer to these questions may vary depending on the direction of fuel switching and the location of the installation. For example, switching from electric water heating to natural gas might make sense in one electric utility's service area but not another's, depending on the utilities' respective emissions profiles. In the Company's view, any fuel switching measures should be reviewed through the TRMAC process in order to establish reasonable assumptions for use across geographies and identify what information is necessarily geography-specific. The Company also believes that the utility that influences a

¹ Minn. Stat. § 216B.241 Subd. 1(c).

customer to switch fuels should be permitted to claim any resulting energy savings regardless of the direction of fuel switching; this will allow utilities to push customers toward the most efficient option regardless of the fuel used.

The Company notes that some activities may result in lower net energy consumption but increase utility sales. Gas-fired CHP and electrification of vehicles are two (but not the only) examples. These types of measures should be evaluated individually. In the Company's view, fuel-switching that results in the need for significant utility investment (e.g. by requiring additional electric generation capacity) should bring with it equally significant utility savings elsewhere in the state's energy system if customer energy-efficiency funds are used to support the measure. The Company also suggests that, in order to reduce the risk of utilities promoting load-building activities in the guise of efficiency, the state could consider only permitting fuel-switching for utilities with fully decoupled rate structures.

- 5. Whether and how to set the CIP efficiency goal – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?**
- 6. Whether and how to track progress toward the CIP efficiency goal – the current method of first year savings and costs, cumulative savings, lifetime savings or use some other method or combination of methods?**

The Company addresses questions 5 and 6 together in this response.

The Company believes that the current system of establishing a default goal, articulated as a percentage of annual sales, with the ability to adjust the goal based on both a utility's identified potential and its historic achievements, has worked well. Although any legislatively-established savings goal is arbitrary to some degree, the flexibility provisions built into the statute are reasonable and have spurred utilities to increase their achievements without creating undue burden. Additional flexibility may be helpful in certain circumstances and could be considered, but CenterPoint Energy is comfortable continuing to use the current goals. The Company believes continuing to use first-year savings as the standard is reasonable as long as utilities continue to receive a financial incentive that is based on net benefits achieved – this combination encourages the achievement of high levels of savings while also encouraging long-lived measures that increase net benefits.

In the Company's view, changing the overall yardstick by which CIP is assessed should be approached carefully. The transition between one goal framework and another can be disruptive to programs and planning as stakeholders adapt to the new framework. The Company believes that the current set of policies works well – and, importantly, that the policies complement each other – to drive CIP achievement. While the Company is willing to participate in further discussion on the topic, from CenterPoint Energy's perspective, there is not currently a pressing reason to alter this successful policy suite.

7. Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? and how much?), or should the CIP goals be adjusted accordingly (again, how? and how much?) as efficiency codes and standards become more stringent and reduce the savings potential of utilities?

CenterPoint Energy believes further consideration of savings from codes and standards by the Department and interested stakeholders is warranted. Historically, a guiding principle in CIP has been that utilities should be neither helped nor harmed by activities outside of their control. Accordingly, the Company would not support allowing utilities to automatically count savings attributable to changes in building codes and appliance standards, but might support allowing utilities to claim such savings to the extent that the utility has engaged in some activity to drive the savings. For example, the Company might support allowing a utility to claim savings associated with increased code compliance if the utility operated a program to increase compliance and could adequately demonstrate the program's effect.

At the same time, changes to codes and standards which erode the claimable savings for the utility should not be allowed to result in the utility failing to meet its goals. This would potentially put utilities in the position of opposing (tacitly if not actively) increased appliance standards, for fear of the impact on their programs' success. It is not immediately clear how to account for these changes while also ensuring that utilities do not receive undue credit for savings they did not drive, but the Company believes this is an important discussion. Stakeholders and the Department should aim for approaches that are fair, administratively realistic, and transparent as they continue to discuss how to incorporate code and standard changes into CIP.

8. Any other topic you'd like to comment on.

CenterPoint Energy notes, as it has in other proceedings and earlier in these comments, that Minnesota's current policy framework has worked well to incentivize utilities to pursue cost-effective energy efficiency. Timely program cost recovery, decoupling to remove the utility's throughput incentive and to protect investors from the impact of reduced sales, and a robust financial incentive for successful programs have all combined to provide utilities with a strong business case for energy efficiency. While that business case has been eroded somewhat by the recent reduction of the financial incentive, and the Company would warn against steps that could erode it further, it remains strong enough to allow utilities to continue to invest in energy efficiency as "a preferred resource choice."² CenterPoint Energy remains open to conversations about how CIP might be changed or improved, but believes that retaining the strength of that business case should be a key consideration in that discussion.

CenterPoint Energy appreciates the opportunity to provide these comments as well as to participate in the stakeholder engagement process surrounding the Statewide Conservation Potential Study. The Company looks forward to continuing to discuss the important topics raised in this process with all interested parties.

Please feel free to call me at (612) 321-4613 with any questions.

² Minn Stat. § 216B.16 Subd. 6(c).

Sincerely,

/s/ Nick C. Mark

Nick C. Mark
Manager, Conservation & Renewable Energy Policy

CC: Service List



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December 1, 2017

To: Mike Bull, Center for Energy and Environment

From: Will Nissen, Fresh Energy

Re: Comments from Fresh Energy on DSM Policy Issues

Dear Mr. Bull:

Please see below for comments from Fresh Energy addressing the questions posed to the DSM Potential Study Advisory Committee members in your memorandum dated October 9, 2017. We greatly appreciate the opportunity to both participate in the DSM Potential Study Advisory Committee and offer detailed comments on these crucial questions pertaining to Conservation Improvement Programs (CIP) here in Minnesota.

Fresh Energy also appreciates the efforts of the Center for Energy and Environment and the Department of Commerce to bring stakeholders together to assess how CIP is achieving its current goals and how it might be modified to better achieve both current and potentially new goals. Fresh Energy's goal in this process is to determine effective and equitable means of modifying CIP to better meet utility needs while expanding the opportunities for energy savings to help customers save money, improve system efficiency in the state, and maximize energy savings as a resource to right-size our utility system.

Fresh Energy would like to emphasize the level at which the current CIP model has undoubtedly expanded efficiency improvements over the last ten years, achieving significant energy and dollar savings for utilities and customers. The combination of the 1.5 percent energy savings goal, full recovery of program costs, a significant financial incentive for investor-owned utilities, and revenue decoupling for some investor-owned utilities, have created a policy landscape that has driven growth and success in utility-led energy efficiency programs in the state. Above all else, it is clear the current model has worked.

Given this, it is important to acknowledge that some stakeholders have expressed concern with the compatibility of the current model to drive significant savings with respect to specific utility service territories, the ability to reach customers and continue current savings achievements, and approaching changes in state building codes and federal appliance standards. Furthermore, rapidly changing technologies and significant efforts by some electric utilities to decarbonize their system have expanded the possibilities of deeper energy savings and introduced opportunities for electrification of the economy to drive carbon emission reductions that are traditionally outside the utility sector. These factors create an opportunity to examine how and whether CIP should be changed to encompass the variety of factors indicated in the questions below.

These comments are intended as initial suggestions and opinions of Fresh Energy, but do not necessarily represent rigid positions on these issues. We look forward to continued conversations with all stakeholders in this process and anticipate that our views on some issues may change. Finally, these comments reflect my best understanding of how CIP currently works. In the spirit of learning-while-working, I invite corrections to assumptions or statements I've made that are inaccurate.

Whether and how to improve how behavioral and operational programs are incorporated into CIP?

As codes and standards change, utility programs continue to mature, and technology transforms what's available in the market, continued and expanded utilization of behavioral and operational programs will be critical to continue meeting utility CIP goals and capturing all cost-effective energy savings. However, behavioral and operational savings present specific problems in establishing both the baseline energy use of the customer to determine savings, and the persistence of those savings over time. Because these savings rely on human interaction (rather than physical replacement or addition of equipment and materials) there is inherent uncertainty in how long behavioral and operational savings will last. As programs and technologies continue developing, and as measurement and verification protocols better affirm claimed savings, solutions to these problems will create greater clarity and certainty moving forward.

Currently in Minnesota, the persistence of behavioral savings over time is accounted for using the Average Savings Method, essentially averaging the savings achieved in one-year over three years to capture some persistence. Recognizing that this may be a blunt tool to account for savings, Illume recently led a stakeholder group getting input on a new method seeking to more accurately reflect what happens to behavioral savings over time based on data from existing programs throughout the country. During this process, the Average Savings Method was deemed simple enough to administer and regulate but not accurate enough as to what was happening in the market, while the new method was considered overly complicated but provided a better representation of reality.

There should be further analytical work and policy discussions around how to better establish, predict, and verify both the energy savings achieved by behavioral and operational savings and the persistence of those savings over time. A dedicated technical group to address the fine details of these issues can provide concrete and substantiated recommendations to the Department of Commerce and other stakeholders, building on utility experience with these programs here in Minnesota and around the country.

Summary:

- Savings from behavioral and operational programs should be pursued and will be critical in CIP moving forward
- Further work is needed to reliably expand existing programs and develop new opportunities, focused on establishing accurate baselines and resulting energy savings and the persistence of those savings over time

Whether and how to best reflect the value of carbon reduction due to CIP?

CIP at its core has always been about energy savings, whether kWhs on the electric side or therms on the gas side. Minnesota's current CIP statute, 216B.241, references "energy savings" 22 times, "energy efficiency" ten times, and "conservation" 126 times. The statute mentions carbon only five times, in reference to Department reporting, research and development grants, and Sustainable Buildings 2030 programs.

Historically, energy savings have intrinsically led to carbon emission reductions as Minnesota electric utilities and the Midcontinent Independent System Operator (MISO) have been dominated by carbon-intensive generation resources. Increasingly, however, some utilities have taken seriously the call to significantly decarbonize their system, and other utilities and stakeholders have highlighted CIP as a potential avenue for incentivizing and paying for carbon reduction efforts.

Regardless of utility efforts and successes to decarbonize their systems, efficiency will and should be a foundational goal and priority in Minnesota state policy, resource planning, and utility engagement with customers. Even if we fully decarbonize Minnesota's electricity generation resources, it is still in the public interest to right-size that system to build and generate only the resources and energy we absolutely need.

Therefore, the primary goal and function of CIP should be achieving energy savings directly for customers. Tracking and accounting for carbon savings due to these efficiency efforts is an important value-added feature of CIP that is critical to monitoring the state's progress in meeting statutory greenhouse gas emission goals,¹ but should not become the compliance metric or motivating factor in shaping and driving utility CIP programs.

Summary:

- Maintain energy savings as the driving compliance, measurement, and metric in utility efficiency programs
- Continue to track and report carbon savings achieved through CIP

Whether and how to further integrate demand response with CIP?

Demand response opportunities are growing and shifting as technologies, customer engagement resources, and system profiles change. While capacity (kW) benefits from demand response programs, such as Xcel's Saver Switch program, do not count towards utilities' CIP goal, they are tracked through CIP programs and count towards the total net benefits calculation in utilities' financial incentive calculation. Thus, to some extent, demand response is already encouraged through CIP.

It is worth noting the key difference between energy savings/efficiency and demand response. In general, the purpose of energy savings is to achieve some *permanent reduction* (over a given period) in energy use. Conversely, the purpose of demand response is a *temporary change* (over a given

¹ Minn. Stat. § 216H.02.

period) in energy use to meet certain goals on the utility system. Traditionally, these goals have focused on peak demand reductions to avoid building expensive peaking generation resources that operate a handful of hours throughout the year. While that goal is still warranted, there are growing benefits for increasing load at certain times of the day when low-cost renewables are most prevalent on the system. In Minnesota, reducing demand during peak afternoon or evening times and increasing demand during overnight hours can achieve both goals.

This concept is well-articulated by the Regulatory Assistance Project (RAP) in a new report on smart non-residential rate design, highlighting a key difference between load factor and load shape:

An example illustrating how optimizing supply and demand resources affects pricing is the needed shift in focus from “load factor” to “load shape.” “Load factor” is the ratio of average demand to peak demand. Historically, utilities and rate design have focused on improving the “load factor” of individual customers, with the expectation that this will improve the load factor of the system and thereby improve the utilization of capital investments in production, transmission, and distribution capacity. This made sense when all resources were dispatchable by injecting more fuel and a high system load factor was a primary economic planning criteria, **but in a world of variable renewable energy supply, focusing on load factor without considering load shape is a serious mistake.** A low-load-factor customer with irregular usage, but at off-peak times, is a beneficial load to the system because that customer increases system utilization without adding to system peak; an example is a high school football stadium, with usage only in the evening hours and mostly in the autumn. A high-load-factor customer with continuous usage, on the other hand, is always imposing a load at system peak times. Thus, focusing on load factor without considering load shape can lead to rate design decisions that are out of line with cost causation.

Precisely because of situations like this example, analysts have begun to focus on “load shape,” meaning the distribution of the loads across the day, month, and year. Loads that predominantly occur during off-peak periods are more desirable (lower-cost to serve) than loads that are continuous and thus occur at the time of the system peak or distribution system peak. The advent of electric vehicle charging, customer electricity storage, ice and chilled-water storage for air conditioning, and other tools to shift load mean that some controllable but intermittent loads are more desirable—and potentially lower-cost to serve—than stable and continuous loads.²

Using this approach, as more variable resources enter the system demand response should focus on managing an effective, efficient, and low-carbon load shape for the utility system, not just on reducing peak demand or increasing a utility’s load factor.

As discussed above, the core purpose of CIP has always about energy savings, conservation, and energy efficiency. Demand response doesn’t fit neatly within this purpose, as the approach described by RAP can lead to times when increases in energy use can be beneficial. Thus, it seems difficult to effectively shoehorn greater demand response into the current CIP framework, and it

² Regulatory Assistance Project. *Smart Non-Residential Rate Design*. December 2017. Page 11. [Available here](#). (emphasis added)

may be beneficial to create a new program and mechanism to track and potentially incentivize demand response efforts for electric utilities in the state.

In this new potential framework, programs specifically focused on demand response efforts would be separated from CIP and tracked and potentially incentivized under a new structure. However, capacity savings due to focused efficiency programs under CIP should still be tracked and included in total net benefits calculations for the CIP financial incentive. Similarly, energy savings achieved through demand response programs under the new framework should be tracked and potentially incentivized, as is current practice through CIP.

The goal of a new demand response framework should be procuring capacity that is registered and verified as a demand response resource. It would be misguided to structure a framework that values calling on the demand response resource over securing this committed capacity. Under this structure, measurement and verification of the reliability of the secured capacity will be critical, as will continual monitoring of the effective use of that capacity to shift customer loads to meet utility system goals.

A financial incentive for a demand response program for investor-owned utilities may be beneficial, but would not need to address the significant obstacle that faces the CIP financial incentive. In the absence of revenue decoupling, the CIP financial incentive is intended to partially alleviate the strong tension between utility revenues, utility sales, and the goal of helping customers use less energy, also called the throughput incentive. In the presence of revenue decoupling, the CIP financial incentive is intended to put investments in energy efficiency on par or better with traditional rate-based investments. Demand response generally does not lead to lower sales overall, though it might, so does not have to contend with the throughput incentive. But to the extent that demand response avoids new generation resources, it may be competing with the capital expenditure incentive inherent in the current utility business model. A small financial incentive to drive more progress on demand response may be helpful.

Summary:

- Develop and implement a new demand response program framework separate from CIP, housing all demand response-focused efforts by utilities
- Structure the goal of this new framework around procuring registered and verified capacity from customers, and continually monitor and track the use of this capacity to reduce peak demand and increasing non-peak demand as necessary to improve utility load shapes
- Potentially drive procurement of demand response capacity through a financial incentive that is similar to, but smaller than, the current CIP financial incentive

Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?

As our electric system continues to decarbonize, opportunities to convert other areas of the economy to run on electricity are emerging to help meet the state's greenhouse gas emission reduction goals. While these opportunities are promising, such as in the transportation, space

heating, and water heating sectors, implementation of these efforts within CIP should be considered with caution and with some specific framing points in mind.

First, as stated above, the purpose of CIP is to achieve energy savings and conservation, and this has occurred almost exclusively within the residential, commercial, and industrial buildings and equipment space. Second, the reason for a specific program to drive utility efforts in energy savings is to establish a practice that would otherwise be contrary to the utility business model. Arguably, in the absence of CIP utilities generally would not actively and aggressively pursue energy savings (though there are likely exceptions to this). Third, extending this argument, electrification and fuel switching is directly in the utility's financial self-interest and would not need the same underlying structure that drives CIP. Fourth, though there can be efficiencies achieved through converting from one fuel source to another for the same end use, electrification is not energy savings and the two should not be construed as analogous. However, electrification and energy savings are not mutually exclusive either, and both can be pursued simultaneously with the right metrics, goals, incentives, and oversight in place.

Given these points, some forms of electrification and fuel switching may be more conducive to inclusion in CIP than others. For example, Otter Tail Power recently filed a proposal to include conversion of customers with delivered fuel and CIP-exempt natural gas heating services to high-efficient air- and ground-source electric heat pumps.³ Recent research by CEE and others has shown improved performance of air-source heat pumps in cold-weather climates like Minnesota, making this technology more viable in the state. Fresh Energy will file comments with recommendations in that docket specific to Otter Tail Power's proposal, but one important characteristic of the request includes extension of CIP resources and services to Minnesota residents who do not currently receive them to improve the efficiency of their homes. In addition, to be considered "energy savings" through CIP across fuel sources, the technology customers switch to should arguably be more efficient on a unit-of-energy basis than the technology currently used.⁴ Finally, and importantly, if approved this type of program can and should be coupled with the utility's residential CIP programs to maximize the customer's home efficiency.

Another example of electrification is converting internal combustion engine vehicles to electric vehicles. Fresh Energy adamantly supports this transition as it provides cost savings to customers, fuel efficiency, and reduced carbon emissions. However, in the context of CIP, electric vehicles operate outside the traditional "buildings efficiency" framework. Purchasing an electric vehicle does not contribute to the efficiency of a customer's home or business. In addition, traditional CIP programs offer incentives or rebates to buy down the cost of efficiency improvements. As discussed below, these measures are intended to convince a customer to make an energy efficient investment they otherwise might not make. For electric vehicles, that rebate or incentive would need to be quite high to meaningfully make a difference to a customer considering which of several cars to purchase. Electric transportation may not be an appropriate fit within the traditional energy savings rebate and incentive framework of utility CIP programs.

However, one way in which electric vehicles may be encouraged through CIP is during in-home audits conducted through programs like Xcel Energy and CenterPoint Energy's Home Energy Squad. Even if a rebate or incentive is not offered, program implementers have a unique

³ Docket No. E017/CIP-16-116. Filed November 17, 2017.

⁴ More work would be needed to determine exactly how to measure this savings metric.

opportunity while in a customer's home to educate the homeowner about new technologies and opportunities to invest in beneficial improvements. For example, a Home Energy Squad visit could assess the electrical status in the homeowner's garage to determine charging infrastructure feasibility, gauge the homeowner's interest in electric vehicles generally, and provide some analysis of cost savings from switching to an electric vehicle. The implementer could then point the homeowner to relevant resources, such as a utility electric vehicle program, to help the homeowner take the next step. This approach to promoting electric vehicles through CIP takes advantage of existing resources while putting little burden on the underlying structure of the CIP framework.

Finally, opportunities may exist where one utility provider offers CIP programs in a given service territory that differ from the other utility provider in the same territory. For example, a natural gas utility program may identify electric energy savings in a given home that are not offered or pursued by the electric utility providing service (or vice versa). In this case, energy savings are available but current policy may not allow the implementing utility to capture those savings across fuel types. If implementing the electric savings does not result in the customer switching to natural gas end uses, no meaningful fuel switching is occurring as a result of the natural gas utility's actions. Furthermore, if the natural gas utility in this example provides notice to the electric utility of those savings and the electric utility passes on them, no "stealing" savings across fuel types is occurring. In the interest of capturing all cost-effective energy savings, the Department should consider allowing utilities to implement and claim savings across fuel types that do not result in fuel switching and that have some consent from the other utility.

Summary:

- Ensure that CIP focuses on energy savings first
- Assess electrification and fuel switching through CIP on a utility proposal-by-proposal basis, with decisions on each proposal informing the scope, metrics, and policy guidelines used to inform future proposals
- Consider changing policy to allow utilities to implement and claim savings across fuel types provided certain requirements are met

Whether and how to set the CIP efficiency goal?

The current method of setting the CIP efficiency goal⁵ has led to demonstrable success over the last ten years since passage of the Next Generation Energy Act. As programs have developed and matured, the existing statutory goal has provided a benchmark for utilities and regulators to strive for and exceed, while establishing and deepening standards, understanding, and oversight regarding how savings are determined to be cost-effective, measured and verified, and approved.

However, as discussed in the previous question, strategic electrification of some areas of the economy is creating cost-effective opportunities for customers and providing new pathways to accelerate efforts to meet statutory greenhouse gas emission goals. As load growth due to electrification of previously non-electric end uses increases (regardless of whether or not that electrification is achieved through CIP), using a statutory percentage of energy sales to set an

⁵ Gross energy savings based on a statutory 1.5 percent of the most recent three-year weather-normalized average annual retail sales minus sales to opt-out customers.

energy savings goal may become problematic and less reflective of the actual potential for energy savings in the market over time. As the denominator in the percent-of-sales equation increases with technology and policy opportunities to electrify more of the economy, the numerator increases without explicit expansion of the efficiency potential in utility service territories.⁶

In addition, a statewide percent-of-sales goal, while being flexible in its essence as a “goal” to be achieved or exceeded, may not adequately account for differences in utility service territories regarding customer makeup, resources available to develop and implement programs, and penetration of existing and new technologies.

Therefore, it may be beneficial to lean more heavily on potential studies to determine the energy savings goals for a specific utility, or “class” of utility. Minnesota Statute currently allows the Commissioner of the Department of Commerce to approve a plan proposed by the utility based on several factors, including a conservation potential study.⁷ A potential study conducted or contracted and managed by the Minnesota Department of Commerce every three years across all utility service territories in the state could assess the actual kWh and therm potential in absolute numbers regardless of the level of utility sales in a given year or three-year average period. Through this approach, utilities could be held accountable to achieving or exceeding the savings determined in the potential study, while maintaining the statutory percent savings goal as the backstop in the absence of a potential study. For example, should funding or other constraints prevent the Department from conducting or managing a potential study in some three-year period, the utilities could be held to the current 1.5 percent savings goal for that period.

One point worth mentioning is how to capture the potential for small cooperative and municipal utilities in the state. It would be difficult and tedious to determine specific potentials every CIP-eligible utility in the state, so some generalizations or approximations may be needed. It appears that the CIP Potential Study team is considering these issues, so results and potential solutions may arise from the current process.

Greater utilization of potential studies in determining an appropriate savings goal for utilities would not require changes in statute, but would likely require clear guidance from the Department of Commerce regarding this shift in determining and approving energy savings goals in CIP.

Summary:

- Keep the current 1.5 percent energy savings statutory goal

⁶ This is not a perfect analogy. On one hand, some electrification such as electric vehicle charging does not provide the same efficiency potential as, for example, new construction opportunities. On the other hand, if a customer were pursuing electrification of a previously non-electrified end use, such as space heating, there may be efficiency opportunities that a utility program could influence or “cause” under the traditional utility program framework through customer adoption of a more efficient electric space heating technology. Regardless, increases in CIP-eligible utility sales necessarily increase the savings goal as defined in statute.

⁷ Minn. Stat. § 216B.241 subd.1c paragraph (d). “In its energy conservation improvement plan filing, a utility or association may request the commissioner to adjust its annual energy-savings percentage goal based on its historical conservation investment experience, customer class makeup, load growth, a conservation potential study, or other factors the commissioner determines warrants an adjustment.”

- Lean more heavily on potential studies conducted or contracted and managed by the Department of Commerce every three years to determine utility savings goals
- Will likely need some clarity and guidance issued by the Department detailing this shift in determining and approving CIP goals, but likely won't need statutory changes
- If funding or other restraints prohibit the Department from conducting a potential study, utilities should be held to the existing statutory 1.5 percent energy savings goal

Whether and how to track progress toward the CIP efficiency goal?

Currently, progress toward the CIP efficiency goal is tracked using first-year savings and costs, while lifetime benefits are reflected in the total net benefits portion of the financial incentive calculations for investor-owned utilities.⁸ This approach to tracking progress carries the benefits of driving energy and dollar savings that are directly achievable now for customers, while also capturing the long-term benefits realized from those savings.

While this is straightforward in determining annual compliance with the statutory 1.5 percent energy savings goal, there appears to be some flexibility in the investor-owned utilities' three-year Triennial Plan structure: savings that may not materialize in the current year may still be worth pursuing to achieve the planned savings goal approved by the Department in the following year. Knowing that programs are approved and established over a three-year timespan may allow investor-owned utilities to take a longer time horizon for savings while still meeting the annual savings goal.

However, to my knowledge, municipal and cooperative utility programs are analyzed and approved on an annual basis in conjunction with annual approval of the past year's savings achievements. To the extent that these utilities see opportunities for savings that need more time to develop and materialize for either demand-side or supply-side efficiency, switching to a three-year triennial plan approval process may yield some benefits. In addition, this approach could align with the three-year potential study process to determine CIP goals outlined in the question above.

Summary:

- Keep the current method of tracking progress toward the CIP efficiency goal through first-year savings and costs, while capturing long-term benefits through the financial incentive.
- Modify the program planning timeline for cooperative and municipal utilities to allow for a three-year (triennial) planning period to allow greater flexibility in predicting future-year savings achievements, and to align with a three-year potential study goal-setting process.

⁸ Exceptions to this include the "carry-forward" statute that allows certain savings to apply to the savings goals of other years.

Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? how much?), or should the CIP goals be adjusted accordingly as efficiency codes and standards become more stringent and reduce the savings potential of utilities?

Building codes at the state level, and appliance standards at the federal level, are increasing the inherent efficiency of new homes, buildings and appliances in the market. These changes affect the baseline calculations used in CIP programs, reducing the achievable savings for eligible measures and reducing the total claimable savings by utilities for otherwise unchanged programs. Recent concern has specifically focused on upcoming federal lighting standards set to go into effect in 2020 and their impact on utility lighting efficiency programs.

While concerns about potential savings reductions due to codes and standards are understandable, one traditional premise of CIP programs has been using utility dollars to convince customers to make an energy efficient investment they otherwise might not make. In other words, utility dollars are ill-spent on influencing a customer towards an action they would have already taken due to market realities or other factors. This can be a difficult premise to uphold for every measure in every situation, but it is the right premise to adhere to and strive for in CIP moving forward.

Therefore, changes to codes and standards should cause CIP goals to be adjusted accordingly as the standard baseline energy use of a given measure, appliance, or building structure decreases. While this may cause savings potential for traditional savings measures to decrease, it seems the intent of this CIP Potential Study process is to identify new ways for utilities to pursue and capture cost-effective energy savings, and changes to CIP needed to allow for this new path. Accounting for changes in codes and standards preserves the justified use of utility dollars to procure energy savings while new energy savings are made available to fill the gap.

One opportunity to note here, however, in the case of more stringent building codes is the opportunity for utilities to use CIP dollars to ensure newly constructed homes and buildings meet existing code. While building codes codify the “worst” level of construction performance allowed in Minnesota, that doesn’t guarantee that all homes and buildings are built to full code compliance across the state, and limited resources in parts of the state may restrict code compliance enforcement. Thus, there may be savings opportunities and justification to target CIP dollars to increasing code compliance in new construction. The Department of Commerce has issued a CARD grant exploring ways to develop, measure, and implement programs with this focus.

Summary:

- Adjust CIP goals to account for changes in codes and standards while looking for new savings opportunities to fill the gap
- Identify opportunities for energy savings within changing codes and standards that are justified by the CIP framework and approach

Any other topic you'd like to comment on

It is worth noting the fact that electric energy efficiency measures do not create across-the-board kWh energy reductions during all 8760 hours of the year. Each efficiency measure has its own load curve, similar to generation resources that carry a load profile after months and years of operation. For example, a refrigerator efficiency measure will deliver savings at different times of the day than an outdoor lighting or indoor office lighting measure. Yet the current model for CIP values the kWh savings of these three different measures equally.

Fresh Energy believes that, from a system efficiency perspective, kWh savings achieved through CIP should carry some value component for the time of day the savings are “delivered” to the system. Similar to how time-of-use rates encourage customer behavior to use or not use energy at certain times of the day throughout the year, time-valued savings should encourage utilities to pursue measures that reduce energy use at certain times of the day. The RAP report highlighted above underscores this priority.

Understandably, the specifics of how to capture the time-value of energy savings measures and implement that across hundreds of measures within a portfolio is complicated. One method of addressing this that could prove helpful is Xcel Energy's recently filed time-of-use rate pilot proposal. In that filing, which hasn't been approved by the Commission at this time, Xcel's proposed rate design reflects the cost of providing electricity at three different time periods throughout the day on weekdays (see chart below from Xcel's initial filing in Docket No. E002/M-17-755). While these exact ratios and time periods might not be suitable for determining time values of energy savings measures, they might offer a conceptual place to start a conversation around this issue.

Table 5. TOU Pilot Rate Design

Proposed TOU Pilot Energy Rates			Rates - Cents per kWh		
with Standard Rate Comparison		TOU	Average	June -	October-
		Ratio	Monthly	September	May
TOU Pilot Rate					
On-Peak	3PM-8PM Weekdays	4.20	23.821	25.949	22.385
Mid-Peak	Other Hours	1.95	11.070	12.125	10.430
Off-Peak	12AM-6AM All days	1.00	5.676	5.676	5.676
Standard Flat Rate			12.386	13.437	11.742
TOU Percent Change from Standard Rate					
On-Peak	3PM-8PM Weekdays		+92%	+93%	+91%
Mid-Peak	Other Hours		-11%	-10%	-11%
Off-Peak	12AM-6AM All days		-54%	-58%	-52%
<i>Notes: 1) Rates include fuel cost, 2) On-Peak excludes designated holidays</i>					

Fresh Energy is willing to participate in additional conversations to further explore whether and how to incorporate some valuation of the time-value of delivered savings through utility efficiency programs.

Fresh Energy greatly appreciates the opportunity to provide comments in this process. Please contact me at the information below with any questions.

Sincerely,

Will Nissen
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Fresh Energy
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December 1, 2017

Mike Bull
Director of Policy & External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: Great River Energy Comments on DSM Policy Issues

Dear Mr. Bull,

Great River Energy (GRE) provides the following comments regarding the policy questions that you presented to the Energy Potential Study Advisory Committee members in your October 9, 2017 letter.

1. Whether and how to improve how behavioral and operational programs are incorporated into CIP?

The question of how to incorporate and how to quantify behavioral program impacts have long challenged the traditional approach to CIP. Behavioral programs by their very nature are not expressly quantifiable in the same way that energy efficiency retrofits are quantifiable, and the standard set of assumptions that are used to develop “deemed” savings values are elusive in the context of behavioral programs. However, the inability to quantify such programs in the context of CIP shouldn’t deter utilities from employing these program strategies, yet in effect this is what has happened.

The primary debate around behavioral programs have centered on the quantification and lifetime of savings that are derived through purely informational channels. These programs may take the form of test and control groups that receive different types of information about their energy use relative to others, or they can take the form of providing end use consumers with a portal that allows them to view their consumption over time as well as see the impacts of actions they have taken. To date there has been limited programmatic efforts focused on encouraging appropriate operations and maintenance activities, despite the well known impacts that such activities have on end use efficiency. The question is not whether or not these activities result in efficiency, rather the questions focus on how to prove the savings occurred and how these types of activities could, or should be incentivized.

As the market continues to transform with greater levels of end use efficiency being automatically incorporated into end use homes and businesses, the impact of traditional

behavioral programs are lessened. Turning off the lights in an unoccupied room that is illuminated with LEDs does not result in the same impact as shutting off incandescent lights. As utilities look to the future of efficiency the importance of changing air filters and performing regular, seasonal maintenance on HVAC equipment becomes the key to maintaining high levels of energy performance. While it is important not to “waste” energy by leaving equipment and end uses on when not in use, as consumers adopt more efficient technologies the opportunity to waste energy is diminished and the effectiveness of these programs decreases.

Many energy efficiency stakeholders recognize that nearly all energy efficiency achievements have a behavioral aspect. The behavioral aspect influences the purchasing decisions and the influence that energy efficiency marketing messages might have on an end users level of participation. For Great River Energy and its members this impacts how likely members are to participate in specialty load management programs, voluntary load reduction efforts, or energy efficiency rebate programs generally.

Looking forward to how member utilities will be able to influence beneficial demand side management will require a greater focus on the provision of specific information as close to the time of use as possible. Many cooperatives are deeply engaged in the holistic systems that enable such an exchange of information. These activities include the build out of advanced metering infrastructure that is connected to meter data management systems and customer information systems that allow for utilities to provide an accurate picture of end use members’ consumption. This has the potential to lead to time variable rates that move beyond our standard off-peak programs and allow consumers to respond to an economic motivation that is more than an incentive for purchasing and instead reflects an ability to avoid the use of energy during times that increase utility costs. While time variable rates are invoked in the overarching energy policy of the state, there is little work that has been done to quantify both the societal and rate impacts that these type of programs could have for utility consumers. There should be a broader evaluation of these impacts, and a set of criteria should be established that would build a broader set of “behavioral programs,” as well as recognize and reward utilities that make these investments on behalf of their consumers.

2. Whether and how to best reflect the value of carbon reductions due to CIP?

The current approach to assess the impact of CO₂ impacts associated with CIP does not accurately address the seasonal impacts or the load shape impacts of efficiency efforts. To accurately reflect carbon savings associated with efficiency an appropriate set of load shapes should be employed to determine when the savings are occurring, both the time of day and the season should be considered. The quantification of CO₂ impacts associated with energy efficiency improvements should acknowledge the fact that the wholesale markets are the best proxy for a particular utility’s energy efficiency impacts. While there are utilities that are not participating in these wholesale markets, there may be a way of considering other market mechanisms as the basis for the amount of CO₂ savings associated with an energy efficiency measure. The present process, which simply considers the average energy intensity for a region,

does not accurately reflect the magnitude of seasonal changes, resulting in over estimating CO₂ savings when the carbon intensity is low and under estimating CO₂ impacts when the carbon intensity is high. While the magnitude of energy savings is important, when the savings occur is equally important with respect to a CO₂ savings calculation.

3. Whether and how to further integrate demand response with CIP?

Policies that are focusing on demand side management (DSM) should encompass both energy efficiency and demand response. The current policy framework (save 1.5% of retail energy sales annually) does not accurately reflect the important role that demand response plays in helping to manage peak demand and avoid costly infrastructure investments by the utility. The assumption that is often made is that the energy that is interrupted through a demand response mechanism doesn't result in energy savings because the energy is just shifted, both undervalues and de-emphasizes the important role that demand response can play in a utility's demand side management portfolio. While it is important to strive to provide end use consumers with the highest efficient end uses that are cost-effective, the role of demand response to both shift load to off-peak periods and directly interrupt loads during periods of high demand does result in cost savings to the utility, utility consumers and society. In addition, these programs have the potential to provide downward pressure on rates as they can help to avoid some purchases associated with high priced energy in the wholesale markets. Furthermore, as we continue to see more renewable energy within the market demand response programs can help utilities to increase consumption during periods when renewable energy generation is high and end use consumption is low. This "Reverse DR" approach is already being evaluated by utilities in the western United States that have a much higher penetration of solar photovoltaic generation. In the upper Midwest the use of demand response to align with the tremendous wind resources that are available in our wholesale markets will help to mitigate energy costs for consumers while also maximizing the use of carbon free electricity production.

While some demand response programs provide more value in the market than others, they are important nonetheless for the purpose of limiting demand impacts and offering non-wires alternatives to transmission and distribution system upgrades. Demand response can have a larger and more immediate impact on the need for upgrading transmission and distribution systems due to the ability to lower peak demand spikes that are short in duration and coincide with extreme weather conditions.

To incorporate demand response into the existing CIP goal would require that either a demand savings component be made available within the CIP provisions, or that a translation be developed that would equate demand management with an equivalent lifetime energy savings goal. Cooperative member demand response resources represent well over 10% the peak summer demand that is experienced by the system. This resource is a stable hedge against high market prices and weather volatility. It is important for our members as it helps to keep market costs and retail rates competitive year over year.

4. Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?

While the focus of CIP has always been the pursuit of greater end use efficiency for the purpose of cost saving to the society, the utility, and utility consumers, there has been a general restriction around the ability to promote end uses that switch fuels, e.g. gasoline to electric vehicles. This inherent prohibition is challenged more and more as utilities look to electric end uses that embody efficiencies that are much higher than their fossil fuel counterparts and provide end use consumers with cost savings and operational control. In addition to cost savings the rapid and continuing adoption of renewable energy generation has the ability to reduce carbon emissions presently and into the future. There is a role for utilities to play in providing consumers with education and awareness of programs that can better integrate these technologies into the utility system, these efforts should have a role in CIP. Utilities can help enable the adoption of these technologies by assisting in appropriate infrastructure buildout, as well as provide end users with rate designs that mitigate negative impacts to the system (both cost and infrastructure), a prime example of this is the use of time-of-use rates to encourage off-peak charging of electric vehicles. The spending associated with these efforts should be counted towards a utilities spending obligations. The savings associated with these efforts could be based on an equivalent energy savings based on the total savings of fossil fuel. This would allow such efforts to be included in a broader utility efficiency goal.

5. Whether and how to set the CIP efficiency goal – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?

Currently a utility that experiences growth will realize an increase in the CIP goal as the total energy sales will increase. This is in spite of the fact that the growth does not often provide new energy efficiency opportunities due to the efficiency of the increased load. Many cooperatives have seen large industrial end uses such as pumping stations come into their service territory. Unless these pumping stations or other industrial loads seek an exemption from CIP this load will only increase CIP expenditure requirements and the goal, even though in most instances the new industrial load will offer no opportunity for efficiency potential. The effect of this will be a goal that is more difficult to meet with the existing energy efficiency potential and increased spending that will increase rates for all members. While the three year averaging has helped to mitigate some of the negative impacts of this approach, flat or decreasing load growth is the new normal for many utilities, and further increasing a goal due to sporadic, or one-off load growth is not easily absorbed into the existing operational framework.

Forecasted efficiency potential is difficult to ascertain without a robust analysis, which would presumably need to be completed for each utility. This approach would also not be without significant cost impacts. One possible approach would be to have a defined goal that is based on a fixed sales figure for each utility that would be based on the percentage of residential,

commercial, industrial and agricultural end use consumers. This figure would be held constant for a period of time, and utilities would be evaluated based on their progress towards an energy efficiency goal representing 1% of this amount (0.5% of the savings goal would still be eligible to come from supply side efficiency improvements). Alternatively the sales benchmark could be held constant at the three-year weather normalized average of 2016-2018, as this would represent the energy savings goal in 2020. The utilities goal would be held at this level for a period of 3 years to 5 years, at which point a new benchmark could be evaluated based on the cost-effectiveness of the efficiency opportunities that would be present at that time.

6. Whether and how to track progress toward the CIP efficiency goal – the current method of first year savings and costs, cumulative savings, lifetime savings or use some other method or combination of methods?

First year savings is an understandable metric, but it does not reflect the true lifetime impacts of the efficiency improvements. Cumulative savings that highlight the total savings that have been realized through ongoing programmatic efforts seem to best reflect the energy efficiency resource impacting a utility's operations. A benchmark that incorporates cumulative savings from energy efficiency is an indicator of a utility's "good faith effort" towards the promotion of energy efficiency, and allows a more forgiving lens of evaluation vis a vis a first year savings approach that would seemingly punish utilities for not making the goal every year.

7. Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? and how much?), or should the CIP goals be adjusted accordingly (again, how? and how much?) as efficiency codes and standards become more stringent and reduce the savings potential of utilities?

Minnesota Statute 216B.2401 is the overarching statutory language upon which many of our utility CIP efforts are motivated, if not justified. The statute states:

The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change. Therefore, it is the energy policy of the state of Minnesota to achieve annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas through cost-effective energy conservation improvement programs and rate design, energy efficiency achieved by energy consumers without direct utility involvement, energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency

improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation.

*The statute states that it is the energy policy of the **state of Minnesota** to achieve annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas through the following means:*

- cost-effective energy conservation improvement programs and rate design,*
- energy efficiency achieved by energy consumers without direct utility involvement,*
- energy codes and appliance standards,*
- programs designed to transform the market or change consumer behavior,*
- energy savings resulting from efficiency improvements to the utility infrastructure and system, and*
- other efforts to promote energy efficiency and energy conservation*

However, the only mechanism that has been quantified with respect to the overarching goal is the utility conservation improvement programs and energy savings resulting from efficiency improvements to the utility infrastructure system. An argument could be made that the other activities (rate design, energy efficiency achieved by energy consumers without direct utility involvement, energy codes and appliance standards, programs designed to transform the market or change consumer behavior, and other efforts to promote energy efficiency and energy conservation) have not been appropriately quantified for the purpose of the broader evaluation of the 1.5% state goal achievement. An argument could be made that utility programs are only a component of the broader goal as opposed to only quantifiable aspect of the goal. Yet, this is how these programs are treated. There are significant savings that have been realized through the implementation of building codes and federal efficiency standards, but these tend to have the effect of penalizing the utilities. Instead of seeing the savings that accrue to the state as a broader benefit utilities are asked to adjust to the new, higher baselines and the savings and net benefits from these programs are decreased.

How should the impacts of codes and standards be incorporated into the broader mix? The impacts of codes and standards should be quantified and considered as part of the broader 1.5% energy savings goal. This analysis could capture the savings associated with efficiency that is occurs without direct utility involvement – market shipment data could be analyzed and the savings associated with the efficiency of these end uses considered in the broader context of efficiency. As energy efficiency becomes more ubiquitous and naturally occurring the question of whether or not the state as a whole is meeting the 1.5% energy savings goal should not be focused solely on utility programs when the elements of the goal are much farther reaching.

Great River Energy appreciates the opportunity to provide these comments. Please feel free to contact me with any follow up questions or clarification on any of the comments that have been provided.

Sincerely,

/s/ Jeffrey T. Haase

Jeffrey T. Haase

Strategic Energy & Efficiency Program Representative



1. Whether and how to improve how behavioral and operational programs are incorporated into CIP?

Perform research on what other utilities in other states are doing, what measure lives are they using, and how are they ensuring there is no double counting of savings from behavior versus physical measures, i.e. programmable thermostats, occupancy sensors, etc The AC can discuss and recommend a course of action to DER.

2. Whether and how to best reflect the value of carbon reductions due to CIP?

Perform research on how other utilities in other states do it and provide a report with pros and cons of various methodologies. Discuss with group and based on feedback, make a recommendation to DER. Some other states merely add a % to NEBS or % or \$ amount per ton or whatever to avoided costs. It should be kept as simple as possible and be consistent across utilities.

Although we could differentiate for electrics by percent of production based on coal versus natural gas versus nuclear, ie nuclear would not produce carbon exhaust so they would get a small \$ per ton but coal would get a lot, natural gas somewhere in between. Unfortunately, it would be a disincentive for utilities who have more clean generation so that may not be the best option. Clean energy should be incentivized, not punished.

3. Whether and how to further integrate demand response with CIP?

4. Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?

Review studies that have been done on fuel switching by national organizations and or in other states, provide report with pros and cons for discussion. Ensure fuel switching is not geared toward one fuel but is evenly applicable to all fuels (it is currently fairly one-sided). Require fuel switching as a separate item on the status report and demonstrate the fuel switching was based on a BTU basis and that the fuel switching resulted in more societal benefit and efficiency from a BTU perspective and should use source energy for all fuels. Allow each utility to claim savings on a BTU basis whether the utility is reducing its own fuel or another fuel, or there are interactive effects that reduce another fuel. This should be allowed whenever the other utility does not provide CIP services or support for that measure.

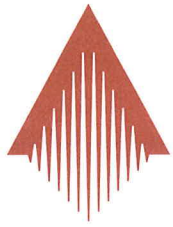
5. Whether and how to set the CIP efficiency goal – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?

This is all over the place in other states. Some states use a percentage of throughput/sales to non-opted out customers, some use a budget (less opted out customer revenues), and some others use a percent of defined revenues and instruct utilities to do the most with that budget cap. Utilities must submit a savings goal based on the budget cap and are held to those savings goals.

If potential studies are used, it is extremely critical to make sure methodology and assumptions are all agreed to and are as accurate as can be. For instance, assumptions on avoided costs can make a measure either have no potential or a lot of potential for cost effective programs. Based on the fact that the gas utilities use an average for avoided costs, etc, in benefit cost models, this could be very harmful or helpful to each utility. Therefore, goals should not be based on potential studies unless it is a very thorough and detailed potential study specific to each utility.

The benefits of lifetime savings are that they take into consideration the persistence of savings better than first year savings, even though benefit cost analysis already does that to some extent. The major benefit of lifetime savings is that it gives more certainty to persistence for measures that are capital in nature and have longer lifetimes like ACs or furnaces over behavior or operational, in general. (There are always exceptions.)

Our preference is to keep it based on a percentage of throughput but expand an acceptable cost effectiveness). The discussion should be wrapped around achievability and cost-effectiveness. As codes and standards increase, the number of renters increasing, the number of retirees increasing, and the middle class shrinking, it will be increasingly more difficult to achieve the goal.



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February 26, 2018

Mr. Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: COMMENTS IN THE MATTER OF MINNESOTA'S DEMAND SIDE MANAGEMENT (DSM) POTENTIAL STUDY

Dear Mr. Bull:

Southern Minnesota Municipal Power Agency (SMMPA), submits to the Center for Energy and Environment (CEE) these comments in response to the request received on October 9, 2017 regarding Minnesota's Demand Side Management (DSM) potential study.

1. Whether and how to improve how behavioral and operational programs are incorporated into CIP?

SMMPA believes that behavioral and operational programs will continue to play a key role in CIP into the future.

The Department offered a series of seven behavioral workshops between 2015 and 2017 which included reviewing other savings evaluation methods. Stakeholders provided direction and input throughout that process. Significant time was spent discussing an Avoided Decay Method (ADM) and comparing that to the existing Average Savings Method (ASM). There are definitely pros and cons between the two methods. The ASM is easy to calculate, but provides less-accurate savings; while the ADM is more complex, yet provides a higher degree of accuracy. At that time, SMMPA was the only stakeholder in favor of moving to the ADM. As a result, the Department decided to retain the average savings method as the official savings methodology for behavioral programs in Minnesota. There are a few considerations that led them to reach that conclusion, but most significant was the need for an adaptable methodology that can be applied beyond Opower/HER programs. Unfortunately in its current form, the avoided decay method doesn't allow for this.

2. Whether and how to best reflect the value of carbon reductions due to CIP?

As I understand it, one of the main objectives of CIP is to reduce carbon emissions. Evidence of this is that the Department is required to submit an annual report of the estimated carbon dioxide reductions achieved by CIP. However, as the percentage of renewable generation continues to increase, care must be taken to ensure that the carbon reduction impacts are reflected accurately, and that the impacts over the savings lifetime are reflected (not just the incremental/first-year impacts).

3. Whether and how to further integrate demand response with CIP?

Demand response programs that result in energy savings currently qualify under CIP. Load shifting programs don't save energy and therefore should not be CIP-eligible.

4. Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?

SMMPA believes that there are carbon reduction benefits from electrification and fuel switching, and that those efforts should have a role in CIP. For example, electric vehicle (EV) sales are expected to climb 70 percent in 2018, and grow from 2 to 16 percent of the global auto market in the next 10 years. In Europe, EVs are expected to reach price parity with their gasoline counterparts in 2018, and nearly every major automaker is set to offer EVs in 2018. Obviously, different technologies and opportunities exist today than they did back ten years ago when the CIP statute was written. Hopefully the Department will continue to remain flexible when it comes to looking at new potential CIP opportunities like this.

5. Whether and how to set the CIP efficiency goal – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?

Tough question. The current method doesn't take into consideration actual accomplishments beyond 1.5 percent. If a utility/aggregator achieves savings above 1.5 percent for multiple years, the available market potential, absent any significant advances in energy efficient technologies, shrinks. Similarly, if a utility's load is not growing, how are they expected to continue to capture annual energy savings of 1.5 percent forever? Utilities with high load growth and utilities with no load growth all have the same CIP savings goal – 1.5 percent – which seems unfair. It would be helpful if issues like this could somehow be factored into setting the CIP goal. Instead of having an annual savings goal, maybe a longer term (5, 10, or 15 year) savings goal makes more sense. Doing that would also eliminate the need for the messy/unfair carry-forward savings policy that utilities currently operate under, and eliminate the stigma of being "non-compliant" for not achieving the savings goal every year (even though you may actually exceed 1.5 percent on average).

6. Whether and how to track progress toward the CIP efficiency goal – the current method of first year savings and costs, cumulative savings, lifetime savings or use some other method or combination of methods?

SMMPA has long believed that incremental/first-year savings do not reflect the true lifetime savings impacts and carbon impacts from DSM. However, we realize that we are the minority when it comes to this topic due to the complexities that would be involved in moving to a lifetime savings goal. Even some of our member utilities fail to consider lifetime benefits simply because the current CIP goals only focus on first-year savings.

Mike Bull
Director of Policy and External Affairs
February 26, 2018
Page 3

7. Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? and how much?), or should the CIP goals be adjusted accordingly (again, how? and how much?) as efficiency codes and standards become more stringent and reduce the savings potential of utilities?

Minnesota Statute 216B.2401 states the following:

The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change. Therefore, it is the energy policy of the state of Minnesota to achieve annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas through cost-effective energy conservation improvement programs and rate design, energy efficiency achieved by energy consumers without direct utility involvement, energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation.

As stated in the CIP statute, savings from energy codes and appliance standards should be included in the 1.5 percent savings goal, yet there isn't a way for utilities to currently claim those savings. More aggressive residential and commercial lighting standards, building codes, and equipment standards will continue to be phased in. While new codes and standards will result in energy savings, it makes it more difficult and costly for utilities to capture any savings above and beyond those efficiency standards. So either the Department should develop a process for utilities to claim savings from codes and standards as stated in the CIP statute, or the savings goal of 1.5 percent should be lowered to remove any savings due to codes and standards.

SMMPA appreciates the opportunity to provide these comments as part of Minnesota's DSM Potential Study. Please contact me with any questions.

Sincerely,



John O'Neil
Manager of Energy Efficiency & Member Support Programs



414 Nicollet Mall
Minneapolis, MN 55401

December 1, 2017

Mr. Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: COMMENTS
IN THE MATTER OF THE MINNESOTA DEMAND SIDE MANAGEMENT (DSM)
POTENTIAL STUDY

Dear Mr. Bull:

Northern States Power Company, doing business as Xcel Energy, submits to the Center for Energy and Environment (CEE) these comments on the upcoming Minnesota Demand Side Management (DSM) potential study in response to the request received on October 9, 2017.

A. Introduction

Xcel Energy has long been a national leader in demand side management (DSM) and strives to maintain and build upon the success of our recent Conservation Improvement Program (CIP) Triennial Plans.

In 2016, our electric portfolio surpassed the statewide target of 1.5 percent for the fifth year in a row and we have the potential to exceed that mark again in 2017. In line with these achievements, the American Council for an Energy-Efficient Economy (ACEEE) specifically recognized Xcel Energy in its 2017 *Utility Energy Efficiency Scorecard* as one of the top 10 utilities providing energy efficiency programs to customers. Minnesota has also consistently placed in the top 10 states for energy efficiency in ACEEE's *State Energy Efficiency Scorecard*.

However, while we have continued to meet and exceed our energy savings targets, the benefits of DSM investments have eroded for both utilities and customers in Minnesota. In recent years, there has been a steady reduction in avoided costs due to a number of factors, including: low electricity prices, which have been largely driven by low natural gas prices; significant growth in clean power generation,

especially in the amount of wind energy on the electric generation system; a reduction in avoided Transmission and Distribution capacity costs;¹ and, lower costs associated with building new generation capacity. Apart from these factors, future potential achievement is also threatened by increasingly stringent building codes and standards, and naturally occurring savings outside of utility-run DSM programs that directly reduce the amount of savings attributable to utility programs.

We continue to innovate and adopt a number of new programmatic approaches to adapt to the changing landscape of DSM in Minnesota. Yet, under the current CIP framework, we believe the challenges will only continue to grow and result in DSM programs that raise rates for customers.

To ensure continued cost-effectiveness for customers, we believe CIP objectives must grow beyond a first year energy savings goal. Rather, the savings should encompass the full system benefits provided by DSM programs, including emissions reduction and system reliability. It should feature a time-value approach to DSM that incentivizes customers to save high cost energy and allow for the expansion of demand response, load reduction programs, load shifting technology and controls.

These are a complex array of issues that require further discussion and close collaboration among DSM stakeholders in Minnesota. As we note throughout our comments, we recommend that further stakeholder discussions be convened to determine the best path forward and evaluate unintended consequences.

B. Response to Questions Raised by CEE

We provide the following responses to the questions raised by CEE in the request dated October 9, 2017.

I. Whether and how to improve how behavioral and operational programs are incorporated into CIP?

Xcel Energy provides innovative behavioral and operational programs to customers and continues to believe they serve an important role in our DSM portfolio. We believe that the incorporation of any behavioral or operational program should be based solely on the overall long-term cost-effectiveness and prioritized in comparison to the cost-effectiveness of other available technologies

¹ AVOIDED TRANSMISSION AND DISTRIBUTION COST STUDY FOR ELECTRIC 2017-2019 CONSERVATION IMPROVEMENT PROGRAM TRIENNIAL PLANS, Docket No. E999/CIP-16-541 & CIP SPECIAL SERVICE LIST

and approaches. At this time, we believe the Department of Commerce's Average Savings Methodology provides a fair representation of the value of behavioral savings. No changes are required and the current framework is sufficient.

We clarify however, our view of what we see as a distinct line between operational savings and behavioral savings. Operational savings involve activities that optimize existing systems without installing new equipment, such as programming or adjusting settings. These savings persist long after the action has been taken. In our DSM portfolio, one example of an operational program is the Recommissioning program.

In contrast, behavioral programs require longer-term intervention in order to create some level of persistence, if it persists at all. Behavioral measures are focused on the way people interact with energy-consuming systems rather than the function of controls for those systems. An example of a behavioral program is our Energy Feedback program for residential customers.

It is important to note that our comments pertain narrowly to behavioral energy efficiency measures and not demand response (DR) programs. Because we are able to dispatch DR resources from customers and clearly measure the impact, we believe that the energy savings and emissions reductions delivered by utility-run DR programs do not suffer from the uncertainty that exists with behavioral measures.

II. Whether and how to best reflect the value of carbon reductions due to CIP?

Xcel Energy has long been committed to reducing carbon emissions, which we have demonstrated through our steady and significant carbon reduction achievements since 2005.

In fact, our most recent Integrated Resource Plan plotted a course to reduce our carbon emissions by 60 percent by 2030. Our CEO Ben Fowke has also stated that we believe, under the right regulatory conditions, we have the potential to reach even greater carbon-free energy levels by 2030.

As we have indicated in prior proceedings, we believe that one of the core policy objectives of Minn. Stat. § 216B.241 is to cost-effectively reduce carbon emissions. However, with the exponential growth of carbon-free energy in our generation portfolio, energy savings have become significantly less correlated with carbon reduction than they have in the past.

Traditionally, our cost-effectiveness tests have reflected carbon emissions as a cost in avoided revenue requirements. However, if carbon reduction is truly an objective of the CIP program, the framework should evolve beyond a narrow energy savings goal to more explicitly account for the full system benefits provided by DSM, including carbon reduction. This would include incorporating target metrics other than the standard tracking of kWh savings, which would allow actions that create zero or negative kWh savings, but proven reductions in emissions, to count toward CIP.

III. Whether and how to further integrate demand response with CIP?

Xcel Energy supports the continued integration between efforts on conservation and DR.

DR efforts can be broken into two categories: (1) dispatchable; and, (2) non-dispatchable resources. Our CIP efforts have traditionally centered on dispatchable resources manually controlled during a load management event, such as our Electric Rate Savings or Saver's Switch programs. Non-dispatchable resources, such as certain pricing strategies, have not been considered conservation efforts.

However, DR as a resource is growing and changing. What was once a portfolio of dispatchable resources that was manually controlled by either the Company or large commercial and industrial customers, is quickly transforming to include increased automation, two-way communication, direct response to pricing signals, and the flexibility for customers to manage not only their energy, but at what time they control their peak capacity.

As new opportunities for DR continue to arise, we should remain flexible in helping customers take advantage of cost-effective technologies and innovative approaches that exist in the marketplace. Therefore, we should carefully consider and analyze the benefits presented by load shifting, DR management of renewable intermittency, fuel switching, energy versus capacity payments (and subsequent credit) and the inclusion of non-dispatchable and localized distribution needs.

The largest benefit of DR is the ability to reduce peak demand while providing customers the flexibility to respond to events in a way that aligns with their business needs. We measure these benefits within integrated resource planning and integration into the Midcontinent Independent Systems Operator (MISO) at a capacity level. Since a policy objective of CIP is to reduce carbon emissions, we believe the capacity benefit presented by DR resources, regardless of energy savings, should be better integrated within CIP.

IV. Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?

If part of the CIP policy objective is to reduce carbon emissions, which Xcel Energy believes it is, then electrification and fuel switching should be considered in the upcoming Minnesota DSM potential study.

Electrification and fuel switching may allow for a more cost-effective reduction of carbon emissions by consuming electricity rather than other fuel sources. More and more, electrification and fuel switching have become a viable option for many end-uses as the price and carbon emissions rates of electricity generation have declined over time.

However, as it currently stands, fuel switching is prohibited under MN DOC No. G008/CIP-00-864.07 Reply Comments of May 23, 2003. Therefore, while there are many system and carbon reduction benefits presented by electrification and fuel switching, any electrification scenario in the potential study would require regulatory changes to the CIP program and a clear baseline for measurement.

We recommend a group of utilities and stakeholders be convened to discuss the policy objectives of CIP, its evolving landscape and how to ensure CIP provides the greatest long-term benefit to customers.

V. Whether and how to set the CIP efficiency goal – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?

We believe the CIP efficiency goal should consider incorporating targets related to cost-savings and carbon emissions reductions rather than limiting the objective to first year energy savings.

The current CIP goal has driven utilities to pursue less and less cost-effective savings, which is contributing to the decline in societal benefits for all customers. While the statutory target has the benefit of simplicity, it has become unaligned with the stated policy objectives of the statute. As noted earlier, we recommend a work group be convened to further discuss this issue and seek a structure that maximizes policy and economic objectives.

VI. Whether and how to track progress toward the CIP efficiency goal – the current method of first year savings and costs, cumulative savings, lifetime savings or use some other method or combination of methods?

As we have discussed, progress toward the CIP efficiency goals can be based on energy savings, but should be inclusive of other indicators that highlight the full system benefits provided by DSM programs. Some of these indicators may include energy savings goals necessary to achieve carbon reduction goals through an integrated resource plan, lifetime energy savings goals, or net benefits goals.

This is a complex issue that requires further discussion. While we believe that current CIP goals may no longer achieve the policy objectives of Minn. Stat. § 216B.241, we reiterate our recommendation that stakeholder discussions be conducted to determine the best path forward and evaluate unintended consequences.

VII. Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? and how much?), or should the CIP goals be adjusted accordingly (again, how? and how much?) as efficiency codes and standards become more stringent and reduce the savings potential of utilities?

In recent years, the amount of achievable savings potential has decreased as natural savings and building improvements have increased. Xcel Energy believes this effect should be considered when developing goals, but does not believe that taking credit for these activities is in the best interest of customers.

As noted earlier, the statutory goal of energy efficiency is to deliver cost savings to customers and reduce environmental impacts from energy supply systems. Customers and society will see these benefits regardless of who takes credit of those effects. The costs and complexity of trying to quantify the impact of codes and standards does not improve these benefits in any material way.

VIII. Any other topic you'd like to comment on.

N/A

C. Conclusion

We appreciate the opportunity to submit these comments to CEE on open questions related to the upcoming Minnesota DSM potential study. We look forward to continued dialogue and collaboration with stakeholders on the development of the DSM potential study.

Please contact Aaron Tinjum at aaron.j.tinjum@xcelenergy.com or 612-342-8967 or me at shawn.m.white@xcelenergy.com or 612-330-6096 if you have any questions regarding our response.

Sincerely,

/s/

SHAWN WHITE
MANAGER
DSM REGULATORY STRATEGY AND PLANNING

January 12, 2018

Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: ACEEE Comments on DSM Policy Issues

Dear Mr. Bull,

On behalf of the American Council for an Energy Efficient Economy (ACEEE), I am pleased to provide the following comments on the policy questions you posed to the Energy Potential Study Advisory Committee members in your letter of October 9, 2017. Under the guidance of its CIP statute, Minnesota has been and continues to be among the leading states in the nation in the achievement of energy efficiency as a utility resource. I certainly hope that Minnesota will continue to be a leader in this regard.

Sincerely,

Martin Kushler, Ph.D. Senior Fellow, ACEEE

1. Whether and how to improve how behavioral and operational programs are incorporated into CIP?

Per the CIP statute, programs designed to “change consumer behavior” are eligible to be included among CIP programs. However, programs that focus on just changing consumer behavior have greater levels of uncertainty compared to programs targeting the installation of known energy efficiency measures (hardware). Behavioral changes are more difficult to observe and measure, and there is much uncertainty regarding persistence. As such, behavioral programs might be regarded as less of a firm ‘resource’ than other types of EE hardware programs.

Unfortunately, in recent years some utilities around the nation have found that behavioral programs can produce quick and easy ‘savings’ to count toward their annual savings goals. For example, monthly mailings to customers might produce a tiny savings effect, but if sent to tens or hundreds of thousands of customers they can sum up to a substantial portion of a utility’s annual savings goal. Indeed, we have observed situations where half or more of a utility’s annual savings goal was being claimed by that type of behavioral program. Minnesota would be wise to avoid that type of result.

Minnesota’s current ‘Average Savings Methodology’ is an attempt to deal with some of these concerns. I have some additional thoughts on this issue, but would like to take the time to more closely assess how Minnesota’s current approach is playing out.

2. Whether and how to best reflect the value of carbon reductions due to CIP?

“Reducing pollution and emissions that cause climate change” is included as a goal in the CIP statute, but it is only one of several explicit goals:

The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change.

[Minnesota Statute 216B.2401, emphasis added]

It would be inappropriate to construe carbon reductions as the primary goal of CIP, and inappropriate to seek to introduce measures other than energy savings (e.g., strategic electrification) under the rationale that they might be good for reducing carbon. The statute is clear that the focus of CIP is on energy savings:

Therefore, it is the energy policy of the state of Minnesota to achieve annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas....

[Minnesota Statute 216B.2401]

The current approach to CIP in Minnesota appropriately incorporates the carbon reduction goal through the inclusion of these benefits in the Societal Test for cost-effectiveness. In fact, Minnesota is a leading state in the area of including a social cost of carbon in valuing energy efficiency programs. No changes are necessary at the current time to Minnesota's approach to achieving and valuing carbon reductions under CIP. It would be inappropriate and unwise to change the CIP primary focus from energy savings to carbon reductions. And frankly, that is unnecessary given that Minnesota is a leading state in terms of carbon emission reductions (from multiple policies) already.

[See also the response to item 8 below.]

3. Whether and how to further integrate demand response with CIP?

As noted above, the clear intent of the CIP statute is to achieve energy savings, and that energy savings are preferred over all other energy resources. Minnesota statute already establishes that demand response which reduces overall energy use qualifies for CIP. Demand response which merely shifts load is not energy efficiency. Such demand response can also be a utility resource, but as the statute makes clear, energy savings is a preferred resource, and hence is the appropriate focus for CIP. The wisdom of Minnesota's approach is well-founded. Merely shifting the timing of an inefficient load is a sub-optimal approach.

Demand response itself may be an appropriate objective for the state, but it should not be pursued at the expense of achieving energy savings (i.e., DR should not take CIP funds, and DR goals should not detract from energy savings goals). To the extent that Minnesota wants to encourage demand response, a parallel set of goals and associated incentives could very well be set up and applied, but should not detract from CIP energy savings goals and incentives. The IRP process would be a good forum for examining the value and setting goals regarding demand response.

One final note. From a utility's financial perspective, demand response does not present the same obstacles as energy efficiency. Merely shifting the timing of load from peak to off-peak is actually desirable from a utility's financial perspective, whereas utilities typically do not like to reduce total sales. Hence state policy requirements and incentives for utilities need to be stronger to move utilities to pursue and achieve energy efficiency. For that reason, Minnesota's CIP statute's focus on energy savings is appropriate and necessary, and should not be weakened.

[See also the response to item 8 below.]

4. Whether and how to allow/account for additional strategic electrification/fuel switching in CIP?

Similar to the discussion regarding demand response above, strategic electrification and fuel switching (to the utility's fuel) are already in the financial interest of the utility. They should not necessitate the same policy requirements and incentives that CIP contains for energy efficiency. If allowed in CIP at all, electrification and fuel switching should only be allowed to be paid for by CIP funds if they achieve the CIP goal of energy savings, and only to the extent to which they achieve that goal. Preferably, those resources should have their own funding sources and goals.

Rather than simply stand by and allow the intrusion of electrification and fuel switching into CIP to proceed ad hoc, a preferred approach would be for the value of strategic electrification and fuel switching to be examined by the state in an independent process. If appropriate, the state could set goals and rules for achieving strategic electrification and/or fuel switching, but those goals and any resulting processes and funding should not in any way detract from CIP funding and the CIP goal of energy savings. CIP and its focus on energy savings is a critically important energy policy, and ensures a resource that would otherwise be neglected in favor of resource more financially attractive to the utility. The state can set policies and goals to help facilitate other resources, but this should not be done in a way that detracts from CIP's focus on energy savings.

5. Whether and how to set the CIP efficiency goal – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?

ACEEE research has clearly demonstrated that having a state establish a specific energy savings goal...i.e., an “energy efficiency resource standard (EERS)”, is by far the most effective policy for achieving utility energy savings (<http://aceee.org/policies-matter-creating-foundation-energy>). Minnesota's 1.5% annual energy savings requirement is one of the more noteworthy examples of an EERS in the nation. Other approaches, such as simply relying on an integrated resource planning process to identify energy savings targets, or simply providing some financial incentive to utilities to pursue energy efficiency but not setting targets, have been found to be far less effective. If Minnesota is serious about acquiring the energy efficiency resource, it should maintain a strong EERS. For simplicity, continuing the current 1.5% annual savings level as a minimum requirement seems reasonable. Given the experience in other leading states, it is quite likely that higher levels of savings are in fact still cost-effective....even with recent claimed reductions in avoided costs. An ideal strategy would be to continue the 1.5% EERS requirement, but establish a process by which enhanced incentives could be earned for savings achievements above the minimum requirement.

One additional note. Best practice in the field is moving toward targets that recognize the importance of sustaining the energy efficiency resource over time....rather than simple annual savings goals. In order for energy efficiency to truly be a resource capable of displacing other supply options, it needs to be a lasting resource with effects over many years. It would be worth finding enhanced ways to tie utility incentives to the achievement of long-lived and enduring energy efficiency resources.

6. Whether and how to track progress toward the CIP efficiency goal – the current method of first year savings and costs, cumulative savings, lifetime savings or use some other method or combination of methods?

The current method of tracking first year savings is a useful metric to examine incremental progress, and has the advantage of being consistent with historical data. It should be maintained. However, it is increasingly becoming clear to regulators and policymakers around the nation that in order for energy efficiency to truly be a utility system resource, that energy efficiency must have a lasting impact over many years. Hence Minnesota should also track, and set goals and perhaps include incentives, regarding lifetime savings and cumulative effective persisting savings from CIP programs. This should be in addition to tracking annual incremental savings.

7. Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? and how much?), or should the CIP goals be adjusted accordingly (again, how? and how much?) as efficiency codes and standards become more stringent and reduce the savings potential of utilities?

Utilities should be able to count savings from codes and standards only to the extent that their explicit activities have led to higher efficiency standards and/or improved compliance with existing codes and standards. This should be required to be demonstrated through specific, credible evaluations. As for adjusting CIP goals, the current 1.5% goal

should be easily achievable for the foreseeable future, in spite of any current or imminently pending improvements in codes or standards. Frankly, given the hostility that the current administration in Washington, D.C. has toward such regulations, the prospect for notable further strengthening of federal efficiency standards has markedly diminished. In fact, there will likely be delays, if not roll-backs, for standards currently in the pipeline. So the level of concern over this issue regarding implications for CIP goals should be diminished.

8. Any other topic you'd like to comment on.

To expand on points raised under items 2 through 4 above, it is critically important that Minnesota preserve the core focus of the current CIP statute on energy efficiency (energy savings). None of the other resource options currently under discussion for incorporation into CIP (e.g., demand response, strategic electrification, fuel switching) present the challenge to a utility's financial interests that energy efficiency does. In fact, most of those other resource options are directly beneficial to a utility's financial interests. Thus in addition to being the cheapest energy resource, energy efficiency is the one resource option that a utility would have no financial reason to pursue 'on their own'. (On the contrary, they would seek to avoid it.) These factors (lowest cost and utility disinclination) are the core reasons for the CIP statute policy requirements (and the declaration that "energy savings are preferred over all other energy resources"). The need for strong policy in order to capture the energy efficiency resource is just as true today as it was when the statute was written.

At the same time, there is value to the utility system and the interests of the state, from cost-effective demand response, and likely from certain applications of electrification and perhaps fuel switching. Those potential resources should be carefully examined, and if needed, state policies should be developed to encourage those resources where appropriate. However, pursuit of those resources should in no way detract from the pursuit of energy efficiency through CIP, either by cutting into CIP budgets or by reducing the effective level of CIP energy savings requirements. Ideally, separate policies, funding sources, and incentive mechanisms (where appropriate) should be developed for those other resources. Trying to incorporate those into CIP creates too much risk that the energy efficiency components and effects of CIP would be eroded. If it is decided to pursue those through the CIP umbrella (not recommended), then utmost care must be taken that their advancement does not in any way detract from the energy efficiency mission and results of CIP.

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December 1, 2017

Michael Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 Third Avenue North, Suite 560
Minneapolis, MN 55401

**RE: Otter Tail Power Company Comments on Demand Side Management (DSM)
Policy Issues**

Dear Mr. Bull:

Otter Tail Power Company (Otter Tail or the Company) sends these comments in response to Center for Energy and Environment's (CEE) October 9, 2017, request for comments. Otter Tail provides a background of the Conservation Improvement Program (CIP), a discussion of avoided costs, and responses to the seven policy items CEE provided.

If you have any questions regarding this filing, please contact me at 218-739-8639 or at jgrenier@otpc.com.

Sincerely,

/S/ JASON A. GRENIER
Jason A. Grenier
Manager, Market Planning

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

In the Matter of Demand Side Management
(DSM) Policy Issues on behalf of Otter Tail
Power Company

**COMMENTS OF OTTER TAIL
POWER COMPANY**

I. BACKGROUND

Since 1990, Otter Tail and our customers have partnered to build a rich history of energy conservation. Through the Conservation Improvement Program (CIP), this partnership has led to customer energy savings, demand reductions, emission reductions, improved customer satisfaction and engagement, and net financial benefits reducing system costs for all customers. Over the last five years (2012-2016) customers participating in Otter Tail's CIP offerings have saved a total of 2,382,630 lifetime MWH. The lifetime energy savings from this period are equivalent to removing the annual energy consumption of nearly 250,000 homes from Otter Tail's system. Approved results for 2016 showed Otter Tail achieving 2.75 percent energy savings, much higher than the 1.5 percent statutory requirement. The last five years have also produced net financial benefits for the customers of \$167,959,267 over the lifetime of the energy efficiency investments. These net benefits reflect the financial gain to customers of Otter Tail for avoiding building additional infrastructure and purchasing incremental energy.

Otter Tail has always prided itself on offering our customers a diverse portfolio of programs within which all customers can participate. We currently offer eleven residential programs, fifteen commercial/industrial programs, one diverse low-income program, a LED street light program focused on communities, and a renewable solar program focused on communities. We have programs targeting fifth and sixth grade students in our schools to educate them on the benefits of investing in energy efficiency and to challenge them to partner with their parents to install some simple measures at home. We also partner with the Minnesota Science Museum to provide educational visits to additional schools to provide even more educational benefits.

Going forward Otter Tail is optimistic about the future of CIP but also has concerns with future programs continuing to be cost-effective. Like many issues in the electric industry today, CIP will likely need some refining and flexibility to sustain its history of success.

II. AVOIDED COSTS

As utilities experience deeper penetration of energy efficiency in the marketplace, costs associated with finding the next kWh of savings become increasingly expensive. As many in the CIP business have heard or said, “the low hanging fruit has already been picked”. The next level of “fruit” is more expensive and will certainly require more creativity.

In addition to energy savings projected to become increasingly costly, utility avoided costs are largely flat or decreasing. While this is great news for customers because the cost to procure the next kWh of energy or kilowatt of capacity will be fairly stable into the near future, the flat or decreasing avoided costs impact the utility’s ability to develop cost-effective energy efficiency programs and may result in many traditional CIP offerings to no longer be available to customers.

Chart 1 below illustrates Otter Tail’s combined Avoided Generation, Transmission (T), and Distribution (D) costs for capacity over the next 15 years. After Otter Tail’s current triennial plan, the avoided costs drop sharply due to the new T&D methodology approved by the Department of Commerce (Department) on September 29, 2017. In 2021, Otter Tail plans to add a natural gas combustion turbine (CT) to its generation fleet. Once the CT is added then avoided capacity costs remain flat going forward.

Chart 1

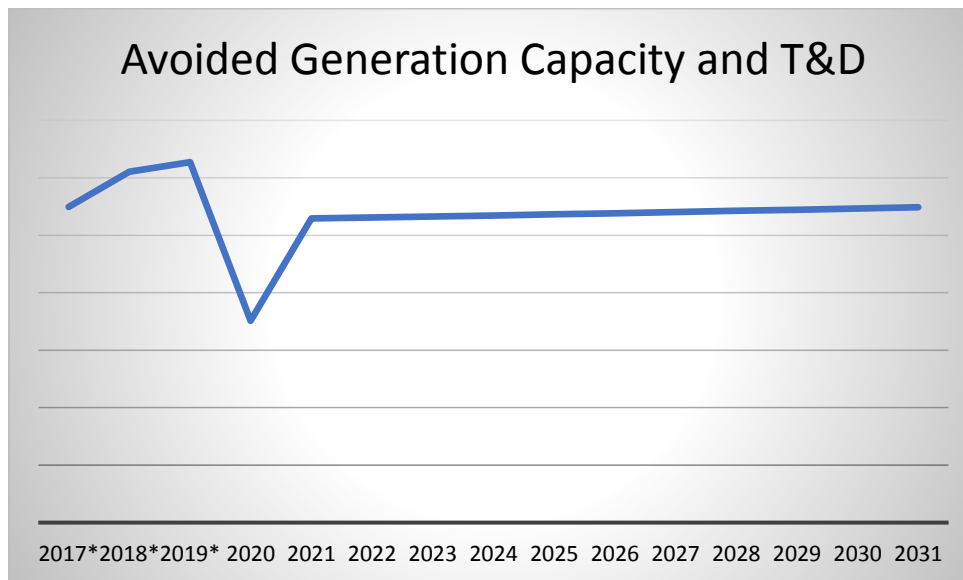
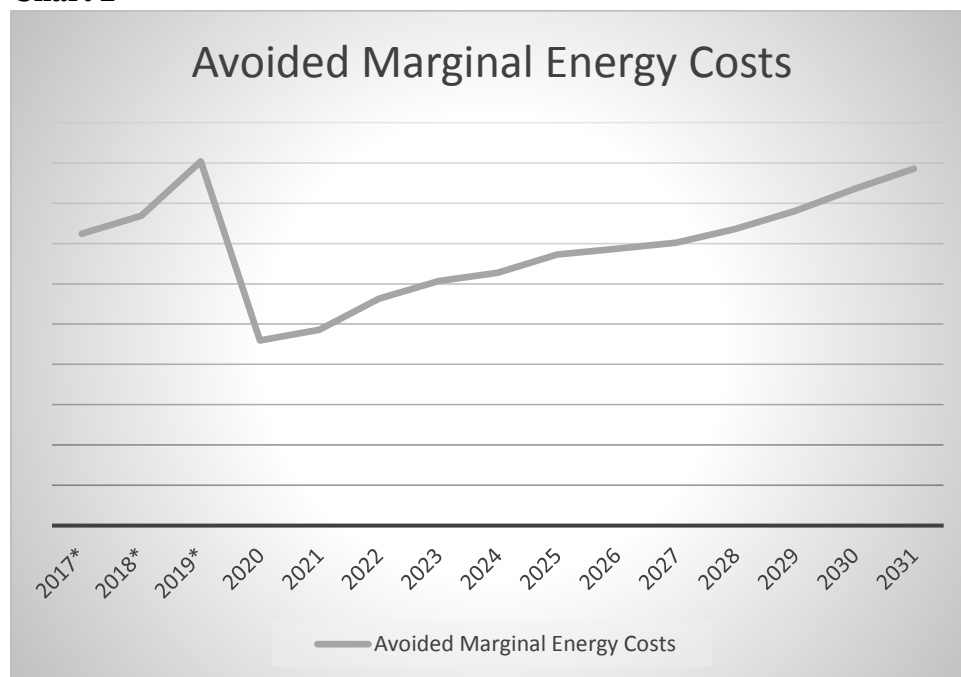


Chart 2 below illustrates Otter Tail’s forecasted energy costs over the next 15 years. We forecast a large drop in energy prices for our next triennial plan 2020-2022 and expect energy prices to slowly increase over the next 10 years, eventually hitting prices similar to today’s energy prices. Otter Tail’s plans for further low-cost wind energy development is the primary driver in forecasted low energy prices. Again, these low energy prices are great for keeping costs down for energy customers but make conservation programming cost-effectiveness very challenging.

Chart 2



III. Responses to Center for Energy and Environment’s CIP policy questions

1. Behavioral and Operational Programs in CIP.

Behavior and operational programs will play a large role in achieving CIP savings goals in the future. With customer end-use technologies becoming more advanced, customers have the tools to control their energy consumption more and more from these systems. The current methodology for counting energy savings from behavioral programs toward CIP goal divides the energy savings by three, also known as the Average Savings Method (ASM). However, the full net benefits for these programs are accurately counted and not divided. At the time the decision was made to move to use the ASM, the utilities’ financial incentive was based largely on energy savings. Limiting savings from behavioral programs was an effective way to reduce the utility financial incentive at a time when many believed the financial incentive too high. The financial incentive is now much lower and no longer based directly on energy savings. Otter Tail believes the ASM rule for behavioral programs should be further reviewed and most likely replaced with the ability to count full energy savings for these programs.

2. The value of carbon reductions due to CIP.

Currently the benefits of carbon reductions in CIP are captured in the Societal cost-effectiveness test. Otter Tail updates the cost of carbon value for each triennial plan using the latest value

approved by the Minnesota Public Utilities Commission (MPUC). The Societal test results are supported by Minnesota statute. §216B.2401, Subdivision 1C reads as follows:

*(f) An association or utility is not required to make energy conservation investments to attain the energy-savings goals of this subdivision that are not cost-effective even if the investment is necessary to attain the energy-savings goals. For the purpose of this paragraph, in determining cost-effectiveness, the commissioner shall consider the costs and benefits to ratepayers, the utility, participants, **and society**.*

Otter Tail believes the value of carbon reduction is appropriately captured in its current Societal test results. Prior to requesting approval of CIP programming Otter Tail works to ensure the Societal test is above a value of 1.00 for positive cost-effectiveness and net benefits for society.

3. How to further integrate demand response with CIP.

Otter Tail believes Demand Response (DR) programs should be encouraged in CIP similar to energy efficiency programs. DR programs allow the utility to curtail a customer's load during peak capacity or energy periods and results in savings to all customers through the utility not having to procure incremental capacity for the customers load or purchase more expensive electricity during high priced energy periods. Currently DR programs are only included in CIP if they also reduce a customer's overall energy consumption.

Otter Tail believes that the energy policy of Minnesota supports including DR programs within CIP. Minnesota's energy savings policy goal, found in §216B.2401 is as follows:

The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change. Therefore, it is the energy policy of the state of Minnesota to achieve annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas through cost-effective energy conservation improvement programs and rate design, energy efficiency achieved by energy consumers without direct utility involvement, energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation.

The focus of §216B.2401 is to encourage cost-effective energy savings in Minnesota. Otter Tail currently offers its customers several DR programs outside of CIP which provide both customer and utility benefits. Otter Tail offers customers thermal storage programs that interrupt customers usage, reducing Otter Tail's capacity and energy obligations, and thereby reducing costs for all customers. Reduced energy consumption during peak periods is consistent with §216B.2401 since it reduces utility costs for customers, improves competitiveness and

profitability of businesses, supports energy related jobs, reduces economic burden of fuel imports, and has the potential to reduce pollution and emissions. Otter Tail's DR programs are further supported by this statute as they are considered a specific rate design offered by Otter Tail to reduce system costs.

CIP policy is further defined in §216B.241 which defines the state's policy on energy conservation improvement. This statute defines "Energy Efficiency" in Subdivision 1. part (f) as follows:

(f) "Energy efficiency" means measures or programs, including energy conservation measures or programs, that target consumer behavior, equipment, processes, or devices designed to produce either an absolute decrease in consumption of electric energy or natural gas or a decrease in consumption of electric energy or natural gas on a per unit of production basis without a reduction in the quality or level of service provided to the energy consumer.

Otter Tail believes this statute is primarily focused on reduction of consumption of energy but leaves room for demand response programs to be included in CIP as well. Demand response programs decrease energy consumption during certain times by targeting consumer behaviors and equipment, without a reduction in the quality or level of service provided to the energy consumer. Otter Tail believes the DSM Potential study stakeholders should explore including demand response programs and their benefits within CIP programming.

4. How to allow/account for additional strategic electrification/fuel switching in CIP.

Otter Tail believes the DSM Potential Study stakeholder group should explore including beneficial electrification opportunities in CIP. Opportunities and benefits associated with moving customers away from combustion engines to electric vehicles could be the huge breakthrough in CIP, much like customer adoption of LED lighting over the last several years. The Department should work with stakeholders on identifying measures within the Minnesota Technical Reference Manual (TRM) which encourages utilities to switch customers to alternate fuels for transportation, and could include more than just electricity. The benefits associated with alternative fuels for transportation are boundless. Including these alternatives is consistent with state energy policy since they would reduce utility costs, reduce pollution and emissions, create jobs, reduce economic burden of imported fuels, and soon help to make Minnesota businesses more competitive. While providing all these benefits the vehicles also can reduce overall energy consumption. Along with vehicles there are many other opportunities which support the above listed benefits. Alternative fuel lawn mowers, ATVs, personal watercraft, golf carts, fork lifts, Zambonis, and other small gas engines all provide additional opportunities. CIP programming could provide the necessary nudge to customers to adopt these newer technologies and make them commonly adopted by most customers.

At this time Otter Tail supports customer fuel switching in situations where the customer has no access to CIP funding for their home and water heating needs. In these situations, the customer's

utility who offered CIP funding and education should have the opportunity to deliver all CIP programming to these customers.

5. CIP efficiency goals – the current method of setting the target at statutory percentage of annual retail sales based on the most recent three-year weather-normalized average, on forecasted efficiency potential, or use some other method or combination of methods?

Otter Tail believes the current method of using three-year weather-normalized sales is fair approach to setting CIP goals and does not support using a forecast of energy efficiency potential for setting goals. The current method is very clear and accounts for large customers who may opt-out of CIP programming. Forecasts on potential may not be accurate, may lean on technologies coming to the marketplace sooner than actually realized, and cannot account for customers opting out of CIP in the future. Using forecasts would most likely require a large expensive DSM Potential study done for every triennial plan. This may not be the most effective way of spending customers' CIP dollars. The current method based on annual sales may not be perfect but has worked extremely well for many years.

6. Whether and how to track progress toward the CIP efficiency goal – the current method of first year savings and costs, cumulative savings, lifetime savings or use some other method or combination of methods?

Otter Tail prefers the current method of counting first year savings toward CIP savings goals. This method is very clear and easy to explain to external stakeholders. Lifetime benefits from lifetime savings are accounted for since utilities calculate and report net benefits based on lifetime kWh and kW savings. The Minnesota TRM could be used as a tool to ensure that varying savings over time from a measure are captured in the measure's first year savings. Allowing average annual savings for the measure's life may be more appropriate. Otter Tail strongly recommends the TRM continues its flexibility in allowing utilities to propose separate utility-specific measures that differ from basic TRM measures.

Similar to using three-year weather-normalized sales for setting annual savings goals, the method of counting first year energy savings has worked extremely well for many years.

7. Whether and how to best reflect the savings from codes and standards changes in CIP? Should utilities be allowed to count those savings towards their CIP goal (and if so, how? and how much?), or should the CIP goals be adjusted accordingly (again, how? and how much?) as efficiency codes and standards become more stringent and reduce the savings potential of utilities?

A significant concern for Otter Tail going forward into planning our 2020-2022 triennial will be changes to codes and standards. Otter Tail is primarily concerned with changes to lighting standards which potentially could increase baseline equipment assumptions causing savings from lighting measures to decrease up to 50 percent or more. Table 1 below shows the percentage of lighting savings in Otter Tail's CIP portfolio over the last five years for residential and commercial lighting programs, averaging 42 percent. Otter Tail expects 2017 numbers to be over forty percent as well. Because of the likely changes in future lighting standards Otter Tail's

CIP portfolio may realize reductions of over 20 percent in its overall CIP portfolio. Otter Tail believes it is important for the DSM potential study to account for the reality that many customers in rural areas have old inefficient lighting and most likely have even more inefficient fixtures, lamps, and ballasts in store rooms waiting to replace the operating lights on failure. Otter Tail looks forward to working with the Department to ensure any changes to lighting codes and standards for TRM purposes are gradually adopted to properly reflect the penetration of inefficient lighting in customer's homes, businesses and available for purchase in the marketplace.

Table 1

Year	Lighting as % of CIP Savings
2012	42%
2013	39%
2014	43%
2015	38%
2016	46%

IV. SUMMARY

CIP has a long history of success in Minnesota. Otter Tail does not believe the core issues to continuing its success is to change how goals are established or how energy savings are counted annually. More impactful changes will come from including more items within CIP. Changes to how behavior savings are counted, maintaining flexibility in the TRM, and including customer programming which delivers net benefits to customers should be encouraged within CIP. There are new technologies coming into the marketplace and our rules and associated policies must accommodate these technologies to drive early customer adoption and to ultimately deliver net benefits to all customers. Otter Tail looks forward to working with all stakeholders to find ways of increase DR within CIP and also beneficial electrification technologies.

Policy Issues – Request for Comments #2

The project team issued the first request for comments on policy issues related to the potential study on April 5, 2018. The following section includes the original request document, as well as all of the responses received, which were submitted by the following organizations:

- Minnesota Power
- CenterPoint Energy
- Fresh Energy
- Minnesota Energy Resources
- Southern Minnesota Municipal Power Agency
- Xcel Energy
- American Council for an Energy-Efficient Economy
- Otter Tail Power Company

April 5, 2018

To: DSM Potential Study Advisory Committee Members

From: Mike Bull, Center for Energy and Environment

RE: DSM Policy Issues

Dear Advisory Committee members:

Thank you for another very productive Advisory Committee meeting on February 27th – your continued engagement will help us deliver a Potential Study that will be useful to all of us.

As we discussed at that meeting, we'd like to have another round of written comments on key policy issues raised in the initial round of written comments. These two rounds of written comments, in addition to our one on one conversations, the stakeholder survey conducted by the Wilder Foundation and our discussions in the Advisory Committee meetings, will provide the substance of the Policy section of the Potential Study report.

We encourage you to provide your answers **to the following questions by Friday, May 4, 2018.**

In answering these questions, please be as clear as possible as to your preferred outcome and the rationale for that outcome. It would also be helpful for you to rank these issues in order of priority – of these issues, which ones do you think will have the most impact and why?

Question #1: Many of the commenters think that savings from operational programs -- generally in the C&I sector -- may be significant in the future. This includes savings from decreasing equipment run-times, improved occupancy scheduling, and “building tune-up” activities that can decrease energy usage without requiring capital outlays. Strategic Energy Management programs for large industrial customers and Xcel’s Energy Information Systems pilot are examples of these types of programs. What would be needed to ensure these operational savings are identified and captured? Add your thoughts on how such savings could be measured and verified.

Question #2: There was a lot of discussion about the potential benefits from Demand Response, Carbon Reductions and Electrification, but it’s unclear if any of these needs to be integrated into CIP in order to capture these benefits or require the same regulatory/incentive structure as conservation. Putting these activities into CIP may lead to conflicting policy

outcomes and program metrics. Please provide your thoughts on how these issues could be addressed in more targeted ways by specific supplemental policies that are aligned with *but not integrated into* CIP? Do you have suggestions for how such supplemental approaches might be designed?

Question #3: The initial comments indicated significant interest in doing more to reflect the lifetime benefits of energy savings. What policy changes would be needed to make this happen? Are these regulatory or legislative? For those familiar with the recently-passed EE legislation in Illinois, which moves the state from focusing on a first-year goal to a cumulative lifetime savings goal (see attachment #1), are there lessons for Minnesota?

Question #4: Please provide your thoughts on the following suggestions for setting the CIP targets, made by commenters in the initial round of comments.

- a) CIP allows Commerce to adjust CIP targets based on potential studies or other factors upon request by a utility. Commerce could issue a Statewide Potential Study every three years, and utilities could use the statewide potential study as a basis for their requests to adjust utility CIP targets. The statutory goals would remain as the default.
- b) The CIP targets could be adjusted based on the proportion of a utility's sales to the different customer sectors (residential, commercial, industrial and agricultural). For example, if the statewide potential study demonstrated less efficiency potential in the residential sector than the commercial sector, a utility with a high proportion of residential customers could have a lower CIP target (i.e. less than 1.5%).
- c) The current CIP targets are adequate, and the simplest path would be to just leave them in place for the time being.

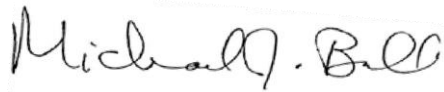
Question #5: Many commenters acknowledged that changing codes and standards affect utilities' ability to meet the energy savings goals. In California, utilities that support and implement proposed codes and standard changes can receive energy savings credit toward meeting their goals (see attachment #2). What are the pros and cons of using a similar energy savings crediting mechanism for utilities that support Minnesota building code changes? What policy or process changes would be needed to make this happen? Add your thoughts on how such savings could be measured and verified.

Bonus Question: How can the results from the DSM potential study inform Integrated Resource Plan proceedings? How can the results of this potential study facilitate better alignment between the DSM goals that are approved in CIP Triennials and those approved through the IRP process? Should the goals be aligned? How much alignment is appropriate? Are there other ways that the potential study can inform the IRP process?

These comments should be returned to Jon Blaufuss via email (jblaufuss@mncee.org) in the form of a pdf document by Friday, May 4, 2018. We'll use your written comments to help inform the policy discussion in the DSM Potential Study report and will include the written comments as an appendix to that report.

Thanks again for all of your hard work and your willingness to provide the Statewide DSM Potential Study Team written comments on these policy questions. Please feel free to contact me if you have any questions (mbull@mncee.org).

Thank you!

A handwritten signature in black ink that reads "Michael J. Bull". The signature is written in a cursive style and is enclosed within a faint, light-colored rectangular border.

May 14, 2018

Mr. Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: Minnesota Power Comments on DSM Policy Issues for DSM Potential Study

Dear Mr. Bull:

Minnesota Power submits to the Center for Energy and Environment (“CEE”) these comments on the upcoming Minnesota Demand Side Management (“DSM”) potential study in response to the request received on April 5, 2018.

Question #1: Many of the commenters think that savings from operational programs --generally in the C&I sector --may be significant in the future. This includes savings from decreasing equipment run-times, improved occupancy scheduling, and “building tune-up” activities that can decrease energy usage without requiring capital outlays. Strategic Energy Management programs for large industrial customers and Xcel’s Energy Information Systems pilot are examples of these types of programs. What would be needed to ensure these operational savings are identified and captured? Add your thoughts on how such savings could be measured and verified.

Minnesota Power agrees there is significant potential for operational savings in the C&I sector. While working with the customer/facility on a CIP-driven project or analysis, Minnesota Power helps customers to realize both asset and non-asset based savings, particularly for the C&I sector. This type of program offering has significant potential that could be pursued if there were 1) a more clearly established method for incentivizing non-asset driven investments and 2) published criteria for calculating associated (influenced) energy savings. With such a path in place, these activities could be more specifically and explicitly incorporated into CIP programs and more customers could benefit from these efforts. There are a number of sources including SEM product manufacturers, industry studies and the DOE that have already established methods and/or algorithms for incentivizing these activities and calculating savings. It may be worthwhile for a work group to explore these options. In general, Minnesota Power feels that operational savings scenarios will vary so significantly by customer, particularly in relation to timing of operations and processes, that for the most part a “pre” and “post” evaluation method would be necessary. There may, however, be a few areas where a prescriptive approach could be applied.

It is important that there remain a distinction between behavioral, which tends to be primarily residential and educational, and operational savings, which tends to be commercial and entail system optimization through commissioning, retrocommissioning, controls, and/or programming. As more advanced metering becomes available, related support systems come on line, and technologies continue to evolve, this will likely spur further consideration of approaches and evaluation criteria so that CIP offerings can appropriately evolve and leverage emerging savings opportunities. There will likely remain separate criteria for behavioral versus operational. The Average Savings Methodology should be included as part of future reviews. While simple and generally acceptable today, it too may need to evolve.

Question #2: There was a lot of discussion about the potential benefits from Demand Response, Carbon Reductions and Electrification, but it's unclear if any of these needs to be integrated into CIP in order to capture these benefits or require the same regulatory/incentive structure as conservation. Putting these activities into CIP may lead to conflicting policy outcomes and program metrics. Please provide your thoughts on how these issues could be addressed in more targeted ways by specific supplemental policies that are aligned with *but not integrated into* CIP? Do you have suggestions for how such supplemental approaches might be designed?

Minnesota Power agrees there are benefits (to utilities, society, and utility customers) from Demand Response, Carbon Reduction, and Electrification and acknowledges that there may be some conflicting policy outcomes if they are integrated in the current CIP structure. The overarching goals of carbon reduction policies and beneficial electrification have commonality with the goals for CIP: implement conservation (energy reduction) activities that achieve environmental benefits while also reducing customer costs through increased system efficiency and avoided system costs. The advantage of a carbon reduction goal as compared to a CIP (kWh) goal is the allowance of beneficial electrification to realize significant environmental and consumer benefits that are for the most part unattainable under current policy. While carbon reduction achieved through beneficial electrification (versus carbon reduction achieved through "CIP" activities) has significant potential to contribute to system efficiencies, the efficiencies could be fairly different from those achieved through CIP and would need to be considered differently for the sake of benefit/cost evaluation.

Any supplemental policy should be considered in the context of current CIP policy, and the possibility of changing the CIP goal may need to be considered as well. As a matter of practicality and feasibility, the policy should encourage and create new opportunities for investment in environmentally beneficial activities with consumer benefits without significantly increasing or altering utility requirements or negatively impacting utility customers. A supplemental policy that introduces significant requirements in addition to existing CIP goals and guidelines could introduce unnecessary barriers, challenges, and duplication of effort. This would increase the resources needed to maintain and comply with the policy. Below are two potential approaches that could take advantage of the overlap between policies:

- 1. Create a separate policy that includes a carbon reduction goal with provisions allowing any CIP-driven achievements to count toward that goal and allowing for beneficial electrification efforts to be used to meet the requirement. A financial (performance) incentive may not be necessary, at least not to the same degree as CIP for reasons discussed in prior stakeholder comments, but there should be a familiar cost recovery path similar to CIP for this policy. This would require defining a method to evaluate the cost-effectiveness of non-CIP carbon reducing activities. Only efforts that do not fall under CIP would be evaluated under the supplemental policy and follow the associated cost recovery path.*
- 2. The supplemental policy does not include a required goal but rather exists to encourage and provide a path for company-initiated carbon reduction activities. Pulling from the existing CIP structure, the policy would outline guidelines, evaluation requirements, and a clear cut cost recovery path for pursuing and investing in beneficial electrification efforts that lead to environmental, utility system, and customer benefits.*

With respect to demand response (DR), technology changes will represent emerging opportunities that merit consideration. While there are provisions for DR in current CIP, they are limiting. Further integration should be explored to consider CIP in the broader demand side management (DSM) context that is prevalent in the industry.

Question #3: The initial comments indicated significant interest in doing more to reflect the lifetime

benefits of energy savings. What policy changes would be needed to make this happen? Are these regulatory or legislative? For those familiar with the recently-passed EE legislation in Illinois, which moves the state from focusing on a first-year goal to a cumulative lifetime savings goal (see attachment #1), are there lessons for Minnesota?

The current CIP structure does consider lifetime benefits of energy savings through the benefit/cost calculation used to determine utility financial incentives and for purposes of supporting the integrated resource planning process. Policy changes needed to move toward a stronger focus on lifetime benefits would likely mean changes to the CIP goal, which would require legislative changes. Standardized persistent savings calculations and measure life assumptions would need to be developed and maintained. The level of effort and cost associated with introducing these necessary EM&V and tracking procedures would be an important consideration in determining the feasibility and potential value of implementing this type of change for customers, program portfolios, and the utility systems.

Question #4: Please provide your thoughts on the following suggestions for setting the CIP targets, made by commenters in the initial round of comments.

a) CIP allows Commerce to adjust CIP targets based on potential studies or other factors upon request by a utility. Commerce could issue a Statewide Potential Study every three years, and utilities could use the statewide potential study as a basis for their requests to adjust utility CIP targets. The statutory goals would remain as the default.

Potential studies can be expensive and time-consuming to complete. As this study is still underway, it is not yet known what the value-add will be or how it will be applied to CIP planning processes. Minnesota Power cannot necessarily agree that continuous potential study efforts would generate enough value to justify the expense and level of effort that an ongoing process would represent. There could also be significant timing issues with such a policy. The results of each potential study would need to align well with CIP timelines. More frequent potential studies may warrant the consideration of longer plan periods, such as five year plans. Additionally, the formalities of requesting adjustments (including level of effort to submit a request and turnaround time for approval) would need to be reasonable.

Rationale for adjusting CIP targets would likely use potential studies as a point of consideration; however, it is unlikely that appetite exists for goals less than the state goal of 1.5%. This would be a significant shift that would merit further analysis, stakeholder collaboration, and DOC guidance.

b) The CIP targets could be adjusted based on the proportion of a utility's sales to the different customer sectors (residential, commercial, industrial and agricultural). For example, if the statewide potential study demonstrated less efficiency potential in the residential sector than the commercial sector, a utility with a high proportion of residential customers could have a lower CIP target (i.e. less than 1.5%).

There are many other factors that contribute to a utility's energy-savings opportunities and ability to meet goal. Adjusting individual utility goals solely based on this metric would likely lead to unjustified biases. The fuel type mix within each utility's territory is one example that could significantly impact opportunity for savings and would not be accounted for just by looking at sector level opportunity at the state level.

c) The current CIP targets are adequate, and the simplest path would be to just leave them in place for the time being.

The results of this study may provide insights into whether the current targets represent a reasonable range; however, until the study is completed and evaluated, any policy changes related to how targets are set and adjusted would be premature.

Question #5: Many commenters acknowledged that changing codes and standards affect utilities' ability to meet the energy savings goals. In California, utilities that support and implement proposed codes and standard changes can receive energy savings credit toward meeting their goals (see attachment #2). What are the pros and cons of using a similar energy savings crediting mechanism for utilities that support Minnesota building code changes? What policy or process changes would be needed to make this happen? Add your thoughts on how such savings could be measured and verified.

Minnesota Power agrees with the notion that changing codes and standards (significantly) affects utilities' ability to meet energy-saving goals. As such, there could be benefits from policy changes that would allow for energy-saving credit associated with new codes and standards. However, there are many questions to be answered and indirect impacts to be considered which may outweigh any benefits of such a change. Some questions that would need to be answered include:

- 1. How would codes and standards related savings be attributed across utilities if the changes were being adopted at the state level?*
- 2. Building codes impact all utilities and fuel types, not just electricity. How would this be addressed?*
- 3. How does this type of program/initiative impact affordability if what was formerly an incremental upgrade is now a required cost?*

Some of the other factors that would need to be considered include:

- 1. Potential to be very resource intensive and most utilities in Minnesota likely do not currently have sufficient resources to dedicate to these types of activities.*
- 2. A robust EM&V system to support this type of policy would need to be implemented and enforced. This aspect alone could require significant time and resource commitments.*
- 3. Inspectors may not all be enforcing codes and standards consistently. This tends to vary by area.*

Bonus Question: How can the results from the DSM potential study inform Integrated Resource Plan proceedings? How can the results of this potential study facilitate better alignment between the DSM goals that are approved in CIP Triennials and those approved through the IRP process? Should the goals be aligned? How much alignment is appropriate? Are there other ways that the potential study can inform the IRP process?

The results of the study may help provide insights into what assumptions are appropriate for long-term planning and developing various DSM scenarios or alternatives. As there is already integration of CIP assumptions and potential new DSM as part of the resource planning process, this alignment should be anticipated to the degree it is reasonable to include as part of the planning process. That said, CIP planning processes and integrated resource planning processes inform each other, but do not necessarily dictate outcomes. CIP triennials are established to develop customer-facing programs and determine achievable budgets and outcomes that are inclusive of a robust set of program offerings across eligible customer sectors. This includes programs and measures of varying cost-effectiveness, market maturity and impact on customer rates. For integrated resource planning, long-term planning is the emphasis with least cost supply principles driving resource planning options and ultimately a preferred plan proposal, which often include either new EE targets or DSM programs. While the two have alignments, it is not a pure alignment and, as such, each should be considered within the contexts of both shared and unique objectives with a firm focus on benefits,

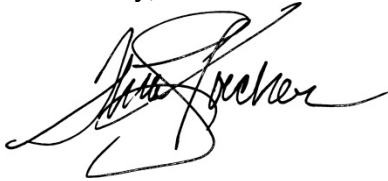
costs, and potential rate impacts for customers.

CONCLUSION

Minnesota Power's Conservation Improvement Program has a proven track record, surpassing the state's 1.5% energy-savings goal since 2010. As has been discussed by multiple parties, the 1.5% energy-savings goal, along with related performance incentives, has been effective in driving more energy savings and expanded program portfolios. It presents a clear, straight forward target that has established measurement criteria and can be broadly understood by customers, utilities, and diverse stakeholders. Recent program successes may give the impression that these savings levels will continue, but it is important to recognize that sustaining historical savings levels will be challenging and require ongoing program development and market research regarding customer preferences and propensity to participate in programs. This potential study, along with service territory-specific insights, will be an integral part of future program design and planning, not only as it applies to direct-impact programs but also as it relates to behavioral and operational savings, codes and standards, broader policy objectives, and emerging opportunities. Further, there are broader state policy objectives and there are utility-specific objectives. While Minnesota Power would agree with the multiple references to Minnesota Statute § 216B.2401, this is the energy policy of the state of Minnesota. It most assuredly includes cost-effective energy conservation improvement programs through utility CIPs, there are many other non-utility energy savings opportunities as well. Energy-savings goals for utilities are defined in Minnesota Statute § 216B.241. Exploring other non-utility savings opportunities to complement those efforts of utilities is worthy of further consideration and focus as well.

Minnesota Power is moving forward with its balanced approach to meet our customers' needs for energy in ways that are sensible and sustainable, with Power of One[®] firmly a part of that process. Constructive input and collaboration with stakeholders and partners has been, and will continue to be, an integral part of ongoing program success, design, and modeling considerations.

Yours Truly,

A handwritten signature in black ink, appearing to read 'Tina Koecher', with a stylized, flowing script.

Tina S. Koecher
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May 4, 2018

Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: CenterPoint Energy Comments on Demand-Side Management (DSM) Policy Issues

Dear Mr. Bull,

CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Minnesota Gas, (CenterPoint Energy or Company) provides the following comments on the policy questions you posed to the DSM Potential Study Advisory Committee members in your letter of April 5, 2018. CenterPoint Energy has limited its comments to focus on the policy questions posed by the Center for Energy and Environment (CEE). The Company has reviewed the policy comments by other stakeholder in response to CEE's policy questions from October 9, 2017, but does not offer responses to them here.

1. What would be needed to ensure operational energy savings are identified and captured? Add your thoughts on how such savings could be measured and verified.

CenterPoint Energy agrees that operational programs are important for continuing to achieve energy savings for Conservation Improvement Programs (CIP) in the commercial and industrial (C&I) sector. As noted in the request for comment, utilities are already developing and implementing programs that identify and capture operational energy savings.¹ Existing utility programs help illustrate several potential operational program development pathways that can be models for ensuring energy savings are identified and captured. The Company believes that the major challenges to identifying and capturing operational energy savings are not related to policy. Continued advancements in effective program design and implementation approaches are more necessary.

However, CenterPoint Energy believes policy can play a role in improving the incorporation of verifiable operational energy savings into CIP. Potential sources of operational energy savings range from more easily verified measures (e.g., automating equipment to reduce run-times) to behavioral approaches (e.g., email notifications to office workers) that are more difficult to verify. CIP would benefit from policy guidance that more clearly defines measurement and verification (M&V) processes in the context of operational energy savings. For example, what is the difference, if any, between operational and behavioral energy savings measures and how do utilities judge when to apply the Average Savings Method (ASM) approach? As noted in prior policy comments, the Company believes it is reasonable to continue using the ASM until there is evidence that an alternative methodology that has a superior empirical basis and produces a

¹ For example, CenterPoint Energy's Recommissioning Study & Rebate, Energy Design Assistance, and Natural Gas Energy Analysis projects have included operational energy efficiency projects.

substantially different result. Policy guidance on the level and type of M&V necessary for non-behavioral operational measures would be valuable. Depending on what metrics are most important for a project, an M&V plan could focus on verifying energy savings magnitude, persistence, cost-effectiveness, or other relevant metrics to various degrees of certainty.

2. Please provide your thoughts on how these issues (i.e., Demand Response and Carbon Reductions and Electrification) could be addressed in more targeted ways by specific supplemental policies that are aligned with but not integrated into CIP? Do you have suggestions for how such supplemental approaches might be designed?

Energy efficiency differs from some of the other energy issues described in this question in that, under traditional regulation, a utility has a disincentive to invest in energy efficiency. Energy efficiency is directly counter to the traditional utility business model, and policy intervention is therefore required to create the business case for investment in energy efficiency.² Minnesota has successfully created an effective policy environment for energy efficiency, through the combination of the CIP savings requirement, decoupling of utility rates, and a shareholder incentive for strong performance, and utilities have responded accordingly. In contrast, because demand response and electrification have the potential to bring benefits to an electric utility (e.g., more efficient utilization of utility resources and/or increased sales), it is possible to develop a business case for these efforts without policy encouragement.

This is not to say that there is no role for policy in promoting these sorts of measures. CenterPoint Energy recognizes that policies to promote carbon reduction and other established energy goals that align with, but are not integrated into CIP, are possible and potentially desirable. Indeed, non-CIP policy frameworks (such as integrated resource plans [IRP], decoupling, time-of-use rates, and others) already exist, more-or-less consistently with CIP.

However, in CenterPoint Energy's view, the purpose of CIP is and should remain energy efficiency. Existing statute already allows for load management which reduces overall energy consumption to be included within CIP. Load management efforts which do not reduce energy consumption should not be paid for using funds collected from customers for energy efficiency programs. Encouragement of measures that further goals other than energy efficiency should not come at the expense of energy efficiency.

From a technological perspective, many of the measures under discussion may have multiple benefits. For example, a demand response effort could conceivably result in reduced overall energy consumption, reduced peak load, improved utility asset management, carbon emission reductions, and customer cost savings. Because the measure reduces energy use, it is clearly eligible for inclusion within CIP. However, CenterPoint Energy does not believe that it is reasonable for energy efficiency programs to pay for the full cost of a measure with such a variety of benefits.³ A full accounting of the project's costs and benefits should be undertaken and an appropriate portion allocated to the CIP programs. If necessary, complementary policies could be crafted to provide additional non-CIP support for these types of measures.

² See, for example, Dan York, Martin Kushler, *et.al*, *Making the Business Case for Energy Efficiency: Case Studies of Supportive Utility Regulation*, ACEEE (Washington DC, 2013).

³ Indeed, it may not be possible to justify the cost of the measure using the efficiency benefits alone.

The Company also notes that there are challenges associated with navigating the intersection of CIP and other energy policies. The Department and stakeholders would need to carefully consider the potential challenges associated with the specific energy issue, the suggested policy approach, and how that approach intersects with existing policies (including CIP). For example, policies associated with electrification could potentially increase electric sales and then increase CIP energy savings targets as a result. Care should be taken in crafting policy to avoid unintended consequences and to coordinate the interaction of various state policies to achieve the state's goals. CenterPoint Energy remains open to continued discussion and the collaborative development of policies that support the achievement of Minnesota's energy goals.

3. What policy changes would be needed to do more to reflect lifetime benefits of energy savings? Are these regulatory or legislative?

As stated in CenterPoint Energy's previous comments, policy that establishes an annual energy savings goal has worked well and is a reasonable approach if utilities continue to receive a financial incentive that is based on net benefits achieved by CIP. Under this approach, CIP policy balances the simple and easily communicated annual energy savings goal with an incentive structure that promotes cost-effective long-term energy savings.

CenterPoint Energy believes that caution is needed when considering changes to the targets by which CIP is assessed. Transitioning from one policy to another would be disruptive to programs and planning as stakeholders adapt to the new framework. Shifting from an annual energy savings goal to a cumulative lifetime energy savings goal would require legislative changes at minimum.⁴ The Company expects that there will be several challenges for new policy around cumulative savings, related to the complexity of calculating, tracking, and communicating cumulative energy savings goals. Some of the questions that would have to be addressed before a cumulative energy savings policy could be adopted include the following:

- How should utilities incorporate changes in the Technical Reference Manual (TRM) energy savings algorithms? For example, would cumulative progress towards goals need to be retroactively adjusted?
- How would the utility financial incentive for CIP achievement be adjusted to reflect a change to a cumulative energy savings goal?

The Company believes that Minnesota's current policy framework works well to encourage longer lifetime savings measures and does not currently support policy changes because the benefits of changes are not apparent and transitioning policy frameworks would not be costless.

4. Please provide your thoughts on the three suggestions for setting CIP targets.

To reiterate, CenterPoint Energy believes the current policy establishing a single standard CIP energy savings goal works well to help achieve CIP policy goals. Under current policy, a single consistent standard is set, and a utility has the potential to use its identified CIP potential and its historic achievements to argue for a different utility-specific standard. The Statewide Potential Study is one of several potential sources of information a utility could use to justify a lower CIP target. Approaches that automatically adjust CIP goals, based on, for example, the proportion of a utility's sales to different customer segments, would likely be unnecessarily complex and prescriptive.

⁴ Minn. Stat. § 216B.241 Subd. 1(c).

That said, CenterPoint Energy is interested in the potential implementation of a regular, periodic, Statewide Potential Study. A periodic study could be useful to support adjustments to a utility's CIP targets relative to the default statutory target. A regular potential study could also be valuable from the standpoint of facilitating a common conversation about CIP policy as well as strategic planning by all CIP stakeholders. The Company does have some concerns about balancing these benefits with the costs (in resources and time) associated with completing a potential study on a three-year cycle. In the Company's experience, a three-year study (or planning cycle) does not allow enough time to fully incorporate the conclusions of the study into the planning of the next study and utility CIP plans. A full potential study on a triennial cycle may not be a strategic use of resources.

CenterPoint Energy would be interested in the Department and stakeholders discussing whether to implement a full Statewide Potential Study on a regular 5-year cycle and concurrently moving the CIP triennial plan to a five-year cycle. Current policy encourages utilities to make mid-triennial strategic shifts to CIP programs by using formal and informal modifications, and this would continue throughout a 5-year cycle. A theoretical potential study occurring on a 5-year cycle would be timed to end when utilities are beginning planning of the next CIP 5-year period. Moving CIP planning to a 5-year process that is coupled with a regular potential study could have several benefits. For example, a longer schedule could allow for better communication about what is learned during CIP implementation, CIP potential study design, and subsequent utility planning. Another benefit could be the alignment of the CIP planning and IRP processes to allow for greater opportunities for integration and strategic planning.

CenterPoint Energy recognizes such a policy change would require discussion of many issues, including changes to the CIP statute. However, the Company believes the topic is worth considering in the context of setting CIP targets and establishing a regular DSM Potential Study.

5. What are the pros and cons of using a similar energy savings crediting mechanism, as California, for utilities that support Minnesota building code changes? What policy or process changes would be needed to make this happen? Add your thoughts on how such savings could be measured and verified.

CenterPoint Energy's position is that utilities should be neither helped nor harmed by activities outside of their control and the Company might support allowing utilities to claim savings from changing codes and appliance standards to the extent that the utility engages in activities that drive savings. Stakeholders and the Department should aim for approaches that are fair, administratively realistic, and transparent as they continue to discuss how to incorporate code and standard changes into CIP.

CenterPoint Energy sees several challenges to implementing the California energy savings crediting mechanism in Minnesota. For example, according to the Minnesota Department of Labor and Industry, state law prohibits local amendments to the state building code, so legislative changes would be needed.⁵ Implementing a CIP program would be complicated because some areas of the state are not subject to code. Minnesota has a relatively large number of code enforcement entities with each area potentially interpreting code differently. In

⁵ Minnesota Department of Labor and Industry, Minnesota State Building Code - Code Adoption Guide, pg. 16 (Jan. 14, 2016), available at https://www.dli.mn.gov/ccld/PDF/bc_pr_code_adoption_guide_1_06update.pdf

addition, the California approach seems likely to have substantial M&V costs, and the potential for significant energy savings in Minnesota may be low based on the Company's experiences implementing new home construction CIP projects.

CenterPoint Energy does not have any suggestions for a policy framework that incorporates energy savings associated with utilities supporting building codes changes. However, given the issues highlighted above, the Company recommends the Department and stakeholders discuss whether and under what conditions energy savings from utility programs designed to encourage more stringent codes and standards or code compliance would, on balance, be worth the M&V costs. As an alternative approach, stakeholders might determine that a simpler and more cost-effective approach would be to develop policy guidelines for how codes and appliances standard changes could be factored into utility proposals to modify their CIP targets. A periodic Statewide Potential Study (see CenterPoint Energy's Response to Question 4) could be a useful, but not necessary, foundation for such requests.

Bonus. How can the results from the DSM potential study inform Integrated Resource Plan proceedings? How can the results of this potential study facilitate better alignment between the DSM goals that are approved in CIP Triennials and those approved through the IRP process? Should the goals be aligned? How much alignment is appropriate? Are there other ways that the potential study can inform the IRP process?

CenterPoint Energy declines to comment directly about aligning the DSM Potential Study and the IRP process. However, the Company would like to reiterate its related comments from Question 4 that recommend the Department and stakeholders discuss moving from a three-year to a five-year CIP planning cycle. The Company believes that completion of a CIP plan, an IRP, and a DSM potential study on 5-year cycles could improve the integration and the strategic planning of energy related regulatory processes.

CenterPoint Energy appreciates the opportunity to provide these comments as well as to participate in the stakeholder engagement process surrounding the Statewide Conservation Potential Study. The Company looks forward to continuing to discuss the important topics raised in this process with all interested parties.

Please feel free to call me at (612) 321-4613 with any questions.

Sincerely,

/s/ Nick C. Mark

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Manager, Conservation & Renewable Energy Policy



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May 4, 2018

To: Mike Bull, Center for Energy and Environment

From: Will Nissen, Fresh Energy

Re: Second Round of Comments from Fresh Energy on DSM Policy Issues

Dear Mr. Bull:

Please see below for the second round of comments from Fresh Energy addressing the questions posed to the DSM Potential Study Advisory Committee members in your memorandum dated April 5, 2018. We greatly appreciate the opportunity to both participate in the DSM Potential Study Advisory Committee and offer detailed comments on these crucial questions pertaining to Conservation Improvement Programs (CIP) here in Minnesota.

Question #1: What would be needed to ensure operational savings are identified and captured, and measured and verified?

Fresh Energy fully supports opportunities to expand potential and achievements in operational savings in Minnesota. However, we do not have substantial insights into how best to identify and capture these savings, beyond the ongoing potential study process, using utility CIP as an outreach vehicle to commercial and industrial customers, and researching best practices for similar programs elsewhere in the country.

Question #2: How can demand response, carbon reduction, and electrification be addressed in more targeted ways by specific supplemental policies that are aligned with but not integrated into CIP? Do you have suggestions for how such supplemental approaches might be designed?

As stated in the comments in our December 1 memo, Fresh Energy believes carbon reductions are an important benefit of CIP but have not been, and should not become, the primary metric for setting and tracking CIP goals. That said, energy savings and CIP can still play an important role in reducing Minnesota's carbon emissions across the economy. For example, as discussed briefly in our December 1 memo, incorporating a time-varying component to energy efficiency can strengthen measures that deliver savings at specific times of the day and season to help manage load to match variable renewable generation. Done successfully, this can facilitate greater integration of renewables on the system and lead to reduced carbon emissions without making carbon reductions a primary metric.

Similarly, electrification of certain end-use technologies can advance both carbon reduction and energy savings. To the extent that these types of measures achieve these goals, are cost-effective, and are coupled with programs and measures intended to reduce energy use in addition to the

electrification measures, utilities should be allowed to implement them through CIP. Measures that do not meet these three criteria, and potentially others, should not be allowed in CIP but can be facilitated by other policies, programs, and metrics. For example, the Commission could set a strategic electrification goal for investor-owned utilities and signal favorable cost-recovery treatment if the utility meets that goal cost-effectively. This could take the form of a capacity or energy goal set in the utility's Integrated Resource Plan.

Regarding demand response, as stated in our December 1 memo, Fresh Energy believes that one way to drive demand response outside of CIP would be through establishing a similar but separate program framework to specifically drive demand response as a resource. One consideration on this point, however, is the potential duplication of resources for engaging customers. CIP currently provides utilities with a powerful customer engagement structure to deliver energy savings and provide some education on energy use. Creating a new but similar structure focused on demand response may be duplicative and create confusion if it competes with CIP outreach for customer attention. In addition, if the utility is approaching a customer about demand response there may be opportunities to implement significant energy savings as well, which would be lost if two siloed programs are operating simultaneously. Therefore, it may be more efficient to house demand response efforts under this framework within CIP but establish separate goals and incentives. Notably, Xcel Energy is in the middle of an extensive and productive stakeholder engagement process examining different approaches to meeting its 400MW demand response requirement from its last Integrated Resource Plan. Fresh Energy looks forward to further discussion with stakeholders on this issue.

Question #3: What policy changes would be needed to better reflect the lifetime benefits of energy savings?

In our December 1 memo, Fresh Energy supported the existing CIP framework of tracking progress toward the CIP efficiency goal through first-year savings, while capturing lifetime benefits through the total net benefits calculation in the CIP financial incentive. Fresh Energy continues to believe this is a fair, accurate, and effective way to reflect the lifetime benefits of energy savings for investor-owned utilities. However, cooperative and municipal utilities do not receive a CIP financial incentive so may need additional policies to reflect the lifetime benefits of energy savings. In addition, Great River Energy's comments in its December 1 memo specifically highlight the concept that lifetime benefits better reflect the "energy efficiency resource impacting a utility's operations." Given these considerations, Fresh Energy is open to continued discussions about how to better incorporate lifetime savings into the CIP framework.

Question #4: Thoughts on specific suggestions by commenters in the first round regarding setting the CIP savings goal.

- a) CIP allows Commerce to adjust CIP targets based on potential studies or other factors upon request by a utility. Commerce should issue a Statewide Potential Study every three years, and utilities could use the statewide potential study as a basis for their requests to adjust utility CIP targets. The statutory goals would remain as a default.

Fresh Energy suggested this in our December 1 memo and conceptually believes it would be a positive step forward to create more flexibility in determining CIP goals across

different utilities. However, other stakeholders raised important challenges that an approach like this may face, including the cost, resources, and feasibility of determining each utility's CIP goal through a potential study process. Fresh Energy looks forward to continued discussions on this specific approach.

- b) The CIP targets could be adjusted based on the proportion of a utility's sales to the different customer sectors (residential, commercial, industrial and agricultural). For example, if the statewide potential study demonstrated less efficiency potential in the residential sector than the commercial sector, a utility with a high proportion of residential customers could have a lower CIP target (i.e. less than 1.5%).

While this approach seems feasible and could create greater flexibility, it would need to be implemented in a way that accurately sets strong targets if the potential study showed less potential in a given sector. That said, Fresh Energy is open to further discussions with stakeholders on this suggestion.

- c) The current CIP targets are adequate, and the simplest path would be to just leave them in place for the time being.

As noted in our December 1 memo, the current CIP framework is working and has delivered significant savings cost-effectively over for years. In that sense, the current targets are adequate. However, this process was initiated, in part, to address the concerns of some stakeholders that the current CIP framework is not capturing the reality of achievable savings in the market. To that end, Fresh Energy looks forward to further discussions on CIP targets.

Question #5: What are the pros and cons of using a method similar to California to credit utilities for supporting and implementing proposed codes and standard changes? Are there any policy or process changes needed to make this happen?

Fresh Energy agrees with the point made in ACEEE's December 1 memo that utilities "should be able to count savings from codes and standards only to the extent that their explicit activities have led to higher efficiency standards and/or improved compliance with existing codes and standards." The key is determining whether the utility's explicit activities led to higher standards and/or improved compliance. Seventhwave is kicking off a CARD grant process on May 31 that will examine code compliance and opportunities to save more energy through codes. This process, in which Fresh Energy is participating, may help facilitate these conversations about how best to credit utilities for supporting and implementing proposed codes and standard changes.

Thank you again for the opportunity to provide additional comments on these issues related to CIP in Minnesota. Please contact me with any questions at the information below.

Sincerely,

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Round 2 Policy Questions

Question #1: Many of the commenters think that savings from operational programs -- generally in the C&I sector -- may be significant in the future. This includes savings from decreasing equipment run-times, improved occupancy scheduling, and “building tune-up” activities that can decrease energy usage without requiring capital outlays. Strategic Energy Management programs for large industrial customers and Xcel’s Energy Information Systems pilot are examples of these types of programs. What would be needed to ensure these operational savings are identified and captured? Add your thoughts on how such savings could be measured and verified.

As it gets more difficult to obtain savings from the typical hardware replacements, operational savings are likely to be more important. Ensuring that savings from operational measures are identified and captured is more complex than one would think. Short-term savings can be relatively easy to identify, but because they come from improved operations, they are not necessarily persistent without on-going efforts. The most successful efforts (programmatic or otherwise) at identifying and realizing these savings arise from a combination of three essential elements:

- 1. People (including organizational commitment and access to technical know-how from internal/external experts and peers)*
- 2. Data collection infrastructure (e.g. presence of and investment in metering/sub-metering, BMS/EMS/SCADA, manual data logging, etc.)*
- 3. Verification tools/activities (including periodic or ongoing M&V using data from #2 with plans/protocols for non-routine adjustments and other analyses, and reporting of performance indicators and other impact-related metrics of interest)*

Technology and automation can play a significant role facilitating aspects of the above, but technology by itself (e.g. energy information systems) does not generate any persistent savings in the absence of the three essential components mentioned above.

These types of operational programs need on-going support and commitment on the part of the participant and the utility to ensure that savings are identified and captured. This is not an insignificant investment for both parties, should be included in a benefit cost analysis and cost-justified in terms of persistent savings.

Question #2: There was a lot of discussion about the potential benefits from Demand Response, Carbon Reductions and Electrification, but it’s unclear if any of these needs to be integrated into CIP in order to capture these benefits or require the same regulatory/incentive structure as conservation. Putting these activities into CIP may lead to conflicting policy outcomes and program metrics. Please provide your thoughts on how these issues could be addressed in more targeted ways by specific supplemental policies that are aligned with *but not integrated into* CIP? Do you have suggestions for how such supplemental approaches might be designed?



Question #3: The initial comments indicated significant interest in doing more to reflect the lifetime benefits of energy savings. What policy changes would be needed to make this happen? Are these regulatory or legislative? For those familiar with the recently-passed EE legislation in Illinois, which moves the state from focusing on a first-year goal to a cumulative lifetime savings goal (see attachment #1), are there lessons for Minnesota?

The shift to lifetime benefits has been caused partly by the preponderance of savings from behavior change programs. While behavior change programs do help customers focus on their energy use and do increase awareness of rebate programs that can help the customer reduce energy use, the persistence of savings remains a concern. Lifetime savings can be reported in plans as well as in status reports. Measure lives are in the TRM. That is a minimum piece of information, by program, that can be requested from utilities without requiring legislative or statutory changes.

If the concern is that too much savings is derived from behavior change programs, an option that can be implemented is to specify a maximum percentage of the total savings goal, i.e. 20% or 25%, that can be achieved through behavior change programs.

Question #4: Please provide your thoughts on the following suggestions for setting the CIP targets, made by commenters in the initial round of comments.

- a) CIP allows Commerce to adjust CIP targets based on potential studies or other factors upon request by a utility. Commerce could issue a Statewide Potential Study every three years, and utilities could use the statewide potential study as a basis for their requests to adjust utility CIP targets. The statutory goals would remain as the default.
- b) The CIP targets could be adjusted based on the proportion of a utility's sales to the different customer sectors (residential, commercial, industrial and agricultural). For example, if the statewide potential study demonstrated less efficiency potential in the residential sector than the commercial sector, a utility with a high proportion of residential customers could have a lower CIP target (i.e. less than 1.5%).
- c) The current CIP targets are adequate, and the simplest path would be to just leave them in place for the time being.

Minnesota Energy Resources supports option C above. The CIP Statute and Rules allow the Department to take into consideration a variety of factors when approving the energy savings goal proposed by the utility. The Statewide Potential Study, utility demographics and exempt sales can be considered at that time. Therefore, Minnesota Energy Resources does not see a need for changing legislation or rules at this time.



Minnesota Energy Resources has a difficult customer base for delivery of energy efficiency programs. The first reason is due to the geographic spread of the service territory, which goes from International Falls, Warroad and Roseau in the north to Albert Lea and Fairmont in the south and from Appleton, Tracy and Worthington in the west to La Crescent in the east. The non-contiguous spread makes delivery difficult and expensive. The second reason is the customer make up.

Actual	No. Accounts		Sales (Therms)	
Residential	207,112	89.8%	16,251,622	22.8%
C/I	23,497	10.2%	54,959,265	77.2%
Total	230,609		71,210,887	

Based on the 2016 Jurisdictional Report as detailed above, Minnesota Energy Resources' customer base is almost 90 percent residential. However only approximately 23 percent of sales is from the residential accounts. Residential accounts are where much of the savings opportunities can be found. For MERC residential customers, use per customer is fairly low, minimizing the amount of savings attainable from the residential customer base.

Commercial/Industrial accounts are approximately 10 percent of the total number of accounts and sales to these accounts are approximately 77 percent of throughput. Approximately 60 percent of the throughput of the C/I customer class has been approved for opting out of CIP. There are slightly over 23,000 accounts in the C/I sector. Based on 2015 customer data, only two cities have more than 1,000 commercial accounts. Five cities have 500 to 1,000 commercial accounts. The remaining 197 cities have less than 500 accounts. When Minnesota Energy Resources offered the Small Business Direct Install program through Center for Energy and Environment, commercial customers using 2,000 Dths or less were contacted several times but many did not participate, causing the program to be discontinued at the end of the 2016 calendar year. Projects in the large commercial and industrial sector are often large when they occur but they do not make up for the lack of opportunity in other market segments.

While Minnesota Energy Resources tries to achieve 1 percent of throughput as an energy savings goal, the fact that a lower energy savings goal can be proposed to the Department is clear. Therefore, the current path is sufficient.

Question #5: Many commenters acknowledged that changing codes and standards affect utilities' ability to meet the energy savings goals. In California, utilities that support and implement proposed codes and standard changes can receive energy savings credit toward meeting their goals (see attachment #2). What are the pros and

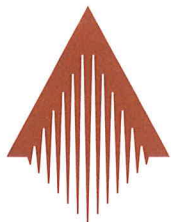


cons of using a similar energy savings crediting mechanism for utilities that support Minnesota building code changes? What policy or process changes would be needed to make this happen? Add your thoughts on how such savings could be measured and verified.

Minnesota Energy Resources currently works with builders to exceed energy code. Rebates are based on how far above code the home is built to. Other utilities also have the same program design.

The question here is for the larger set of homes that do not participate in individual utility programs. Minnesota Energy Resources agrees with CEE that the California model will require a high level of effort on a state-wide basis and will most likely require the support of the DER including potential funding. Therefore, a more in-depth discussion should be scheduled to discuss this topic in the near future.

Bonus Question: How can the results from the DSM potential study inform Integrated Resource Plan proceedings? How can the results of this potential study facilitate better alignment between the DSM goals that are approved in CIP Triennials and those approved through the IRP process? Should the goals be aligned? How much alignment is appropriate? Are there other ways that the potential study can inform the IRP process?



SOUTHERN MINNESOTA
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May 14, 2018

Mr. Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
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RE: COMMENTS IN THE MATTER OF MINNESOTA'S DEMAND SIDE MANAGEMENT (DSM) POTENTIAL STUDY (ROUND 2)

Dear Mr. Bull:

Southern Minnesota Municipal Power Agency (SMMPA), submits to the Center for Energy and Environment (CEE) these comments in response to the request received on April 6, 2018 regarding Minnesota's Demand Side Management (DSM) potential study.

Per your request, responses are provided in order of priority.

Question #4:

Currently, the 1.5% CIP savings goal applies equally to all utilities across the state. But there are several factors that influence the amount of energy savings that can be achieved year after year, including:

- How long the utility has offered DSM programs.
- The type and proportion of customers they serve.
- The amount of internal staff/resources they have for DSM program development, administration, marketing, implementation, tracking, and reporting.

Those factors vary drastically among utilities across MN which impacts each utility's savings potential.

While there are many valid reasons for having a statewide savings goal, expecting each individual utility to achieve 1.5% savings every year may not be a realistic expectation. The Department currently provides some flexibility to utilities by allowing aggregation and carry-forward savings provisions. But not all utilities have an opportunity to aggregate, and the carry-forward term is rather short compared to the average lifetime of the energy savings. Allowing for some additional flexibility by allowing utilities to adjust CIP targets based on statewide potential studies (a), or by the type and proportion of customers they serve (b), seems reasonable.

Question #5:

Minnesota Statute 216B.2401 states the following:

The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change. Therefore, it is the energy policy of the state of Minnesota to achieve annual energy

savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas through cost-effective energy conservation improvement programs and rate design, energy efficiency achieved by energy consumers without direct utility involvement, *energy codes and appliance standards*, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation.

As stated in the CIP statute, savings from energy codes and appliance standards should be included in the 1.5 percent savings goal, yet there isn't a way for utilities to currently claim those savings.

Before discussing the pros and cons of the California model for claiming codes and standards savings, I would like a better understanding of the original intent of including that in Minnesota's CIP statute and how that was supposed to work.

While new codes and standards directly impact energy savings, it makes it more difficult and costly for utilities to capture any savings above and beyond those efficiency standards. Yet, the 1.5% savings goal hasn't been adjusted to reflect the reduced savings potential due to new codes and standards.

Question #1:

I don't have enough knowledge about the savings potential from operational programs to say if this should be a high priority item or not. But we will certainly be looking for new savings opportunities like this in the future as the prospects for LED lighting retrofits decreases.

It would be helpful if the Department could start the discussion with stakeholders to ensure some consistency with how savings for operational measures should be determined.

Question #3:

SMMPA has long believed that incremental/first-year savings do not reflect the true lifetime savings impacts and carbon impacts from DSM. Plus, there are other benefits of having a lifetime savings goal like not needing a savings carry-forward policy to reflect sporadic DSM investments of some customers over time.

However, there may be too many complexities involved in moving to a lifetime savings goal. For example, this could require several changes to ESP. I discovered last year that the lifetimes used in ESP for many programs don't match the TRM measure lifetimes. A comparison between some lifetimes in ESP and the TRM are shown below.

Program Name	ESP Lifetime (years)	TRM Lifetime (years)	Comments
AC Clean & Tuneup	14	2	
C&I Lighting	12	NA	Actual savings lifetime varies depending upon project.

C&I Motors	15	6 working; 20 NC/failed	On average, 15 years seems like a reasonable assumption.
Comm. Food Service Equipment	15	12	
Commercial AC Load Control	5	NA	No specific measure for commercial load management in the TRM, but I'm not sure why it wouldn't be the same as residential. While load control equipment may have a 15 year life, the energy savings from AC load management varies from year to year depending upon the number of participants and events. Therefore, I think the savings lifetime should actually be 1 year.
Commercial Water Heater Load Control	5	NA	No specific measure for commercial load management in the TRM, but I'm not sure why it wouldn't be the same as residential. While load control equipment may have a 15 year life, the energy savings from WH load management varies from year to year depending upon the number of participants and events. Therefore, I think the savings lifetime should actually be 1 year.
ENERGY STAR Appliance Rebate Program	12	11-14	On average, 12 years seems like a reasonable assumption.
ENERGY STAR CFL and LED Buy-Down Campaign	9	9-16	With LED prices continuing to fall, we are seeing more LED bulbs being purchased/installed. So the ESP lifetime seems low.
ENERGY STAR Fixtures & Ceiling Fans w/Ltg Rebate Program	9	9-16	With LED prices continuing to fall, we are seeing more LED fixtures being purchased/installed. So the ESP lifetime seems low.
ENERGY STAR LED Bulb Rebate Program	9	16	
ENERGY STAR LED Bulk Purchase/Distribution	9	16	

LED Holiday Lighting Rebate Program	9	8	
Low-Income Program	5	11-16	Our program includes appliances and LED bulbs, so this seems low.
Residential AC Load Control	15	15	While load control equipment may have a 15 year life, the energy savings from AC load management varies from year to year depending upon the number of participants and events. Therefore, I think the savings lifetime should actually be 1 year.
Residential Behavioral/Enerlyte	5	3	Minimum measure life of the ASM is 3 years. Based on that, we currently assume a 3 year lifetime.
Residential Cooling (AC & Heat Pumps)	5	18	
Residential High-Efficiency Furnace Fan Motors	5	9 retrofit; 20 new	
Residential Water Heater Load Control	15	15	While load control equipment may have a 15 year life, the energy savings from WH load management varies from year to year depending upon the number of participants and events. Therefore, I think the savings lifetime should actually be 1 year.

When I asked Leo Steidel from ESP about these discrepancies, he replied that the lifetimes in ESPReporting are informal approximations of average lifetimes on the program level. They are not at the measure level to keep the number of lifetimes manageable within ESP. He explained that there is currently no mechanism in ESPReporting for a user to change a program's category assignment because such a change would impact historical data. Adding more categories would make the data derived from category data more accurate at the cost of making it more difficult for a utility to choose a category for a program. He also stated that it is problematic to remove categories because existing programs would have to be assigned a new category. Any changes involving all the utilities would be somewhat difficult (180 utilities). A similar problem exists if they try to "split" categories.

While Leo stated that all of these things are possible, it sounds like it could be costly and time-consuming for ESP to be updated to accurately reflect the savings lifetimes for all measures in the TRM.

So moving to lifetime savings would obviously take serious consideration, discussion, and time (and money?) to implement. Personally, I would like we could learn more about Illinois' move to lifetime savings, including why they made the change, how long it took, what policy changes were required, why IOUs only, etc.

Bonus Question:

Based on our experience, it already seems like the CIP savings goal is aligned with the IRP process. We are required to include DSM/CIP resources of at least 1.5% annually over the IRP planning period. We believe that these goals should continue to be aligned going forward. For consistency, any additional flexibility or changes to the CIP savings goal (see Question #4), should also be allowed for resource planning.

SMMPA appreciates the opportunity to provide these comments as part of Minnesota's DSM Potential Study. Please contact me with any questions.

Sincerely,



John O'Neil
Manager of Energy Efficiency & Member Support Programs



414 Nicollet Mall
Minneapolis, MN 55401

May 11, 2018

Mr. Mike Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 3rd Avenue North, Suite 560
Minneapolis, MN 55401

RE: COMMENTS
IN THE MATTER OF THE MINNESOTA DEMAND SIDE MANAGEMENT (DSM)
POTENTIAL STUDY

Dear Mr. Bull:

Northern States Power Company, doing business as Xcel Energy, submits to the Center for Energy and Environment (CEE) these comments on the Minnesota Demand Side Management (DSM) potential study in response to the request received on April 4, 2018.

1. Many of the commenters think that savings from operational programs -- generally in the C&I sector -- may be significant in the future. This includes savings from decreasing equipment run-times, improved occupancy scheduling, and “building tune-up” activities that can decrease energy usage without requiring capital outlays. Strategic Energy Management programs for large industrial customers and Xcel’s Energy Information Systems pilot are examples of these types of programs. What would be needed to ensure these operational savings are identified and captured? Add your thoughts on how such savings could be measured and verified.

The Company believes it is important to help commercial and industrial (C&I) customers unlock operational energy savings. Currently, we offer customers several choices in programs, including the Energy Information Systems pilot, Efficiency Controls, Process Efficiency and Recommissioning.

In addition, the Company plans to invest in load shifting technologies and services. Load shifting occurs when demand is shifted from on-peak periods to shoulder and off-peak periods. One specific example would be using automation and

building controls to shift a business's production systems to run demand intensive processes during off-peak periods. These operational and control strategies help customers reduce their demand charges, avoid infrastructure investment and reduce overall system costs and emissions when they leverage low-cost renewable energy from incremental investment in wind generators.

As the Company noted in its initial comments, there are key high-level differences between operational savings and behavior-based savings. Most important among these is the need to maintain a program presence in order to create persistence. The Company believes that the uncertainty around the persistence of behavioral savings – and, in turn, the cost-effectiveness – is the major barrier to quantifying the future potential of behavioral savings and what differentiates it from operational savings.¹

This uncertainty, coupled with the high cost and significant data risks associated with the measurement and verification (M&V) of behavioral savings, diminishes the value of further expanding behavioral savings programs. A possible solution to the data and cost risks is to utilize some combination of past program performance and existing external research to deem a savings and persistence value to behavioral programs.

Finally, regarding the ability to ensure that the operational savings are identified and captured, the Company believes that two key issues must be considered. First, an inconsistent application of the definition of Strategic Energy Management (SEM) can lead to significant confusion. It is important to ensure that all stakeholders are assuming the same services when speaking to SEM. Second, we do not believe that the lack of an “operational savings” measure in the potential study indicates that C&I operational savings have been excluded. This is because a potential study assumes optimal installation of measures, which may not be immediately feasible in a C&I environment with complex considerations such as manufacturing processes and customer/occupant experience. Typical SEM programs help C&I customers reach an optimal operating state at some point in the future, which effectively captures the full savings potential, but over a longer period of time.

2. There was a lot of discussion about the potential benefits from Demand Response, Carbon Reductions and Electrification, but it's unclear if any of these needs to be integrated into CIP in order to capture these benefits or

¹ Persistence is a critical factor in determining the impact of this type of savings in resource plans. If savings cannot be relied upon to reduce future energy needs then the avoided capacity and marginal energy credits are in question.

require the same regulatory/incentive structure as conservation. Putting these activities into CIP may lead to conflicting policy outcomes and program metrics. Please provide your thoughts on how these issues could be addressed in more targeted ways by specific supplemental policies that are aligned with but not integrated into CIP? Do you have suggestions for how such supplemental approaches might be designed?

While CIP has been exceedingly successful, there has been a steady reduction in avoided costs in recent years due to several factors, including: low electricity prices; significant growth in clean power generation; a reduction in avoided Transmission and Distribution capacity costs; and, lower costs associated with building new generation capacity. Apart from these factors, future potential achievement has dwindled from certain technologies due to increasingly stringent building codes and standards, and naturally occurring savings outside of utility-run DSM programs.

The Company continues to innovate and adopt a number of new programmatic approaches to adapt to the changing landscape of DSM in Minnesota. Yet, under the current CIP framework, we believe the challenges will continue to grow and result in DSM programs that become less cost-effective for customers as the value of the avoided costs from the savings and the magnitude of achievement of savings decline. Given these growing challenges, it is the responsibility of stakeholders to explore additional strategies beyond traditional energy efficiency to ensure that CIP continues to deliver the benefits that built the foundation for multi-party support: bill savings and a cleaner environment delivered in a way that maximizes cost-effectiveness for customers.

The Company does not believe the potential customer bill savings and carbon reductions offered by beneficial electrification and load shifting, or the peak demand savings offered by demand response, are in conflict with the policy goals of CIP. In fact, demand response efforts are already included in Minnesota Statute §216B.241 under load management:

“Load management means an activity, service or technology to change the timing or the efficiency of a customer’s use of energy that allows a utility to reduce peak demand for energy. Load management that reduces overall energy is defined as energy conservation.”²

This is a fairly broad definition that has begun to encompass many types of demand response, such as our Saver’s Switch program, which has been included in our CIP portfolio since the early 1990s.

² Minnesota Statute §216B.241, 2015.

Furthermore, demand response has been long considered to be complementary to energy efficiency options. In 2005, ACEEE released a white paper describing the beneficial relationship between energy efficiency and demand response, noting that a focus on peak-demand reductions (as part of demand response) can help identify inefficient and non-essential energy use and result in broader energy and demand savings.³ In a later report, the EPA reiterated the benefits of combined efforts stating:

“...most customers do not understand or care about the difference between energy efficiency and demand response and would be receptive to an integrated, packaged approach to managing their energy usage. Greater customer willingness could also increase demand response market penetration and capture energy savings and customer bill-reduction opportunities that might otherwise be lost.”⁴

These examples highlight the importance of combining energy efficiency and demand response under the umbrella provided by §216B.241 today. Any effort to remove demand response from CIP would have a negative effect on the customer benefits presented by the two strategies together.

The question also raises the importance of carbon reduction in CIP. Minnesota Statute §216B.241 references the importance of CIP programs driving, estimating, documenting and reporting on CO₂ reductions in multiple instances, indicating that carbon reduction is one part of the original intent of §216B.241. Specifically, §216B.241 Subd. 1c.(g) requires the Commissioner to report on CIP’s annual energy savings *and* estimated carbon reductions:

“On an annual basis, the commissioner shall produce and make publicly available a report on the annual energy savings and estimated carbon dioxide reductions achieved by the energy conservation improvement programs for the two most recent years for which data is available.”⁵

With regards to electrification, given the recent Deputy Commissioner order (Docket No. E017/CIP-16-116) instructing Department of Commerce Staff to establish an upcoming electrification stakeholder meeting, it is clear that there is significant stakeholder interest in exploring strategic electrification opportunities within CIP. While there may be possibilities to create separate frameworks outside

³ Dan York and Martin Kushler, “Exploring the Relationship Between Demand Response and Energy Efficiency: A Review of Experience and Discussion of Key Issues,” March 2005, <http://large.stanford.edu/courses/2014/ph240/lin2/docs/u052.pdf>.

⁴ U.S. Environmental Protection Agency, “Coordination of Energy Efficiency and Demand Response,” January 2010, https://www.epa.gov/sites/production/files/2015-08/documents/ee_and_dr.pdf.

⁵ Minnesota Statute §216B.241.

of CIP, given the uncertainty surrounding policy development, CIP remains the clearest and most expedient pathway to unlock the customer benefits presented by strategic electrification.

Finally, the Company believes that the determination of the policy objectives of CIP and the applicability of an incentive to drive utility behavior are separate topics. If all parties find that non-traditional CIP activities satisfy the primary objectives of CIP, incentives can be tailored to the impact of specific activities conducted by utilities and should not be a reason for preventing customers from realizing bill reduction and environmental benefits when these opportunities exist today. The decision of whether CIP should support programs that only reduce demand and/or carbon emissions should be driven by cost-effectiveness for all customers, which indicates a good societal investment. The current CIP framework includes well-developed tests to determine the cost-effectiveness of strategic electrification and demand response programs.

3. The initial comments indicated significant interest in doing more to reflect the lifetime benefits of energy savings. What policy changes would be needed to make this happen? Are these regulatory or legislative? For those familiar with the recently-passed EE legislation in Illinois, which moves the state from focusing on a first-year goal to a cumulative lifetime savings goal (see attachment #1), are there lessons for Minnesota?

As the Company indicated in our previous comments, we believe CIP should consider incorporating targets related to cost savings and carbon emissions reductions, rather than limiting the objective to first-year energy savings. The current CIP target has driven utilities to pursue less and less cost-effective savings, which is contributing to the decline in societal benefits for all customers. While the current statutory target has the benefit of simplicity, it has become unaligned with the stated policy objectives of §216B.241.

The Company has experience with cumulative goals in its Colorado and New Mexico service territories. Though there are both efficiencies and drawbacks in managing cumulative goals, the approach does not address the fundamental issue that kWh savings are not as directly coupled to bill savings and environmental benefits as they once were. As an example, measure lifetime becomes a critical metric in determining whether the savings targets have been met at the end of a given time period. A drawback of that approach would be the complication of including the behavioral savings discussed in Question #1.

We reiterate our prior recommendation that a work group be convened to further discuss this issue, explore potential lessons from other states, and seek a structure that maximizes policy objectives.

4. Please provide your thoughts on the following suggestions for setting the CIP targets, made by commenters in the initial round of comments.

a) CIP allows Commerce to adjust CIP targets based on potential studies or other factors upon request by a utility. Commerce could issue a Statewide Potential Study every three years, and utilities could use the statewide potential study as a basis for their requests to adjust utility CIP targets. The statutory goals would remain as the default.

b) The CIP targets could be adjusted based on the proportion of a utility's sales to the different customer sectors (residential, commercial, industrial and agricultural). For example, if the statewide potential study demonstrated less efficiency potential in the residential sector than the commercial sector, a utility with a high proportion of residential customers could have a lower CIP target (i.e. less than 1.5%).

c) The current CIP targets are adequate, and the simplest path would be to just leave them in place for the time being.

The Company believes that option a) with two key modifications would be the most appropriate approach. Those modifications are: first, a stakeholder-driven review of market conditions on a three-year cycle to determine whether a potential study is necessary; and, second, a more explicitly qualitative approach for applying the potential study to future CIP targets.

DSM potential studies can be a valuable planning tool, but are often based on forecasts and assumptions out of necessity to estimate the effect of uncertain developments. Furthermore, conducting a potential study every three years, without first establishing whether market conditions have changed, leads to unnecessary costs for customers without providing valuable new information. Xcel Energy proposes that the Department develop a recommended position on whether a potential study is justified and either convene a meeting that includes CIP stakeholders or create a docket to discuss the need for a potential study on the proposed three-year cycle starting in 2020 (i.e. three years following the initiation of the current study).

We also believe potential studies can and should be used to review whether current CIP targets are appropriate at a qualitative level, but should not be used as the

specific savings target due to the wide variation in circumstances that cannot be adequately addressed in a statewide study. These circumstances include: variability in actual customer base and the buildings and processes they control from the assumed distribution of customers; differences in baseline equipment; variability in geographic availability of installation vendors and trade networks for efficient equipment; and, differences in the ability of utilities to perform cost-effective outreach to certain customer classes. Individual utilities may use the study to adjust their goals as suggested, but should not be bound to a specific number produced by the study due to the limitations of a statewide study we have previously mentioned. If the potential study suggests that a majority of utilities are significantly deviating from the identified achievable savings potential, then a work group should be established to explore updating the savings targets.

5. Many commenters acknowledged that changing codes and standards affect utilities' ability to meet the energy savings goals. In California, utilities that support and implement proposed codes and standard changes can receive energy savings credit toward meeting their goals (see attachment #2). What are the pros and cons of using a similar energy savings crediting mechanism for utilities that support Minnesota building code changes? What policy or process changes would be needed to make this happen? Add your thoughts on how such savings could be measured and verified.

As we noted in our initial comments, the amount of achievable savings potential has decreased as organic savings and building codes and standards have increased. Xcel Energy believes this effect should be carefully considered when developing goals, but does not believe attempting to quantify and take credit for these activities is in the best interest of customers. Additionally, in the Company's exploration of codes and standards savings, we have found that the vast majority of customers in our territory willingly adopt new code requirements, leaving little potential in the market.

The statutory goal of energy efficiency is to deliver cost savings to customers and reduce the environmental impacts of energy supply systems. Customers and society will see these benefits regardless of who takes credit of those effects. The costs and complexity of trying to quantify the impact of codes and standards does not improve these benefits in any material way.

If the Department believes that capturing these savings are necessary, we suggest that activities related to state building codes at the Minnesota Department of Labor and Industry be leveraged to calculate the statewide effects of energy codes.

6. How can the results from the DSM potential study inform Integrated Resource Plan proceedings? How can the results of this potential study facilitate better alignment between the DSM goals that are approved in CIP Triennials and those approved through the IRP process? Should the goals be aligned? How much alignment is appropriate? Are there other ways that the potential study can inform the IRP process?

As the Company has done in the past, we will use this DSM potential study to help inform the Integrated Resource Plan (IRP). Specifically, various levels of DSM achievement from the potential study – and the associated estimated cost of each level – are modelled as a resource in the IRP to identify the most cost-effective level of DSM goals.

Similarly, the DSM potential study can be used to inform CIP Triennial Plans in providing an estimate of the potential achievement and cost of individual measures and segments.

However, it is not feasible to expect DSM scenarios modeled in the IRP to be identical to the DSM potential study. This is because the IRP scenarios include input from various parties that may argue for some variance from the potential study due to more recent information than the potential study, and adjustments made for a utility's service customer base. Further, for each company's CIP Triennial Plan, there may be significant differences due to more recent information and a potentially more granular estimation than can be performed in a statewide potential study or in IRP modelling. As a result, there will be differences between the DSM potential study, the Company's future CIP Triennial Plan and the IRP.

The Company also notes that the DSM potential study being performed in 2018 does not inform demand response goals. The study only informs the amount of energy and demand reduction goals that can be expected from energy efficiency or energy conservation measures.

Conclusion

Xcel Energy appreciates the opportunity to submit these comments on policy issues related to the Minnesota DSM potential study and looks forward to continued dialogue and collaboration with stakeholders.

Please contact Aaron Tinjum at aaron.j.tinjum@xcelenergy.com or 612-342-8967 if you have any questions regarding our response.

Sincerely,

/s/

SHAWN WHITE
MANAGER
DSM REGULATORY STRATEGY AND PLANNING

RESPONSES TO POLICY QUESTIONS FROM
MARTIN KUSHLER, PH.D.
SENIOR FELLOW
ACEEE

April 5, 2018

To: DSM Potential Study Advisory Committee Members

From: Mike Bull, Center for Energy and Environment

RE: DSM Policy Issues ***[MK responses shown in bold italics]***

Dear Advisory Committee members:

Thank you for another very productive Advisory Committee meeting on February 27th – your continued engagement will help us deliver a Potential Study that will be useful to all of us.

As we discussed at that meeting, we'd like to have another round of written comments on key policy issues raised in the initial round of written comments. These two rounds of written comments, in addition to our one on one conversations, the stakeholder survey conducted by the Wilder Foundation and our discussions in the Advisory Committee meetings, will provide the substance of the Policy section of the Potential Study report.

We encourage you to provide your answers **to the following questions by Friday, May 4, 2018.**

In answering these questions, please be as clear as possible as to your preferred outcome and the rationale for that outcome. It would also be helpful for you to rank these issues in order of priority – of these issues, which ones do you think will have the most impact and why?

Question #1: Many of the commenters think that savings from operational programs -- generally in the C&I sector -- may be significant in the future. This includes savings from decreasing equipment run-times, improved occupancy scheduling, and “building tune-up” activities that can decrease energy usage without requiring capital outlays. Strategic Energy Management programs for large industrial customers and Xcel's Energy Information Systems pilot are examples of these types of programs. What would be needed to ensure these operational savings are identified and captured? Add your thoughts on how such savings could be measured and verified.

Savings from such ‘operational programs’ can be adequately estimated, but will require an appropriate EM&V approach. It is not a simple task to isolate energy efficiency effects from other building operational factors. In addition, the longevity of any such savings from behavioral changes will be a key issue, and would seem to require some monitoring over time. The state should coordinate a stakeholder process to discuss and propose appropriate protocols, to ensure adequate EM&V methodologies and sufficient independent evaluation oversight to have confidence in the results.

Question #2: There was a lot of discussion about the potential benefits from Demand Response, Carbon Reductions and Electrification, but it's unclear if any of these needs to be integrated into CIP in order to capture these benefits or require the same regulatory/incentive structure as conservation. Putting these activities into CIP may lead to conflicting policy

outcomes and program metrics. Please provide your thoughts on how these issues could be addressed in more targeted ways by specific supplemental policies that are aligned with *but not integrated into* CIP? Do you have suggestions for how such supplemental approaches might be designed?

Specific state-facilitated stakeholder processes should be conducted for each of those three policy areas, as described further below. That, in combination with IRP analyses, can be used to identify broad long-term objectives for each of those resource areas. However, it bears repeating that because utilities face substantial inherent disincentives regarding customer energy efficiency that they do not face from any of those other resources, it is critically important that the CIP (the “Conservation Improvement Program”) maintain its special emphasis on energy efficiency. This statement of policy remains entirely true and appropriate today.

“The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change.”

[Minnesota Statute 216B.2401]

Separate mechanisms can and should be created for each of those other resource areas. For example, annual and/or cumulative Demand Response (DR) goals could be established for utilities. Ideally, these would be defined through potential studies and IRP processes, but could be codified legislatively if necessary. An “incentive” structure for utilities to meet or exceed established peak load reduction goals through DR could be created, albeit at less lucrative levels than CIP has for energy efficiency, because DR does not face the same inherent disincentives for utilities as energy efficiency. Of the three resource categories identified in this question, DR should be the easiest to establish a parallel incentive structure to that in place for EE.

Annual and/or cumulative goals and incentives could be established for carbon reduction (or GHG reduction more broadly, including methane). Because of the potential for overlap with goals and incentives for EE, DR and renewables, this subject would have to be carefully thought through. I would recommend that the state conduct a stakeholder process to discuss this issue specifically.

Finally, electrification is somewhat of a different case, because utilities already have substantial inherent incentives to increase their sales. A more thorough process needs to be established to carefully identify what electrification opportunities are truly in the public interest, and which of those might merit public policy support. I would also recommend that the state conduct a stakeholder process to examine this issue in detail. The state should ensure that independent technical experts are available to participate in the process and advise the state, since there will be considerable economic vested interests among the likely participants.

Question #3: The initial comments indicated significant interest in doing more to reflect the lifetime benefits of energy savings. What policy changes would be needed to make this happen? Are these regulatory or legislative? For those familiar with the recently-passed EE legislation in Illinois, which moves the state from focusing on a first-year goal to a cumulative lifetime savings goal (see attachment #1), are there lessons for Minnesota?

For reasons of simplicity, virtually every state that established an EERS policy did so in terms of annual energy savings requirements. While it is important to assure annual incremental progress (as opposed to simply setting a long term goal to hit some time in the future), there is now widespread recognition in the industry that in order for energy efficiency to be a true utility system resource, it must have a lasting and cumulative impact on the utility system.

Illinois is the first state to explicitly codify this dimension in its EERS policy, with its creation of the concept of ‘cumulative persisting energy savings’. While there may be different ways to skin this cat, there should be no question that this generally represents the direction in which state EERS policies should be headed.

In the best of times, this might be accomplished in Minnesota through legislation. In the near term, however, it may be possible to move toward this intended objective (i.e., assuring that EE delivers a large persisting resource over time) through the design of utility incentives for their energy efficiency achievements. (As an example, Michigan has used the utility incentive framework to focus on and reward longer-lived measures in their EE programs.)

Question #4: Please provide your thoughts on the following suggestions for setting the CIP targets, made by commenters in the initial round of comments.

- a) CIP allows Commerce to adjust CIP targets based on potential studies or other factors upon request by a utility. Commerce could issue a Statewide Potential Study every three years, and utilities could use the statewide potential study as a basis for their requests to adjust utility CIP targets. The statutory goals would remain as the default.
- b) The CIP targets could be adjusted based on the proportion of a utility's sales to the different customer sectors (residential, commercial, industrial and agricultural). For example, if the statewide potential study demonstrated less efficiency potential in the residential sector than the commercial sector, a utility with a high proportion of residential customers could have a lower CIP target (i.e. less than 1.5%).
- c) The current CIP targets are adequate, and the simplest path would be to just leave them in place for the time being.

At this point in time, I would favor option (c). Minnesota's current CIP targets are adequate, and have been very effective. In particular, I believe it would be a mistake for Minnesota to replace its existing CIP EERS requirement with some type of vague “planning-derived” savings goal. ACEEE's research has clearly demonstrated that having a state EERS policy to set EE savings requirements is by far the most effective policy for producing substantial utility EE results. States with an EERS requirement save three times as much (kWh savings as a percentage of sales) as states with an IRP process but no EERS.

<http://aceee.org/blog/2014/12/irp-vs-eers-there%E2%80%99s-one-clear-winner->

Utilities have historically always grumbled and resisted aggressive energy efficiency requirements, due to their inherent desire (under traditional regulation) to pursue greater, rather than lesser, energy sales. This tendency has been re-invigorated in recent years, with utility management distress about relatively flat load growth in the industry. My concern is that opening up this issue will create a platform for utilities to try to reduce their EE obligations, and with a less than supportive legislature, could have very negative effects on the EE resource in Minnesota.

Moreover, the discussion of energy efficiency goals needs to be done in the context of discussions regarding “beneficial electrification”. Electrification has the potential to dramatically alter the playing field in terms of electric utility sales levels. One important ramification of this trend could be to substantially increase the “avoided cost” benefits for EE, if electrification results in the possible need for more system supply resources.

I would recommend leaving the current CIP requirements in place, to ensure a minimum “floor” for the EE resource. There is no reason why utilities cannot achieve those levels, and the economic and environmental benefits are compelling. Minnesota’s current CIP targets are substantial, but by no means the most aggressive in the industry. And Minnesota allows considerable flexibility in what can account for savings above the 1% level.

Minnesota could then use potential studies and IRP to identify possible utility-specific opportunities to pursue savings above the statutory “floor”, and tailor incentives to the utility to facilitate exceeding the 1.5% level where appropriate.

Question #5: Many commenters acknowledged that changing codes and standards affect utilities’ ability to meet the energy savings goals. In California, utilities that support and implement proposed codes and standard changes can receive energy savings credit toward meeting their goals (see attachment #2). What are the pros and cons of using a similar energy savings crediting mechanism for utilities that support Minnesota building code changes? What policy or process changes would be needed to make this happen? Add your thoughts on how such savings could be measured and verified.

The biggest concern regarding incorporating savings credit for codes and standards (C&S) into the CIP EERS process is that there is a potential (intentional or not) for the use of C&S “savings” credits to result in fewer and less aggressive traditional utility EE programs. Deciding how much of any savings from improved codes and standards is attributable to a utility’s efforts is an extremely subjective process, and ripe for mistakes and/or abuse.

Moreover, California is a very unique state, with the size and stature and experience to possibly influence federal appliance standards. Plus, CA is fairly unique in having a history of establishing its own state appliance/equipment standards where federal standards are lacking. Does Minnesota have any such authority or tradition?

Lastly, while utility concerns that increasingly stringent codes and standards make it more difficult to achieve program savings have some legitimacy, this concern would

seem to have less urgency in the current political environment. It would seem that the present situation in both Washington, D.C. and Minnesota make it very unlikely that new, tougher standards will be coming any time soon. In fact, as for federal standards, there is at least some possibility that some may be repealed...or at least not enforced.

For all of these reasons, I would suggest no near-term action is needed in Minnesota regarding incorporating energy savings credits for utilities from codes and standards.

Bonus Question: How can the results from the DSM potential study inform Integrated Resource Plan proceedings? How can the results of this potential study facilitate better alignment between the DSM goals that are approved in CIP Triennials and those approved through the IRP process? Should the goals be aligned? How much alignment is appropriate? Are there other ways that the potential study can inform the IRP process?

Results from the DSM potential study should be made easily available to all parties for incorporation into utility IRP proceedings. As described above under question 4, the IRP process should be used as a mechanism to explore the potential for and desirability of incorporating additional EE resources into the utility's plan of action, above the statutory floor of 1.5% annual savings. The 1.5% annual savings should be hard-wired into the IRP (analogous to a 'must run' power plant), in order to assure the benefits of at least that much EE, for all the reasons articulated in the CIP statute.

Then the IRP process, including the results of the potential study, should be used to explore whether additional energy efficiency above the 1.5% EERS floor would be desirable.

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These comments should be returned to Jon Blaufuss via email (jblaufuss@mncee.org) in the form of a pdf document by Friday, May 4, 2018. We'll use your written comments to help inform the policy discussion in the DSM Potential Study report and will include the written comments as an appendix to that report.

Thanks again for all of your hard work and your willingness to provide the Statewide DSM Potential Study Team written comments on these policy questions. Please feel free to contact me if you have any questions (mbull@mncee.org).

In terms of ranking, the most important issue to "get right", is question #2. It is critically important that these other policies (DR, Carbon, and electrification) be pursued in a way that does not detract from the ability to fully capture energy efficiency under CIP. Closely following that, and related, is question #4, regarding setting CIP targets. The current 1.5% minimum standard should be maintained. The rest in order are #5 (don't let C&S detract from traditional EE), #3 (incentivize long-term savings) and #1 (have good EM&V for those programs).

Thank-you for the opportunity to comment. Martin Kushler, ACEEE

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May 11, 2018

Michael Bull
Director of Policy and External Affairs
Center for Energy and Environment
212 Third Avenue North, Suite 560
Minneapolis, MN 55401

**RE: Otter Tail Power Company Comments on Demand Side Management (DSM)
Potential Study
Policy Issues**

Dear Mr. Bull:

Otter Tail Power Company (Otter Tail or the Company) sends these comments in response to Center for Energy and Environment's (CEE) April 5, 2018, request for comments.

If you have any questions regarding this filing, please contact me at 218-739-8639 or at jgrenier@otpc.com.

Sincerely,

/S/ JASON A. GRENIER
Jason A. Grenier
Manager, Market Planning

I. BACKGROUND

Since 1990, Otter Tail and our customers have partnered to build a rich history of energy conservation. Through the Conservation Improvement Program (CIP), this partnership has led to customer energy savings, demand reductions, emission reductions, improved customer satisfaction and engagement, and net financial benefits reducing system costs for all customers. Over the last five years (2013-2017) customers participating in Otter Tail's CIP offerings have saved a total of 1,660,407 lifetime MWH. The lifetime energy savings from this period are equivalent to removing the annual energy consumption of nearly 154,000 homes from Otter Tail's system. **Filed results for 2017 showed Otter Tail achieving 3.02 percent energy savings, much higher than the 1.5 percent statutory goal.** The last five years have also produced net financial benefits for the customers of \$169,871,838 over the lifetime of the energy efficiency investments. These net benefits reflect the financial gain to customers of Otter Tail for avoiding building additional infrastructure and purchasing incremental energy.

II. Questions and Responses

Question #1: Strategic Energy Management programs.

Many of the commenters think that savings from operational programs --generally in the C&I sector --may be significant in the future. This includes savings from decreasing equipment run-times, improved occupancy scheduling, and "building tune-up" activities that can decrease energy usage without requiring capital outlays. Strategic Energy Management programs for large industrial customers and Xcel's Energy Information Systems pilot are examples of these types of programs. What would be needed to ensure these operational savings are identified and captured? Add your thoughts on how such savings could be measured and verified.

Otter Tail Question #1 Response:

Otter Tail is optimistic about capturing energy and demand savings from operational programs in the C&I sector resulting from decreased equipment run times, improved occupancy scheduling, and "building tune-up activities". The Company points to its Recommissioning program where customers are realizing encouraging results with growing numbers in participation, energy savings, coincidental demand savings, and energy bill savings from similar measures providing simple paybacks in less than two years. Measures implemented through Otter Tail's recommissioning program are evaluated by Otter Tail staff and third-party engineering

consultants. Third-party engineering consultants perform post-project monitoring and bill analysis to ensure energy savings and associated demand savings are being captured from the operational improvements.

Allowing utilities to assign similar energy savings, demand savings, and measure lives to other operational programs that stand up to the scrutiny of the Company's similar Recommissioning program is a reasonable approach to determining energy savings and net benefits from these measures.

Question #2: Supplemental programs to CIP (Demand Response, Carbon Reductions, and Electrification)

There was a lot of discussion about the potential benefits from Demand Response, Carbon Reductions and Electrification, but it's unclear if any of these needs to be integrated into CIP in order to capture these benefits or require the same regulatory/incentive structure as conservation. Putting these activities into CIP may lead to conflicting policy outcomes and program metrics. Please provide your thoughts on how these issues could be addressed in more targeted ways by specific supplemental policies that are aligned with but not integrated into CIP? Do you have suggestions for how such supplemental approaches might be designed?

Otter Tail Question #2 Response:

Otter Tail believes it is imperative to include the benefits of demand response (DR), carbon reduction, and electrification in CIP. As stated in previous comments, Otter Tail supports including any program in CIP which provides net benefits to customers by saving energy, shifting energy usage to low cost periods, reducing carbon emissions, or reducing overall fuel consumption.

Otter Tail believes DR programs should be encouraged in CIP similar to energy efficiency programs. DR programs allow the utility to curtail a customer's load during peak capacity or energy periods and results in savings to all customers through the utility not having to procure incremental capacity for the customers load or purchase more expensive electricity during high priced energy periods. Currently DR programs are only included in CIP if they also reduce a customer's overall energy consumption.

The Company believes the energy policy of Minnesota supports including DR programs within CIP. Minnesota §216B.2401 specifically encourages cost-effective energy savings in Minnesota. Otter Tail currently offers its customers several DR programs outside of CIP which provide both customer and utility benefits including thermal storage programs that interrupt customers usage, reduce Otter Tail's capacity and energy obligations, and thereby reduce costs for all customers. Reduced energy consumption during peak periods is consistent with §216B.2401 since it reduces utility costs for customers, improves competitiveness and profitability of businesses, supports energy related jobs, reduces economic burden of fuel imports, and has the potential to reduce

pollution and emissions. Otter Tail's DR programs are further supported by this statute as they are considered a specific rate design offered by Otter Tail to reduce system costs.

CIP policy is further defined in §216B.241 which defines the state's policy on energy conservation improvement. This statute defines "Energy Efficiency" in Subdivision 1. part (f) as follows:

(f) "Energy efficiency" means measures or programs, including energy conservation measures or programs, that target consumer behavior, equipment, processes, or devices designed to produce either an absolute decrease in consumption of electric energy or natural gas or a decrease in consumption of electric energy or natural gas on a per unit of production basis without a reduction in the quality or level of service provided to the energy consumer.

Otter Tail believes this statute is primarily focused on reduction of consumption of energy but leaves room for demand response programs to be included in CIP as well. DR programs decrease energy consumption during certain times by targeting consumer behaviors and equipment, without a reduction in the quality or level of service provided to the energy consumer. Otter Tail believes the DSM Potential study stakeholders should explore including DR programs and their benefits within CIP programming.

While Otter Tail has a long history of implementing successful DR programs a performance incentive would enable the Company to push DR and electrification further by providing a clear price signal for Otter Tail's management to ensure adequate resources and focus on these initiatives. Stakeholders need to work on providing a methodology for counting the immense benefits from these non-traditional CIP programs. Once a clear methodology is agreed to for calculating benefits from these programs, utilities can clearly show the overall benefits being delivered to customers.

Question #3: Lifetime benefits of energy savings.

The initial comments indicated significant interest in doing more to reflect the lifetime benefits of energy savings. What policy changes would be needed to make this happen? Are these regulatory or legislative? For those familiar with the recently-passed EE legislation in Illinois, which moves the state from focusing on a first-year goal to a cumulative lifetime savings goal, are there lessons for Minnesota?

Otter Tail Question #3 Response:

Annual CIP results for each utility currently reflect the lifetime benefits of the lifetime energy savings. Each kWh counted on an annual basis produces benefits over the lifetime of the measure. The utility counts these benefits in their benefit/cost tests. Lifetime benefits from all measures are reported in each utilities' annual Status Reports. It is unclear to Otter Tail how moving from measuring annual savings to cumulative/lifetime energy savings will drive utilities

and customers to save any more energy. Otter Tail would be interested in reviewing a study which shows making this change actually increases energy savings and associated benefits. With lifetime benefits already being captured and reported annually, Otter Tail does not see a reason to change to a cumulative method.

Similar to the case in Illinois, Otter Tail would not object to the two largest investor owned utilities' desire to measure energy savings by lifetime instead of annual energy savings. Otter Tail believes the existing system of one-year energy savings has achieved excellent results for many years. Even if energy savings become lumpier in the future with some good years and some lesser years, utilities have the flexibility to carryover energy savings from year to year to ensure the 1.5 percent goal is met.

Question #4: Setting CIP targets

a) CIP allows Commerce to adjust CIP targets based on potential studies or other factors upon request by a utility. Commerce could issue a Statewide Potential Study every three years, and utilities could use the statewide potential study as a basis for their requests to adjust utility CIP targets. The statutory goals would remain as the default.

Otter Tail Response: Otter Tail has serious concerns regarding the cost to ratepayers to perform Statewide Potential Studies every three years. Otter Tail would consider supporting a Statewide Potential Study performed every six years. Allowing additional years would give utilities and other implementers more time to review program participation, costs, and results. Reviewing several years of results and impacts would likely lead to a more accurate measurement of future potential from a study. If a utility chooses to fund their own study more frequently than every six years, they should be allowed to do this and fund it with CIP dollars.

Otter Tail does not believe the 1.5 percent energy savings goal found in statute should be increased for any utility regardless of what the Statewide Potential Study finds. Minnesota state statute is clear in giving authority to the public utilities commission to develop and approve utility incentive plans which encourage utilities to pursue cost-effective energy savings over all other resources.

Minnesota statute. §216B.16, Subdivision 6C

Subd. 6c. Incentive plan for energy conservation improvement.

(a) The commission may order public utilities to develop and submit for commission approval incentive plans that describe the method of recovery and accounting for utility conservation expenditures and savings. In developing the incentive plans the commission shall ensure the effective involvement of interested parties.....

(b) In approving incentive plans, the commission shall consider:

(1) whether the plan is likely to increase utility investment in cost-effective energy conservation;

(2) whether the plan is compatible with the interest of utility ratepayers and other interested parties;

(3) whether the plan links the incentive to the utility's performance in achieving cost-effective conservation; and

(4) whether the plan is in conflict with other provisions of this chapter.

(c) The commission may set rates to encourage the vigorous and effective implementation of utility conservation programs. The commission may:

(1) increase or decrease any otherwise allowed rate of return on net investment based upon the utility's skill, efforts, and success in conserving energy;

(2) share between ratepayers and utilities the net savings resulting from energy conservation programs to the extent justified by the utility's skill, efforts, and success in conserving energy; and

(3) adopt any mechanism that satisfies the criteria of this subdivision, such that implementation of cost-effective conservation is a preferred resource choice for the public utility considering the impact of conservation on earnings of the public utility.

Otter Tail believes items (b1-3) and (c2-3) of this statute clearly establish the goal of the performance incentive is for utilities to choose cost-effective conservation as a preferred resource over other resources. With a proper utility performance incentive as a driver, utilities will always strive to exceed the states 1.5 percent goal, no further goals should be necessary.

b) The CIP targets could be adjusted based on the proportion of a utility's sales to the different customer sectors (residential, commercial, industrial and agricultural). For example, if the statewide potential study demonstrated less efficiency potential in the residential sector than the commercial sector, a utility with a high proportion of residential customers could have a lower CIP target (i.e. less than 1.5%).

Otter Tail Response: Otter Tail believes setting goals for specific customer sectors would be very difficult. Many sectors respond to CIP programming by economics and price certainty in their industry. For example, when farm commodity prices were strong about ten years ago, Otter Tail had many projects with our agriculture customers. With commodity prices now cut in half, we are seeing considerably less agricultural projects. Potential for these sectors can drastically move on an annual basis. The federal government placing tariffs on foreign commodities, such as steel, could completely change potential in a sector. Otter Tail believes the 1.5 percent goal should be measured at the highest level possible.

c) The current CIP targets are adequate, and the simplest path would be to just leave them in place for the time being.

If the Statewide Potential Study finds achieving 1.5 percent energy savings will be quite challenging this should be reported to the legislature, which should consider lowering the goal.

Question #5: Energy savings from increased codes and standards

Many commenters acknowledged that changing codes and standards affect utilities' ability to meet the energy savings goals. In California, utilities that support and implement proposed codes and standard changes can receive energy savings credit toward meeting their goals (see attachment #2). What are the pros and cons of using a similar energy savings crediting mechanism for utilities that support Minnesota building code changes? What policy or process changes would be needed to make this happen? Add your thoughts on how such savings could be measured and verified.

Otter Tail Question #5 Response:

Otter Tail does not believe there is a potential for energy savings from "Codes and Standards Enhancement". Otter Tail has not studied this issue in depth, but on the surface, it appears it could make housing or building considerably more expensive for customers. Otter Tail is extremely concerned with cost of living in our service territory as we see the impacts of urbanization more and more. Instead Otter Tail believes CIP funds can be better utilized by offering direct programs which have led to significant success in the past.

Bonus Question: DSM Potential study inform Integrated Resource Planning.

How can the results from the DSM potential study inform Integrated Resource Plan proceedings? How can the results of this potential study facilitate better alignment between the DSM goals that are approved in CIP Triennials and those approved through the IRP process? Should the goals be aligned? How much alignment is appropriate? Are there other ways that the potential study can inform the IRP process?

Otter Tail Bonus Question Response:

Otter Tail does not believe the DSM potential study should be used for setting DSM goals in the Integrate Resource Planning (IRP) process but believes 1.5 percent energy savings should be modeled in the IRP process. Including energy saving levels above 1.5 percent is likely not accurate for design and delivery of CIP programming. IRP and the CIP process are very different approaches since CIP is a look at three years of goals and the IRP evaluates resources over a 15-year perspective. Otter Tail does not believe the DSM potential study should be aligned with the IRP process, nor should the CIP goals above 1.5 percent be included in the IRP process.

III. SUMMARY

CIP has a long history of success in Minnesota. Otter Tail does not believe the core issues to continuing its success is to change how goals are established or how energy savings are counted annually. More impactful changes will come from including more items within CIP. Including customer programming which delivers net benefits to customers should be encouraged within CIP. There are new technologies coming into the marketplace and the rules and associated policies must accommodate these technologies to drive early customer adoption and to ultimately deliver net benefits to all customers. Otter Tail looks forward to working with all stakeholders to find ways of increase DR within CIP and also beneficial electrification technologies.