MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	November 1, 2018		Agenda Item ** 5
Company	Xcel Energy		
Docket No.	**E-002/CI-17-401**		
	In the Matter of a Commission Investigation to Identify and Develop Performance Metrics and, Potentially, Incentives for Xcel Energy's Electric Utility Operations		
Issues	How should the Commission proceed in its endeavor to identify and develop metrics and standards to better assess Xcel's performance?		
Staff	Kevin O'Grady	kevin.ogrady@state.mn.us	651-201-2218

✓ **Relevant Documents**	**Date**
Notice of Comment Period	September 22, 2017
Comments: Minnesota Chamber of Commerce (MCC)	December 21, 2017
Comments: Midwest Cogeneration Association (MCA)	December 21, 2017
Comments: Minnesota Center for Environmental Advocacy (MCEA)	December 21, 2017
Comments: Advanced Energy Management Alliance (AEMA)	December 21, 2017
Comments: Citizens Utility Board of Minnesota (CUB)	December 21, 2017
Comments: Alliance for Industrial Efficiency (AEI)	December 21, 2017

✓ **Relevant Documents**	**Date**
Comments: Institute for Local Self-Reliance (ILSR)	December 21, 2017
Comments: Fresh Energy	December 21, 2017
Comments: Center for Energy and the Environment (CEE)	December 21, 2017
Comments: Great Plains Institute (GPI) (joint with CEE)	December 21, 2017
Comments: Xcel Energy (Xcel)	December 21, 2017
Comments: Minnesota Office of the Attorney General (OAG)	December 21, 2017
Comments: Minnesota Department of Commerce (DOC)	December 21, 2017
Replies: Citizens Utility Board of Minnesota (CUB)	March 6, 2018
Replies: Midwest Cogeneration Association (MCA)	March 6, 2018
Replies: Suburban Rate Authority (SRA)	March 6, 2018
Replies: Great Plains Institute (GPI)	March 6, 2018
Replies: Center for Energy and the Environment (CEE)	March 6, 2018
Replies: Xcel Energy (Xcel)	March 6, 2018
Replies: Minnesota Office of the Attorney General (OAG)	March 6, 2018
Replies: Minnesota Department of Commerce (DOC)	March 6, 2018
Letter: Minnesota Office of the Attorney General (OAG)	October 11, 2018
Letter: Center for Energy and the Environment (CEE)	October 19, 2018

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I. Statement of the Issues

How should the Commission proceed in its endeavor to identify and develop metrics and standards to better assess Xcel's performance?

II. Background

This investigation originated in the Commission's order resolving Xcel's General Rate Case in 2017 (*Xcel Rate Case Order*).[1] The order established a multiyear rate plan (four years) pursuant to MS § 216B.16, Subd. 19. That statute provides that a utility may propose a multiyear rate plan, not to exceed five years, and that the Commission may "require the utility to provide a set of reasonable performance measures and incentives that are quantifiable, verifiable, and consistent with state energy policies."[2] Further, the Commission "may initiate a proceeding to determine a set of performance measures that can be used to assess a utility operating under a multiyear rate plan."[3]

The *Xcel Rate Case Order* stated:

> The Commission … will open a separate docket to identify and develop performance-based metrics and standards – and potentially incentives – to be implemented during the multiyear rate plan. …
>
> Performance metrics are an important tool to preserve service quality and align utility incentives with ratepayer interests, particularly in the context of a Settlement that establishes rate increases for multiple years. However, the record in this case is not sufficiently developed to determine the adequacy of Xcel's proposed performance metrics – or what other measures of performance might be established in place of or in addition to Xcel's metrics.
>
> Moreover, the Commission is not satisfied, on this record, that the Company has given full consideration to the potential for coupling performance metrics with financial incentives. The Commission concludes that a new docket will provide the best venue for determining what combination of metrics and incentives, in addition to those already in Xcel's QSP Tariff, would appropriately align utility and ratepayer interests.[4]

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[1] In the Matter of the Application of Northern States Power for Authority to Increase Rates for Electric Service in the State of Minnesota. *Findings of Fact, Conclusions, and Order*. Docket E-002/GR-15-826, June 12, 2017. [*Xcel Rate Case Order*]
[2] MS § 216B.16, Subd. 19(a).
[3] MS § 216B.16, Subd. 19(h).
[4] *Xcel Rate Case Order*, p. 23, footnote omitted.

Tangentially, in the context of interconnection of on-site distributed generation, the Legislature has stated that the "commission may develop financial incentives based on a public utility's performance in encouraging residential and small business customers to participate in on-site generation."[5]

In response to the Commission's request of September 22, 2017, the following parties submitted comments:

Minnesota Chamber of Commerce (MCC)	Midwest Cogeneration Association (MCA)
Minnesota Center for Environmental Advocacy (MCEA)	Advanced Energy Management Alliance (AEMA)
Citizens Utility Board of Minnesota (CUB)	Alliance for Industrial Efficiency (AIE)
Institute for Local Self-Reliance (ILSR)	Fresh Energy
Center for Energy and the Environment (CEE)	Great Plains Institute (GPI)
Xcel Energy (Xcel)	Suburban Rate Authority (SRA)
Minnesota Office of the Attorney General (OAG)	Minnesota Department of Commerce (DOC)

III. Performance-Based Regulation (PBR)

PBR is a response to the increasing complexity of the energy industry. The Commission is intimately aware of the changing industry as are the parties to this docket. Fresh Energy encapsulates the issues (other parties make similar statements):

> Historically, utility investment and regulatory review were relatively straightforward. Economies of scale were clear – pooling one set of resources and spreading costs over a broad base of customers was the most economically efficient way to build out the power system and reach a growing customer base. Because greater investment tended to yield greater value, the revenue model for utilities rewarded shareholders for ever-increasing capital investment, which in turn ensured customers realized the benefits of increasing scale.
>
> As a result, regulators tasked with reviewing utility investment plans line by line had enough information to determine, with some margin for error, whether investments were producing outcomes that reflected the public interest. Regulators maintained prudency review as a hedge against poor or excessive utility investment choices and as a proxy for competitive pressure on monopoly utilities; only what was "used and useful" could be recovered from captive customers.

[5] MS § 216B.1611, Subd. 2(b).

> But today, the sheer magnitude of options for electricity system optimization has put pressure on the cost of service prudency review. Economy of scale, while still applicable in many cases, is no longer the universal truth it was when the rate of return regulatory model became standard. Information technology's rise has combined with plummeting costs of energy efficiency, automated demand response, and customer-sited generation and storage, increasing the options for minimizing costs while achieving a balance of reliable, safe, and emissions-free service.[6]

PBR at its core embodies a process of defining metrics and benchmarks that can be used to determine whether a utility has met established policy goals, and of rewarding the utility for meeting or exceeding those benchmarks (and discouraging failures to meet those benchmarks). PBR seeks to reduce a utility's revenues from Return on Equity (ROE) and to encourage the utility to seek additional revenues from performance incentives. Thus, PBR is a more intense, narrowly focused form of regulation, although the sum of the narrowly focused goals may be expansive.

The definition of PBR is not fixed in stone and it would be difficult to argue that the construction of twenty metrics is PBR but that the construction of ten is not. It is not uncommon to hear the statement that "all regulation is incentive regulation." Given that axiom, and accepting that PBR is a form of incentive regulation, the question arises as to how intensely Xcel should be regulated. Answering that question must take into account public policy goals and an understanding of Xcel's current efforts, as well as the resources required to successfully fashion a more intense regulatory structure.

PBR is sometimes spoken of as part of a larger vision of industry reform, one that involves expanding the scope of traditional regulation to allow the utility to develop revenue streams from new products and services and to allow third parties to offer such products and services in competition with, or in place of, the utility.[7] The traditional family of actors (i.e. the utility, its customers and the regulator) would be expanded to create a niche between the utility and its customers for other economic actors to capitalize on opportunities opened up by the rapidly changing industry. Whether that notion is a desirable long-run vision or not, it is not the direct focus of the Commission's request for comments.

There is much literature available on PBR, some of it going back to the 1990's. OAG's Initial Comments review a substantial amount of that body of work (see especially OAG's footnotes).

[6] Fresh Energy, Initial Comments, December 21, 2017, pp 1-2.
[7] Jonathan Blansfield, et al. *Value-Added Electricity Services: New Roles for Utilities and Third-Party Providers*. Lawrence Berkeley National Lab, Report No. 9, October 2017.

IV. Request for Comments

The Commission issued a Request for Comments in September of 2017 prefacing its request with a statement that the docket will comprise two main phases: (1) an inquiry into the establishment of goals and how progress toward those goals could be measured, and (2) an inquiry as to how incentives could be tied to targeted performance metrics. With respect to the first phase the Commission asked the parties to address the following points:

1. Key goals of utility regulation, traditional or performance-based, include reasonable, affordable rates, reliable service, customer service and satisfaction, and environmental performance. Identify and discuss any additional key goals for the electric utilities for which performance metrics should be developed.

2. How should performance with respect to specific goals be measured? Identify and discuss the areas of utility performance that should be measured and reported to the Commission, why they should be measured and their importance to the public interest.

3. Identify and discuss the extent to which those areas are currently measured or evaluated either by the utility or an independent third party and whether the current measurements or evaluations are sufficient to adequately evaluate the utility's performance in those areas.

4. Discuss how each identified area of utility performance should be measured, and the extent to which they can be cost-effectively verified. Please include any examples of how those areas are currently measured by Xcel or by other utilities and discuss specific proposals – including specific metrics – for measuring Xcel's performance in areas not already measured.

5. Identify and discuss areas of performance that would be aided by a study of achievable potential needed to establish performance targets.

6. Identify established metrics where it could be appropriate to move sooner on potential targets and incentives.

7. Are there other issues the Commission should consider in the first phase of this docket?

V. Comments of the Parties

A. Initial Comments

1. Xcel Energy: Initial Comments

Xcel believes that Minnesota regulation is not in need of overhaul, that under the current structure, Xcel is meeting or surpassing key regulatory goals. Xcel acknowledges there may be room for improvement but that any such efforts should be focused on developing targeted opportunities.

Xcel argues that it has a good track record in meeting public interest goals. It states that its record on environmental performance is exemplary, that it is on track to have a generating fleet that is 63 percent carbon-free by 2030 – and that it may be able to further transition its fleet to achieve even greater levels of carbon reductions. In 2017, and for more than a decade, it has been named the number one wind provider in the United States by the American Wind Energy Association. Further, Xcel states, it has announced the only 80 percent Production Tax Credit (PTC) project in the country to-date – and it expects to become the first company in the nation to have more than 10,000 MWs of wind.

Xcel believes that it has a strong record on reliability, ranking in the first or second quartile nationally in terms of SAIDI and SAIFI, and it states that it has received national recognition for its storm response efforts. Further, it states, its total residential customer bills are 27 percent below the national average and 14 percent lower than the Minnesota utility average, and its Minnesota residential customers have experienced a two percent decrease in their total bill since 2013. Xcel also states that its recent efforts in the wind and biomass space will deliver over $2.2 billion in savings to its customers.

Additionally, Xcel states, its customers have saved over 3,038 MW in electric energy, thereby avoiding the construction of approximately 12 power plants. It has the most registered demand response capability (nameplate) of all MISO IOUs by a significant margin and is on pace to significantly increase those resources by 2023. Xcel believes it has new and better ways to communicate with its customers, including redesigning its website to be customer-centric, developing a state-of-the-art Storm Center and outage notification system, and rolling out a mobile application.[8]

Xcel points to its multiyear rate plan (MYRP) as a form of PBR, noting that it provides for several measures that are intended to ensure its investments are aligned with state and customer priorities. Xcel states that there is an annual capital true-up to ensure it continues to invest in its system at approved levels; it is limited to utilizing only existing rate riders, which helps to control customer costs while ensuring it can continue to invest in infrastructure consistent with state policy objectives. Further, Xcel states, the Commission-approved decoupling mechanism

[8] Xcel, Initial Comments, p. 2.

from its previous rate case was extended for the term of the MYRP, which continues to remove any disincentive from encouraging conservation and distributed generation.[9]

Xcel makes reference to the performance incentives built into its Quality of Service Plan (QSP). The QSP embodies metrics for customer complaints and reliability (SAIDI and SAIFI) and Xcel provides customer refunds for service that does not meet established standards. The QSP also embodies metrics for billing accuracy and responsiveness to customer calls. Xcel also makes reference to its CIP program, the state's renewable energy standard and to solar energy development.[10]

Xcel asserts that, while there is not a need for a broad overhaul of the existing regulatory structure, it acknowledged that there are opportunities in emerging areas where PBR could be useful. To that end, it offers the following principles to follow when designing performance regulation:

1. Tied to the policy goal
2. Clearly defined
3. Able to be quantified using reasonably available data
4. Sufficiently objective and free from external influence
5. Easily interpreted
6. Easily verified[11]

Xcel also highlights what it considers potential "pitfalls" of performance regulation.

- Unintended Consequences: how certain metrics might redirect utility attention from one area to another
- Regulatory Burden
- Uncertainty: could impact long term planning, redirect attention to short term goals if metrics frequently change
- Disproportionality: incentives must match customer benefits and not be subject to factors beyond reasonable utility control[12]

Xcel believes that the Commission should focus its efforts on developing PBR in three targeted areas: (1) encouraging investment to help decarbonize other industries – transportation and agriculture, in particular, (2) developing new rates to reduce peak demand and shift loads, and (3) developing a metric that allows for a transparent assessment of whether it is continuing to make improvements in interconnecting distributed generation (DG) resources to its distribution system.[13]

[9] Xcel, Initial Comments, p. 14.
[10] Xcel, Initial Comments, pp. 15-21.
[11] Xcel, Initial Comments, p. 23.
[12] Xcel, Initial Comments, p. 24.
[13] Xcel, Initial Comments, p. 24.

2. Office of the Attorney General (OAG): Initial Comments

OAG makes reference to the fundamental changes the electric utility industry is experiencing. OAG points to three drivers of change: a decline in wind and solar costs, policy changes that promote renewable energy, and changing societal preferences resulting in increased customer involvement in energy usage and generation.[14] This, according to OAG, has resulted in a challenge to the traditional utility mode of operation, including increased competition from third parties offering additional energy services. OAG points to the unlikely possibility of a "utility death spiral" where customers, unsatisfied with utility offerings, exit the regulated utility space prompting higher rates and further defections.[15] OAG notes that in response to these types of concerns, several states, Minnesota included, have started investigating allowing utilities to recover costs based on performance instead of capital investments.[16]

OAG prefaces its discussion of performance indicators with a recommendation that the Commission proceed at a deliberate pace in order to manage risks to consumers. It warns that the implementation of PBR has the potential to require considerable resources and years of analysis. OAG recommends, as a threshold matter, that the Commission consider the following questions:

1. How well does the existing regulatory framework support utility performance?
2. How well does the existing regulatory framework support state energy goals?
3. What are the policy options available to improve utility performance?
4. Is the industry, market, or regulatory context expected to change?
5. Does the Commission prefer to oversee investments, or to guide outcomes?
6. Does the Commission wish to specify the outcomes in advance?[17]

OAG believes that performance metrics have the potential to make utilities better and its ratepayers better off. To this end, OAG introduces a performance incentive mechanism (PIM) design process that it believes will allow the Commission to take high-level regulatory goals and transform them into actionable performance metrics that are tied to desired regulatory outcomes. The first three steps of this process form a hierarchy of concepts starting with (1) the establishment of regulatory goals, then (2) the identification of desired regulatory outcomes, and finally, (3) the identification of performance metrics. OAG recommends that the Commission adopt the PIM Design Process and the goals-outcomes-metrics hierarchy embedded within the process as it considers the implementation of PIMs for Xcel Energy. OAG recommends the Commission undertake the first four of these steps outlined in Figure 1, viewing the last three as beyond the scope of this docket at this time.[20]

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[14] OAG, Initial Comments, p. 8.
[15] OAG, Initial Comments, p. 9.
[16] OAG, Initial Comments, p. 10.
[17] Derived from a report by Synapse Energy Economics, Inc. *Utility Performance Incentive Mechanisms: A Handbook for Regulators*. March 9, 2015, p. 51.
[20] Adapted from *Synapse Handbook* at 5, 52.

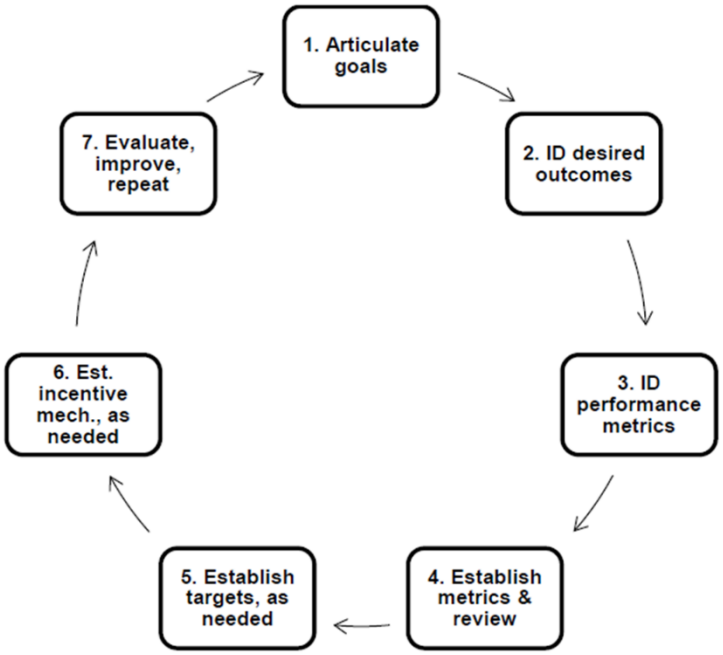

Figure 1. The Performance Incentive Mechanism (PIM) Process

With respect to the first step in the PIM process OAG recommends the Commission establish four overarching policy goals, goals that are embedded in MS § 216B.01:

> It is hereby declared to be in the public interest that public utilities be regulated as hereinafter provided in order to provide the retail consumers of natural gas and electric service in this state with **adequate and reliable services at reasonable rates, consistent with the financial and economic requirements of public utilities** and their need to construct facilities to provide such services or to otherwise obtain energy supplies, **to avoid unnecessary duplication of facilities which increase the cost of service to the consumer** and to minimize disputes between public utilities which may result in inconvenience or diminish efficiency in service to the consumers. …[22]

Those goals, OAG states, are:

1. Customer Focus: "adequate and reliable service at reasonable rates." Leads to many traditional regulatory outcomes.[23]
2. Operational Effectiveness: "avoid unnecessary duplication of facilities which increase the cost of service to ratepayers." Encompasses the idea of "least cost" service, and includes regulatory tools like IRP, MYRPs, and prudency reviews.[24]

[22] OAG's emphasis.
[23] OAG, Initial Comments, p. 29.
[24] OAG, Initial Comments, pp. 29-30.

3. Public Policy Responsiveness: embodied elsewhere in 216B in various sections. Addresses emerging public policy concerns that currently can result in overlapping incentives.[25]
4. Financial Performance: "the need to ensure "financial and economic" requirements are met by regulators." Applies mainly during rate case and rider proceedings.

For each of these four goals, OAG recommends the Commission define outcomes and metrics as portrayed in Figure 2 below for the example of customer focus.

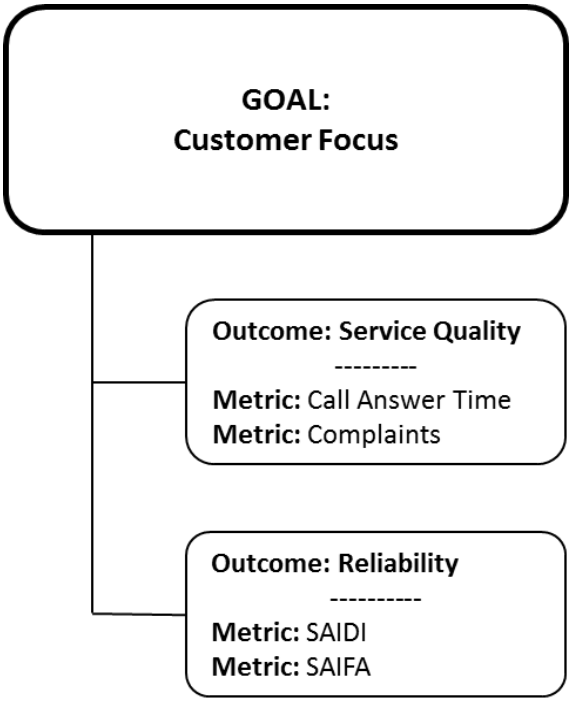

Figure 2. Example of Goals-Outcomes-Metrics Hierarchy for Customer Focus Goal

OAG also recommends that the Commission develop a scorecard of how Xcel is faring with respect to each of the established metrics. A scorecard can increase the power of metrics to guide Xcel's behavior.

OAG argues that despite recent changes to the electricity system and to utility regulation in recent decades, the implicit incentives rooted in traditional cost-of-service regulation still remain a potent force. It believes this conclusion matters because it clarifies existing structural financial incentives and it places bounds on the extent that add-on PIMs alone can achieve transformational change. Absent a fundamental shift in the utility regulatory structure in Minnesota, short-term regulatory outcomes should be focused on desired regulatory outcomes related to the existing regulatory structure. OAG argues that if, in this docket, there emerges a particular area where consensus seems elusive, or where the magnitude of the proposed financial incentive appears out-sized, it may not be a symptom of poor PIM design, but rather

[25] OAG, Initial Comments, p. 30.

of a regulatory system that is simply unfit to achieve the particular goal. This does not mean that a new regulatory structure is required at this time, but rather to caution the Commission that it may encounter "square pegs" in this proceeding. Near term attention should instead focus on making the existing regulatory structure function more efficiently and equitably, with a long-term focus on ensuring the state regulatory apparatus is ready to tackle the significant challenges ahead.

3. Department of Commerce (DOC): Initial Comments

DOC states that if the Commission is interested in exploring additional incentives beyond those in current use or in development, or in refining current incentives, it recommends that the Commission consider retaining an outside consultant to aid the Commission in its development of any additional independently calculated performance benchmarks and metrics for Xcel. DOC's proposal is not necessarily to add new performance metrics, but to use a different approach to benchmark many of the existing performance metrics used in Minnesota. One area the Commission may wish to consider is whether any refinement would be appropriate for Xcel's service quality. The consultant or consultants should be directed to develop both peer-group and econometric benchmarks and performance metrics. A peer-group approach would develop benchmarks based on the performance of comparable utilities (peers) over a recent period of time. An econometric approach develops benchmarks using a large number of observations over a significant amount of time.[26]

DOC also recommends that the Commission consider developing a "performance dashboard or scorecard" to aid the Commission in its review of a utility's performance relative to any performance-based goals the Commission may establish.[27]

DOC makes reference to PBR metrics embodied in the CIP program, Xcel's QSP, Xcel's MYRP and riders, and its integrated resource plan. DOC states that it has not identified any areas that would be aided by further study of achievable potential, other than what is occurring in the pending FCA docket (03-802) and distribution system planning (18-251). However, DOC notes that its Energy Office division is involved in studies of Supply-Side Efficiency Potential and of Demand-Side Efficiency Potential which are exploring programs and policies to maximize cost-effective energy efficiency.

Attachment A to DOC's comments includes a presentation on Benchmarking Utility Performance that outlines various approaches, with an emphasis on statistical methods of benchmarking.

[26] DOC, Initial Comments, p. 6.
[27] DOC, Initial Comments, p. 8.

4. Center for Energy and the Environment (CEE) and Great Plains Institute (GPI): Initial Comments (Joint)

CEE and GPI seek to inform the Commission of the work accomplished by the e21 Initiative group of stakeholders (e21) which includes utilities, consumer advocates, energy technology companies and other businesses, environmental and academic organizations, and government. CEE and GPI explain that throughout 2015 and 2016, e21 stakeholders worked collaboratively on issues of central interest in this docket and have developed a white paper outlining a performance-based compensation framework: "White Paper: Performance-Based Compensation Framework" (attached to the CEE/GPI Initial Comments).[28] CEE and GPI caution that the e21 White Paper does not represent an industry consensus but that it does showcase the work of the e21 Initiative in addressing PBR-related issues.

The e21 White Paper offers two main reasons for adopting a PBR-centered regulatory framework:

- Shift away from a business model that provides customers few options (everyone gets the same grid electricity produced largely with coal, natural gas, or nuclear power at large central stations) toward one that offers customers more options in how and where their energy is produced and how and when they use it, while maintaining fair and competitive pricing, reliability, and minimal environmental impacts

- Shift away from a regulatory system that rewards the sale of electricity and building large, capital-intensive power plants and other facilities toward one that reasonably compensates utilities for achieving an agreed-upon set of performance outcomes that the public and customers want[29]

The e21 Initiative envisions a continuum of three general models of industry reform:[30]

(1) Current Cost-of-Service Model with Limited Additional Incentives:

> This alternative would maintain Minnesota's current cost-of-service regulatory framework, but add limited performance incentives for particular policy outcomes that are not incentivized by the current system. The Conservation Improvement Program incentive is an example of an existing performance incentive. Similar tools could be used to target other outcomes. For example, increased adoption of distributed energy resources was identified by e21 as another potential targeted area for performance incentives. Another example could be a return on equity band on specific types of investments, similar to the Metropolitan Emissions Reduction Project.

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[28] The White Paper is part of a larger report by the e21 Initiative entitled *Phase II Report: On Implementing a Framework for a 21st Century Electric System in Minnesota*, December 2016.
[29] CEE/GPI Initial Comments, Appendix A (White Paper), p. 29.
[30] CEE/GPI Initial Comments, Appendix A (White Paper), pp. 35-6.

In this alternative, utility earnings from performance are incremental to returns set in a rate case.

Earnings from capital investment remain the primary driver for utility shareholder value. Performance incentives are additional.

(2) Partial Shift to Performance-Based Compensation

This alternative would be a hybrid approach of the current cost-of-service model and a performance-based framework. It would allow utility earnings to be derived from a combination of returns on capital investments and from performance outcomes. The net effect encourages utilities to achieve performance goals, but maintains a return on capital expenditures.

In this alternative, the potential for performance incentives and/or penalties is addressed in a rate case.

Earnings are driven by a combination of performance outcomes and capital investments. The relative share of earnings coming from each would be determined over time.

(3) Shift to Performance-Based Compensation

This alternative would be a change from the current cost-of-service model to a model where utility shareholder value is based on utility performance. This framework seeks to reduce or eliminate incentive for capital expenditure as the driver of shareholder value, and instead incentivizes utilities to achieve agreed upon outcomes using whatever means best achieves them. However, it does not seek to disincentivize utility capital investment, as utilities would still be allowed cost recovery for reasonable capital investments.

However, to be clear, utility capital investments would not earn shareholder returns, but would recover the cost of financing. Shareholder returns would instead be earned through a combination of utilities' achieving performance goals and possible new product and service revenue opportunities.

In this alternative, the potential for performance incentives and/or penalties is addressed in a rate case as part of a comprehensive package.

Shareholder value is driven entirely by utility performance. Under this approach, one option is to link recovery of all equity-related costs to performance. Another option is to determine a cost of equity and allow that to be recovered as a financing cost through rates.

This alternative would also enable the utility to establish new revenues from new products and services. Net income from these new products and services could be an additional source of earnings.

The e21 Initiative states that the choice of metrics should be guided by the two main e21 goals (see above), federal and state policy goals, and customer benefits. Metrics should be clearly defined and transparent, verifiable, utilize currently available data, within a utility's control, easy to interpret and communicate, tied directly to desired outcomes, and agnostic with respect to means for achieving outcomes.

5. Fresh Energy: Initial Comments

Fresh Energy points to the increasing complexity of the energy utility sector and notes how the traditional return-on-equity (ROE) business model is diminishing in its ability to align utility goals with the public interest. Fresh Energy envisions a shift in utility revenues from traditional ROE to one where utilities are compensated largely through meeting or exceeding performance metrics and, to a lesser extent, from revenues derived from new products and services. Fresh Energy argues that to focus utility decision-making in the right areas, limited metrics related to distinct outcomes should be defined, adhering to the following principles:

1. Tie metrics to policy goals, focusing on outcomes.
2. Clearly define metrics and the calculation methodologies.
3. Ensure metrics can be readily quantified and independently verified using accessible public data, and avoid reliance on counterfactuals during measurement.[31]

Fresh Energy focuses on the goals of (1) system efficiency, (2) affordability, (3) environmental performance, and (4) beneficial electrification. Metrics useful to measuring system efficiency are load factor, peak load, load shape and electricity savings. Affordability may be tracked through average customer bills, savings versus spending forecasts, load forecast accuracy, and non-wires alternatives. Environmental performance could be measured by total emissions reductions and reductions per customer. Fresh Energy states that beneficial electrification could be measured by off-peak EV charging, utility-controlled EV charging, off-peak space/water heating, utility-controlled space/water heating, and fuel switching for space/water heating and transportation.[32]

6. Minnesota Center for Environmental Advocacy: Initial Comments

MCEA asks the Commission to establish, explicitly, two goals: (1) deep decarbonization of the electricity sector, and (2) integration of high-value distributed energy resources (DER) on Xcel's system.

[31] Fresh Energy, Initial Comments, p. 10.
[32] Fresh Energy, Initial Comments, p. 10.

MCEA argues that deep decarbonization of the electricity sector and concurrent electrification of the rest of the economy is an important policy goal. Minnesota has had science-based greenhouse gas emission reduction goals since 2007 and scientists agree that reducing greenhouse gas emissions by at least 80% economy wide by 2050 is necessary to avoid the worst impacts of climate change. This is the goal Minnesota has set for itself and it is not on track to achieve this goal, having missed the first benchmark in 2015 and is poised to miss the next benchmark in 2025. MCEA states that the electricity sector in Minnesota is on track to meet its state targets, but the electricity sector does not stand alone nor is the state goal written to specify exactly how deep carbon reductions in the electricity sector must go to contribute to Minnesota's economy-wide goal. Because there is no electricity-sector-specific goal in Minnesota, measuring and potentially incentivizing reductions in greenhouse gases that exceed state goals would align with the current understanding of how the worst impacts of climate change can be mitigated and should be a key goal of the electricity sector.[33]

MCEA states that tracking the progress of deep decarbonization could be improved by requiring Xcel (and other utilities) to standardize emissions measurements using the same standards as are used by the Minnesota Pollution Control Agency. MCEA also believes that methodologies should be developed to measure the degree to which less-carbon-intense fuels (electricity) can supplant more-carbon-intense fuels. MCEA notes that electric vehicles offer promise.

With respect to DER, MCEA argues that dramatically decarbonizing the electricity sector will require a more flexible system. Maximizing flexibility will involve a shift away from large, centralized, fossil-fuel plants toward a more distributed system of renewables and storage. Customer-sited generation currently cuts against the utility's bottom line, so if the Commission wishes to encourage a distributed system, establishing measures for high value DER on a utility's system and potentially incentivizing aspects of DER will be necessary. Although utilities currently file annual distributed generation interconnection reports and qualifying facilities reports, a focused tracking of penetration in high-value areas could provide useful information to the Commission. For example, MCEA argues, if a utility is able to avoid a significant capital investment in its transmission or distribution system by siting and placing distributed generation in a particular area, it would seem that tracking and eventually incentivizing those types of installations over others would be valuable. A study of high-level DER potential would also be useful to begin creating targets and thinking about potential incentives.

7. Citizens Utility Board of Minnesota: Initial Comments

CUB focuses on seven goals of regulatory policy for which the performance should be simple to track, transparent in measurement, and take advantage of items that are already quantified and measured. CUB recommends the Commission look to measure performance in these areas:

- Affordability of utility bills
- Reliability of service

[33] MCEA, Initial Comments, pp. 2-3.

- Customer satisfaction
- Energy efficiency
- Environmental performance
- Reducing peak energy usage, and
- Open data access

CUB sees affordability as a vital goal of regulation and the focus needs to be placed on what is cost-effective in the long term, particularly as utilities are investing in new grid modernization technologies. CUB makes reference to a number of potential metrics: (1) average retail rates compared to Midwest and nationally, and compared to historical rates of the utility, (2) average residential and small business bills compared to Midwest and nationally, and compared to historical bills of the utility, (3) reduction of peak load and load shape improvement, (4) number of customers who sought (and numbers granted) Cold Weather Rule (CWR) protection, (5) number of customers receiving disconnection notices (and number disconnected involuntarily), (6) number of customers restored within 24 hours (total and number entering into a payment plan, and (7) number of customers on time-variant rates (e.g. time-of-use).

CUB states that reliability is essential in utility regulation. Here, CUB makes reference to a number of metrics: SAIDI, SAIFI, CAIDI and CAIFI.

CUB believes that measuring customer satisfaction is particularly important for a utility operating under a multiyear rate plan where there may be an incentive to cut costs. CUB states that customer satisfaction can be measured by (1) the results of a customer satisfaction survey administered annually, (2) the number of customers taking advantage of energy efficiency utility programs, including energy efficiency and renewable energy programs, and (3) the number of utility complaints.

CUB believes that environmental performance can be measured in a number of ways: (1) total renewable energy and renewable energy as a percentage of total energy, (2) total solar energy and solar energy as a percentage of total energy, (3) total energy savings and energy savings as a percentage of retail sales, (4) total GHG emissions, GHG emissions per MWh, and GHG emissions reductions since 2005, (5) reduction of peak load and load shape improvement, and (6) customers with net metering and any rates to compensate distributed generation.

CUB states that tracking and establishing metrics around improving system load shape and reducing peak demand will be particularly important for maximizing consumer and environmental value and thus the public interest. Peak electricity usage is often served by fossil fuel units, and lowering the peak is important to achieve Minnesota's greenhouse gas reduction goals.

CUB seeks open access to some customer-usage data arguing that such access is a necessary condition for creating sound performance metrics and building an effective performance-based regulation system. CUB encourages the Commission to establish strong data access and sharing provisions as soon as possible.

8. Institute for Local Self-Reliance (ILSR): Initial Comments

ILSR argues that the Commission should prioritize performance-based ratemaking in three specific areas: renewable energy, energy efficiency, and DER market facilitation. For the latter in particular, it states, utilities should be encouraged to facilitate customer choices that provide system value and reflect the diversity of market options, including: self-generation, non-utility shared solar or wind power, utility sponsored green pricing, and 100% renewable energy tariffs, as well as market access for demand response and other ancillary services made available by distributed storage. ILSR states that where utilities may earn incentives they should also suffer penalties for falling short.

ILSR states that Minnesota's legislatively mandated energy efficiency resource standard illustrates the public interest in energy efficiency and it should serve as a baseline for measuring utility performance. Where it exceeds requirements, the utility should see increased financial rewards. There are a number of methods by which a utility may be rewarded for performance: adding basis points to return on equity for higher performance, allowing utilities to retain a substantial portion of net benefits of energy efficiency investments, and treating energy efficiency operating expenses as capital investments amortized over five or ten years. ILSR doesn't endorse a particular model.

With respect to greenhouse gas emissions, ILSR argues, the state's goal of achieving 80% greenhouse gas emissions reductions by 2050 can serve as a baseline for evaluating Xcel's performance in terms of expanding its renewables portfolio and cutting emissions from its operations. ILSR recommends that the Commission model a linear path from today's greenhouse gas emissions to the state goal and weigh Xcel's performance against it. If the utility is increasing its renewable and low-emission footprint faster than the state must in order to achieve its goal, the utility should be rewarded. If the utility is lagging behind, the Commission should impose penalties.

ILSR holds that, given strong customer interest in distributed energy resources, as well as supportive market conditions and trends, the Commission should identify ways to encourage Xcel to integrate more of these resources on the grid. In particular, the utility should receive incentives or penalties based on its interconnection times for behind-the-meter solar installations. The Commission should set a benchmark for approval times in the 50th percentile of utilities nationally and ratchet it down an appropriate level each year. For surpassing these interconnection times, the utility should be eligible for incentives. For falling short, it should be penalized. These performance measures should also be applied to community solar projects, but with different, appropriate timelines.

9. Minnesota Chamber of Commerce (MCC): Initial Comments

MCC asks the Commission to consider three new metrics for Xcel to measure (1) the competitiveness of Xcel's rates, (2) the carbon intensity of power generation, and (3) the momentary average interruption frequency (MAIFI). With respect to rate competitiveness MCC asks the Commission to consider a metric of whether Xcel's rates have met the state energy

goal and how those rates are trending. MCC makes reference to U.S. Energy Information Administration's data entitled "Average Price of Electricity to Ultimate Customers by End-Use Sector."

With respect to carbon intensity MCC suggests that a measure of pounds of CO2 per MWh generated by Xcel could be compared to the national average. MCC states that setting carbon intensity of power generation as a metric would enable stakeholders to achieve carbon goals by making decisions in the market (regarding what power to purchase and what facilities to build) rather than having their hands tied by outdated methods such as mandates that a certain percentage of generation come from certain sources.

With respect to MAIFI, MCC acknowledges that the infrastructure to monitor MAIFI does not exist but it encourages Xcel to work toward developing that infrastructure in the future.

MCC believes it would be premature to tie evaluation against these metrics to any financial incentive or penalty. Rather, it believes that Xcel and other stakeholders should simply gather information, track performance, and report it to customers.

10. Midwest Cogeneration Association (MCA): Initial Comments

MCA asks the Commission to consider adopting as a goal the expansion and diversification of baseload generation resources in Minnesota by increasing customer-based baseload distributed generation (DG) in the commercial, industrial and institutional sectors. MGA states the benefits of adopting this additional goal include:

- Increased economic development through lower electricity costs and increased resilience for Xcel's current and future commercial, industrial and institutional customers;

- Reduced electricity costs and greater resilience for all of Xcel's ratepayers by reducing the need for new power plants, transmission and distribution resources to serve load from these large-energy consuming sectors;

- Capture the large potential for energy savings through the use of energy efficient, baseload DG technologies in the commercial, industrial and institutional sectors; and

- Reduced emissions of harmful pollutants through the greater energy efficiencies and reductions in line losses associated with customer-based DG technologies such as combined heat and power.

MGA suggests that this goal can be measured as an increase or decrease in kW of customer-based distributed generation capacity, to be reported to the Commission annually by Xcel. MGA offers four broad areas for which performance may be measured: (1) inclusion of customer-based DG as a supply-side resource in utility integrated resource planning, (2)

identification of customer-based distributed generation opportunities, (3) reductions in barriers to customer-based distributed generation in utility tariffs and policies, and (4) reductions in market barriers to customer-based distributed generation.

11. Advanced Energy Management Alliance (AEMA): Initial Comments

AEMA notes five public benefits that may be derived from demand response (DR): (1) lower customer bills, (2) increased local spending (due to lower customer bills), (3) increased reliability and efficiency, (4) reduced carbon emissions, and (5) reduced need for risky, controversial expenditures in new infrastructure.

AEMA recommends that the Commission consider several principals when designing performance metrics:

1. Align utility interests with customer interests, allowing both parties to benefit from reduced investment in capital infrastructure.

2. Apply performance incentives holistically and avoid "lowest cost" comparisons. AEMA states that too often the refrain used is "we are long on capacity" so we are not going to invest in DR programs. But here, utilities should be encouraged to retire existing generation if DR could deliver higher net benefits than the existing generation. AEMA argues that performance incentives should also force utilities to plan holistically, and to consider DR (or DER) before making significant capital investments.

3. Encourage utilities to partner with third parties that have invested hundreds of millions of dollars of private capital in technology and market interface capabilities, as opposed to developing solutions in house with ratepayer money. Partnerships with third parties can strengthen utility planning and operational processes while being efficient with ratepayer dollars. Utilities should also be agnostic as to whether they own resources or whether third parties own the resources.

12. Alliance for Industrial Efficiency (AIE): Initial Comments

AIE urges the Commission to establish a goal to enable Xcel to deploy combined heat and power (CHP) and waste to heat power (WHP). AIE argues that there is a substantial opportunity to implement CHP in Minnesota. Currently, it states, the state has 56 CHP sites, generating over 1 gigawatt (GW) of clean and efficient power. The Department of Energy estimates the state has 4,310 MW of remaining CHP and WHP technical potential capacity (identified at 6,326 sites), with 1,495 MW of remaining onsite technical potential in the industrial sector alone. A 2016 AIE report found that deploying an economically viable portion of the state's CHP and WHP potential would save Minnesota's industrial sector customers $1.1 billion in cumulative electricity costs from 2016 to 2030. Cutting electricity costs in this way would help make the state's industrial base more competitive.

AIE argues that the Commission should address any utility policies, programs, and regulations that may act as barriers to CHP and WHP deployment. It recommend that the Commission examine and evaluate: (1) whether Xcel adequately treats CHP and WHP in its Integrated Resource Plan; (2) whether Xcel has burdensome standby rates or interconnection rules that impede deployment of these technologies; (3) the options Xcel customers have for net metering and power purchase agreements; and (4) whether Xcel has effective utility incentives to support deployment of CHP and WHP.

B. Reply Comments

1. Xcel Energy (Xcel): Reply Comments

Xcel believes that the Commission needs to provide guidance on how it wants to move the docket forward. The comments demonstrate a solid foundation of traditional and performance-based regulatory structures that ensure Company performance is aligned with the key goals of utility regulation and public policy objectives. However, Xcel states, that the discussion reflects a lack of clarity on whether the purpose of this docket is to further align the Company with the public interest, or to undertake foundational changes to the present regulatory structure.

Xcel believes the foundation of Minnesota regulation is strong and should largely remain in place. It has afforded utilities flexibility to adjust to changes in the energy landscape, and encouraged utilities to take early action to align their strategies and actions with these changes. Xcel views the next step in the docket should be a refinement of the current system rather than an overhaul. Xcel believes refinement should focus on de-carbonization through beneficial electrification and improvements in system planning and operation by means of grid modernization.

2. Department of Commerce (DOC): Reply Comments

DOC provides tabular summaries of the parties' positions on identified general goals, measurement/reporting goals, the source and adequacy of current metrics, cost-effective ways of measuring performance, achievable potential goas, and short-term targets, and other issues. These tables provide a helpful overview of the issues raised by commenters in this matter.[34]

DOC supports the following actions:

- Development of service reliability measures by a third-party consultant in the near term,
- Assemble, in the near term, information on how Xcel's reliability metrics compare to other similarly situated utilities,
- Explore the potential usefulness of the MAIFI service reliability metric,

[34] DOC, Reply Comments, Tables 1 through 7.

- Use existing performance metrics to gauge Xcel's progress at least initially,
- Seek additional information or analysis that may allow for the development or inclusion of additional metrics, and
- Adopt a process similar to that described by the OAG.

3. Office of the Attorney General (OAG): Reply Comments

OAG restates its recommendation that the Commission focus on three categories of regulatory outcomes (1) revisiting the stable of existing service quality metrics that Xcel currently measures in order to tailor at least some of those metrics for this proceeding, (2) prioritizing metrics related to Xcel's current (and potential future) MYRP, and (3) prioritizing metrics that relate to recent, emerging changes to the electricity industry.

On October 11, OAG filed a letter updating the Commission on the status of proceedings in Hawaii, where regulators moved forward with the process it outlined in its initial comments, and offered for the Commission's consideration the regulatory goals adopted by Hawaii regulators. OAG offered the following consolidated set of recommendations and goals for the Commission to consider:

1. Adopt OAG's PIM Design Process and the associated Goals-Outcomes-Metrics hierarchy;
2. Establish, for purposes of discussion, the following three regulatory goals:
   a. Customer Focus
   b. Utility Performance
   c. Public Policy;
3. Open a comment period for input on these three regulatory goals;
4. Adopt, reject, or modify the regulatory goals at a future agenda meeting and open a comment period for the discussion of potential desired regulatory outcomes associated with the established regulatory goals, and possibly specific performance metrics; and
5. Consider utilizing a facilitated stakeholder model to share information and develop concepts at each step of the process.

4. Center for Energy and the Environment (CEE): Reply Comments

CEE continues to support the investigation of a PBR model, stating that, if done carefully, it could better align utility operations with the public's interest and expectations, and accelerate the good work that Xcel is doing.

CEE endorses OAG's proposed PIM design process and recommends the Commission adopt the PIM design model for determining performance metrics for Xcel's electric utility operations. CEE recommends that a stakeholder group be involved in each step of the PIM design model. CEE encourages the Commission to formally adopt the e21 Initiative's guiding principles. Further CEE asks the Commission to require Staff to use a facilitated stakeholder process and to

select GPI to be that facilitator.[35] CEE believes that GPI has the proven ability to facilitate a diverse range of stakeholders to consensus on complex energy issues, experience with a broad cross section of Minnesota energy stakeholders, and a deep understanding of the performance-based regulatory model as it relates to Minnesota's current regulatory framework. CEE suggested adoption of three main goals: (1) enhancing the customer experience, (2) improving utility performance, and (3) reducing carbon emissions.

5. Citizens Utility Board of Minnesota (CUB): Reply Comments

CUB recommends that the Commission continue this proceeding to carry out the first steps of the PIM design process laid out by OAG to establish goals, objectives, metrics and a reporting process for Xcel. The Commission should use and evaluate that framework before establishing new performance incentives or penalties. After the first year of reporting on performance metrics, CUB states, it is likely that the Commission and stakeholders will identify pieces of the reporting system that did not work as planned and/or other improvements that should be made. Those improvements should be made before attaching performance incentives or penalties to Xcel's performance metrics. CUB is in agreement with OAG that the incentives created by the current regulatory model are strong, and it may be difficult to create performance incentives large enough to overcome them without using more ratepayer funds than is cost effective. Because of this risk, CUB recommends the Commission further consider potential effects, costs, and benefits before adding additional performance incentives or penalties for Xcel.

Both Xcel and OAG proposed performance metric design principles. CUB recommends that the Commission adopt a version of these principles to guide the PIM design process. CUB believes the principles are substantially the same, and it supports either list of principles.

6. Midwest Cogeneration Association (MCA): Reply Comments

MCA reemphasizes the importance of considering DER as a supply-side resource and including a distinct focus on DER generation resources (not just energy efficiency or demand response) and baseload resources, such as CHP. Unlike intermittent DER, MCA argues, CHP generation technology is suited to serve the baseload needs of many large energy consumers in the industrial and commercial sectors where resiliency, reliability and energy efficiency are essential.

7. Suburban Rate Authority (SRA): Reply Comments

SRA supports the comments of the Chamber of Commerce emphasizing the need to install sensors to monitor "momentary" outages and to employ MAIFI. SRA agrees that even momentary interruptions (5 minutes or less) can have a detrimental effect on business operation, as experienced by cities' water and sewer services. Such outages require immediate

[35] CEE, Letter of October 19, 2018, p. 2.

attention both because of immediate impact on power but also because outage duration is unknown at the time and arrangements must be made for back up generation.

SRA also supports the comments of the Chamber regarding carbon intensity generation or other steps to reduce the carbon impact and reduce carbon emissions.

8. Great Plains Institute (GPI): Reply Comments

GPI recommends the Commission undertake the first four stages of the PIM process outlined by OAG. GPI suggests modification of the OAG process to insert a collaborative stakeholder process between each of the steps. Further, GPI noted that there is interest among the e21 participants in continuing its collaborative stakeholder meetings to provide the Commission with resources if needed.

VI. Staff Comment

A. Introduction

The main question before the Commission goes to the scope of modifications to Xcel's current regulatory requirements and to the procedures required to facilitate such changes. Although that scope may depend on the shape and magnitude of the Commission's broad vision of the future of regulation in Minnesota, it must for the present, given the Commission's directive in its originating order, focus on Xcel and its customers.

To some extent, what passes for PBR is in the eye of the beholder. One could, not unreasonably, conclude that what Xcel does now is a form of PBR (its MYRP, its QSP tariff, CIP, the Renewable Energy Standard, and the Solar Energy Standard). On the other hand, one can envision a much more comprehensive array of narrowly-focused, dynamically-optimized, monitoring and reward mechanisms.

Given that PBR comprises a narrow focus on a few, or possibly many, different regulatory goals it poses a tradeoff between the benefits of that focused attention (gleaned through more or less cumbersome and more or less data-intensive efforts) and the reduced discretion of Xcel's management to respond to fast changing technological, environmental and market forces. That is to ask, more bluntly, at what point does intense micromanagement of Xcel do more social harm than social good? As can be seen from the comments, the parties generally believe that, to some extent, increased PBR is a valuable undertaking.

The scope of the Commission's PBR effort will be defined, in large part, by its identification of goals, by its overall vision for future regulation, and by an assessment of its resources.

B. Existing Performance Metrics and Incentives

DOC, and others, have identified existing information that is collected with respect to performance metrics and incentives. The Commission gathers information on a wide variety of utility activities and programs, including distributed generation, electric vehicles, RES and SES standards, CIP expenditure and energy savings requirements, service quality, customer complaints, service shut-offs, and emergency response times, among many others. There is a specific financial incentive mechanism associated with CIP for all investor-owned utilities, and specific penalties are associated with Xcel's electric and natural gas service quality in its QSP tariff.

Several rider provisions in statute explicitly allow the Commission to implement incentives, although it has not generally done so, including: (1) participation in on-site generation by residential and small business customers (216B.1611, subd. 2(b)), (2) natural gas purchasing (216B.167), (3) natural gas rates (216B.1675), and (4) transmission cost adjustment (216B.16, subd. 7b (10)). The Commission has on at least one occasion allowed Xcel to earn a bonus rate of return for coming in under budget in the Metropolitan Emission Reduction Plan (MERP) (Docket 02-633). The Commission has established new programs including Time-of-Use rates and Renewable Connect. The Commission also tracks carbon emissions in Integrated Resource Plans.

C. Regulatory Goals

Any disagreement between the more and less data-intensive views of specific-goal-focused regulation may be muted by focusing on the pragmatic question of how Xcel's performance regarding a specific goal, or goals, should be improved. That question points, first and foremost, to the identification of goals. Although there may be some disagreement over what goals should be addressed and the priority of those goals, the parties all point to a need for goal definition up front. Here, the commenters have offered a broad listing of possible goals (see Table 1). Note that OAG offered a multi-page list of possible goals-outcomes-metrics for the Commission's consideration (Appendix II of its comments). OAG offered that list as a starting point for discussion and it is not endorsing that list, nor does it claim that the list is exhaustive of all options.

Table 1. Summary of Goals Suggested by Various Commenters

Commenter	Suggested Goals
Xcel	(1) investment to help decarbonize other industries – transportation and agriculture, in particular, (2) new rates to reduce peak demand and shift loads, and (3) transparent assessment of improvements in interconnecting distributed generation (DG) resources
OAG	(1) customer focus, (2) operational effectiveness, (3) public policy responsiveness, and (4) financial performance.

DOC	not necessarily to add new performance metrics; use a different approach to benchmark many of the existing performance metrics used in Minnesota, such as Xcel's service quality.
CEE	(1) enhance the customer experience, (2) improve utility performance, and (3) reduce carbon emissions
Fresh Energy	(1) system efficiency, (2) affordability, (3) environmental performance, and (4) beneficial electrification
MCEA	(1) deep de-carbonization of the electricity sector, and (2) integration of high-value distributed energy resources (DER) on Xcel's system.
CUB	(1) affordability of utility bills, (2) reliability of service, (3)customer satisfaction, (4) energy efficiency, (5) environmental performance, (6) reducing peak energy usage, and (7) open data access
MCA	expand and diversify baseload generation resources in Minnesota by increasing customer-based baseload distributed generation in the commercial, industrial and institutional sectors.
AEMA	improve demand response
AIE	enable Xcel to deploy combined heat and power (CHP) and waste to heat power (WHP).
ILSR	(1) renewable energy, (2) energy efficiency, and (3) DER market facilitation
MCC	(1) the competitiveness of Xcel's rates, (2) the carbon intensity of power generation, and (3) the momentary average interruption frequency (MAIFI)
SRA	Agrees with MCC's recommended goals

As can be seen from Table 1, at least at a low level of resolution, most of the parties recommend the Commission focus on one or more aspects of three general groupings:

(1) customer satisfaction (reliability, rates and choice),
(2) operational efficiency (load-shifting, integration of distributed energy resources, energy efficiency, demand response), and
(3) environmental protection (de-carbonization of other industries, reduced carbon intensity of generation).

D. Outcomes and Metrics

Once the Commission has articulated a number of goals, the next step for the Commission is to determine desired outcomes and how those outcomes should be measured. Depending upon how broadly a goal is defined there may be several desired outcomes and more than one metric per outcome. At this point in the Commission's investigation the record may be too thin to establish precise outcomes and metrics and, thus, it may be most productive to seek a more expansive record. But even if the current record is insufficient the parties can benefit from any direction from the Commission as to where to focus attention.

Whatever goals-outcomes-metrics combinations the Commission comes to focus upon, the Commission at some point in time may wish to consider Xcel's performance in terms of annual comparisons and/or in terms of comparison to other utilities within Xcel's peer group. Peer group comparison (as recommended by DOC) can provide useful insights and may be less administratively burdensome in that it relies on publicly available data. A recent article in The Electricity Journal states:

> [A]n individual IOU's performance can be best be understood by examining it in relationship to the performance of other IOUs on the same metric (benchmarking). Historical performance relates what a utility has done in the past, while benchmarking offers the opportunity to identify either minimum acceptable performance or best practice performance as demonstrated by other utilities. Moving from "improve on your past performance" to "perform at least as well or better than your peers" is a significant and valuable change in performance measurement expectations. …
>
> A relative performance metric might be expressed as "Increase JD Power overall residential satisfaction score from above-average to top quartile among U.S. IOUs in three years." …
>
> The advantage of relative, over absolute, metrics is that relative metrics change with changes in circumstances, be those changes favorable or unfavorable. Because a fuel commodity adjustment affects all U.S. IOUs similarly, a customer satisfaction metric expressed in terms relative to the performance of other IOUs stands a better chance of remaining relevant in times of changing conditions than an absolute performance metric based on an individual IOU's past performance.[36]

Consider, also, that recently the National Renewable Energy Laboratory (NREL), with support from Regulatory Assistance Project (RAP), issued a three volume report that provides a discussion of essential elements for the design and implementation of PBR. NREL highlights several best practices:[37]

1. Set Clear Goals. If the goal is not clearly set, the metrics, incentives, and outputs will likewise not be clear and could lead to an unsuccessful mechanism.
2. Identify Clear and Measurable Metrics. Metrics should be able to be clearly identified, with measurable data that provide objective information.

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[36] Paul Alvarez and Sean Ericson. *Measuring Distribution Performance? Benchmarking Warrants Your Attention*. The Electricity Journal. 31(2018), p. 3. See also Paul Alvarez and Joel Leonard. Busting Myths: Investor-Owned Distribution Utility Performance can be Credibly Benchmarked. The Electricity Journal. 30(2017) 45-48.

[37] David Littell, et al. *Next-Generation Performance-Based Regulation, Volume 2: Primer – Essential Elements of Design and Implementation*. National Renewable Energy Laboratory, Technical Report NREL/TP-6A20-70822-2, May 2018, p.7. See also Volumes 1 and 3, NREL/TP-6A20-70822-1, April 2018, and NREL/TP-6A20-70822-3, May 2018.

3. Establish Transparency at Each Step. Transparency at each step of the process, including the development of goals, metrics, and incentives, often improves the quality of the final goals.
4. Make Clear the Value to the Public. The public values understanding the utility services for which they are paying.
5. Align Benefits and Rewards. When rewards and penalties are applied closely in time with utility performance, the relationship of incentive to performance is easier to assess.
6. Learn from Experience. Modifying PBRs to address operational observations is a good management practice.
7. Apply the "Compared to What" Test. The simple question of "compared to what?" looks for improvement in regulatory mechanisms along a continuous improvement pathway.
8. Use Simple Designs. To minimize the risk of gaming, the best bulwark against manipulation is to design a clear and well-defined incentive and metric or metrics.
9. Employ Evaluation and Verification. Evaluation and verification of the outputs represent an essential element of a successful PBR program. …

It may be useful here to expand on NREL's seventh practice, that is, "compared to what." Janice Beecher, at the Institute of Public Utilities, Michigan State University, believes that intensely-focused regulation can be accomplished via the traditional regulatory model:[38]

> Despite the considerable rhetoric and occasional hyperbole demanding a "new paradigm" for economic regulation, what actually might be needed is a "new prudence." Like the regulatory compact, prudence is a living and adaptable concept, so the idea of an obligatory new prudence can be understood as radically conservative. In other words, meaningful regulatory reform does not necessarily require paradigmatic change. Without a doubt, what might have been considered prudent even a decade ago would not be considered prudent today, let alone for a utility of the future. …
>
> A new prudence might be labeled incentive-based or performance-based regulation, but it is essentially a logical evolution of the economic regulatory paradigm and consistent with its core principles. With an updated prudence for today's network industries, the traditional regulatory model and the incentives provided within it might actually be well suited to the demands of contemporary policy goals including, if not especially, infrastructure modernization. …
>
> Economic regulation should remain focused on economic objectives. In essence, however, prudence can no longer be judged in the simple binary terms of efficiency but in the multi-dimensional terms of spatial, temporal, and technological optimization. Prudence calls not just for compliance with enforceable standards and generally accepted utility practices but optimized compliance that results in the lowest feasible cost to ratepayers. As with efficiency, the expectation is not to arrive

[38] Steve Kihm, Janice Beecher and Ronald Lehr. *Regulatory Incentives and Disincentives for Utility Investments in Grid Modernization*. Lawrence Berkeley National Laboratory, Report No. 8, May 2017, pp. 62-63.

> at an elusive equilibrium or "optimum" but rather to make continuous improvements toward an optimal solution set, constrained by policy mandates. …
>
> The prudence of the past would simply guide utilities to build out a system to meet demand, including a reserve margin to ensure a high level of reliability. …
>
> Today's prudence commands that utilities recognize the dynamic and interrelated nature of demand and supply. … A prime example of new prudence would be cost-effective load shifting and load reduction through dynamic pricing and demand management, as enabled by smart meters, grid intelligence, and real-time information. Nothing in the prevailing regulatory paradigm prevents the deployment of these strategies and tools. …
>
> A contemporary conception of prudence also calls on utilities to embrace a new grid architecture and principles of flexible infrastructure design to accommodate evolving technologies and manage associated risks. Technologies that meet these new standards for infrastructure design may be far less capital-intensive and centralized. Some may be provided through new utility business models and some by other service providers in the space. Utilities will evolve in this landscape and expand their focus from delivering volumetric commodities to providing technology-driven services, but they will remain central as long as scale, aggregation, integration, and coordination matter and grids bring value to achieving social goals, such as environmentally responsible, universally accessible, and reliable service. Although it shares many ideas associated with the UK's RIIO, New York's REV, and other state initiatives, a new prudence as outlined here is actually a less complicated and less hands-on approach.

It can be argued that one of the chief benefits of the privately-owned, publicly-regulated, utility model prevalent in the US is that it harnesses the motivations and the expertise of utility managers in a way that regulators, constrained (and empowered) by statutes and the dictates of due process, cannot duplicate as well and cannot duplicate as nimbly. Although, it can be argued that regulators could do a better job with more data, the hardest tasks of the Commission would not necessarily be relieved by access to more data. And, too much data can do more to confuse than to enlighten. The forest can be lost while focusing on the trees. This is not to suggest that the Commission should not collect data and develop metrics but, rather, that the effort may best be driven by the immediate perceived problem, and that the scope of data collection be dictated by the immediate needs of the task. Janice Beecher (as cited above) recognizes a need to move away from the simple cost-of-service regulatory model but suggests that regulators do what they know how to do already, but with a modified, flexible understanding of prudence.

E. Investigative Processes

A number of parties have suggested a workshop format for expanding the discussion about outcomes and metrics, and the Commission has occasionally used that format in other dockets

to supplement its standard comment/reply process. Each process has features that argue for and against their use. The Commission generally relies on the comment/reply process. It is deliberative, measured, transparent, and allows all interested parties to participate. It also allows parties to offer partial or joint agreements for Commission consideration. And where the Commission finds that the comment/reply record is insufficient it can seek additional comments and replies. Both the workshop and comment/reply processes can benefit from clear direction and suffer from a lack of direction.

Workshops, too, can be inclusive and are often touted as a method for obtaining consensus through a collaborative process. In general, consensus may be a desirable goal but it can only take the Commission so far. First, a consensus in a workshop does not guarantee that all parties to the consensus will waive their rights to disagree in a more formal process before the Commission or the courts. Second, although a consensus may reflect harmony among participants, a harmonious result may not be relevant to the problem to be solved. The Commission has found in the past that even signed-and-sealed stipulations do not necessarily serve the public interest. Third, the workshop process can be much less efficient than the comment/reply process in creating a complete record. And, fourth, workshops can provide more opportunity for strategic manipulation of the record by parties and/or the facilitator where the facilitator is not singularly beholding to the Commission. It may be worth stating the obvious, that the Commission is the premier independent actor in this process.

CEE has suggested that GPI would be able to provide the Commission considerable expertise in facilitating stakeholder meetings and workshops, and has asked that the Commission *require* Staff to utilize GPI. No doubt GPI could fulfill that role but GPI is a party to this docket and one initiator of the e21 Initiative. Although GPI's views and expertise may be valuable to the Commission that value may best be exploited by way of the same arms-length process by which the Commission approaches the other parties in this docket. Within this docket the Commission already possesses the results of the considerable effort of the e21 Initiative. That work need not be duplicated. If the Commission wishes to utilize a party to facilitate the creation of a record it could give equal consideration to choosing a different party, say Xcel.[39]

F. Adoption of the OAG Process

Parties in this docket generally concur that the process described by OAG is a reasonable way to move forward with this docket. While Xcel suggested that the process only proceed through Steps 1 to 3 (establish goals, outcomes and metrics), most other groups arrived at Step 4 (establish performance metrics and reporting requirements) as a logical stopping point. Staff notes, however, that the OAG process is a robust one which would require substantial staff and party resources. The Commission does not control its own workload. Should a filing be made by a utility or stakeholder that contains a statutory deadline, the Commission's resources (as well as those of the DOC and other stakeholders) would need to be diverted to that docket. Engaging an outside consultant[40] or facilitator would not solve this problem, as staff would still

[39] Xcel has not offered such services.

[40] Staff also notes that the Commission's budget does not include sufficient funds for outside consultants.

need time to monitor the docket, analyze it, and write it up for an ultimate decision by Commissioners. OAG also points out that when the UK moved to a performance-based regulatory structure, its full time staff more than doubled.[41]

Because of the consensus around the OAG recommendation, staff has included a full breakdown of how an OAG process could look in Appendix A. Should the Commission prefer a less resource-intensive process, staff has included a decision option with a non-exhaustive list of goals that could be pursued in either this docket or in existing dockets.

VII. Staff Recommendation

Staff recommends that the Commission proceed cautiously on a limited front of issues in a process closely managed by the Executive Secretary. Staff does not support the OAG's PIM process as it is formally described, although Staff does support the key elements of the process: deliberative and staged record development. Staff believes the length and breadth of the issues warrant the closer and more flexible attention which can be provided by the Executive Secretary.

Staff acknowledges that a workshop process can be useful for record development but proposes workshops be used only sparingly and only when a strong case can be made that workshops can provide a better record than can be obtained from a comment/reply process. Staff believes that a comment /reply process can be supplemented by tightly-focused panel discussions and/or presentations by industry experts. Although recognizing that all the parties are industry experts in some fashion, Staff proposes to seek the additional advice of groups such as the Regulatory Assistance Project (metric development) and Wired Group (benchmarking). The focus and content of the Executive Secretary's efforts would be guided by the Commission's decision regarding scope.

Staff recommends the Commission narrowly constrain the scope of the proceeding, in part because it is far from clear that a grand PBR reworking of Xcel's regulatory structure is desirable or, if desirable at some theoretical level, that it can be accomplished without risk of considerable harm to Xcel and its customers, and (2) from a pragmatic perspective, if the Commission requires Xcel to operate differently than it currently does Staff believes the Commission should go directly to the perceived problem and use tried-and-true regulatory methods, or at least methods that do not court the risk of substantial harm.

There is a tension between the different reasons for adopting PBR. One vision is that PBR, on a grand scale, can revolutionize Xcel's regulatory structure to address widely-recognized problems with the traditional cost-of-service model. Staff recognizes those problems but questions whether the grand-reworking can reasonably be expected to yield sufficient benefits. PBR, broadly applied, is a form of central planning at a most pervasive (invasive?) level. A successful planner must have a tremendous amount of detailed knowledge and, more

[41] OAG, Initial Comments, p. 11.

importantly, know how to use it to advantage in a fast-paced and changing world. The cost of failure is high and potential rewards lie in an uncertain and distant future.

Another point with respect to the possibility of the long-run success of a reimagined PBR regulatory model goes to the legal underpinnings of regulation. This Commission, and commissions in general, function within a century of case law. Moving too far away, too quickly, from the ROE model could place the Commission in uncharted legal waters.

The Commission should consider that this PBR effort is a discretionary one that will need to jockey for time and resources with an already-heavy Commission work load. The Commission routinely hears cases with statutory deadlines such as general rate cases and certificates of need (and siting and routing) for wind farms, transmission lines and large pipelines. It also routinely addresses large cases that require considerable preparation: Integrated Resource Plans and a host of rider applications. And much of the Commission's time goes to unique and substantial issues such as telephone quality-of-service complaints, the NTEC gas plant, and Fuel Clause Reform, to name only a few.

Staff recommends that the Commission focus on one or two issues. Addressing a narrow range of issues is less likely to strain Commission and industry resources and would allow the Commission to develop a better understanding of the mechanics of PBR. Should the Commission find through experience that PBR can be expanded it can do so at a later time.

Staff recommends that the Commission expand the current EV docket (17-879). The Commission has already initiated an EV inquiry to gain a better understanding of (1) the possible impacts of EVs on the electric system, utilities, and utility customers, including the potential electric system benefits, (2) the degree to which utilities and utility regulatory policy can impact the extent and pace of EV penetration in Minnesota, and (3) possible EV tariff options to facilitate wider availability of EV charging infrastructure. Staff recommends the Commission seek ways to introduce PBR principles into that effort.

Staff also suggests the Commission consider opening a docket to establish PBR mechanisms to advance Xcel's implementation of solar capacity beyond the 1.5 percent solar mandate (MS § 216B.1691, Subd. 2f). A number of parties are in agreement that the encouragement of solar is a valid public policy. The Commission could use its already existing CIP financial incentive as a starting point for a discussion on a possible solar incentive.

Many of the parties suggest that PBR could focus on improving residential and small business customer satisfaction. Staff agrees that there is some room for further PBR development there, but it also believes that the bang-for-the-buck there is somewhat limited. The Commission has already established SAIDI and SAIFI metrics for Xcel and it has approved Xcel's Quality of Service Plan tariff which embodies metrics and penalties. Note, too, that the Commission rarely, if ever, hears appeals from customers for something other than reasonable rates and reliable service. Although the Commission could open a docket to fine-tune improvements, the most fruitful effort here may be to investigate the benchmarking of Xcel's service quality relative to its peers.

Staff also suggests that the Commission open a docket to investigate benchmarking as a potential tool for examining Xcel's performance on a number of measures. Benchmarking has an advantage that it can make use of publicly available data (inexpensive and verifiable) and that peer comparisons can free the analysis of impacts experienced by all peers (market fluctuations, weather fluctuations).

VIII. Commission Options

A. Adopt the OAG process and regulatory goals in Appendix A, using a schedule determined by the Executive Secretary.

   OR

B. Choose one or more goals below, which will be explored on a schedule and with processes in a docket to be determined by the Executive Secretary:

   1. Improve and update service quality measures, including but not limited to:

      a. Xcel's QSP tariff previously approved by the Commission in Dockets 02-2034 and 12-383
      b. Other residential, business, commercial and industrial service quality issues, including benchmarking

   2. Reduce Carbon Emissions
   3. Promote Electric Vehicles
   4. Improve Operational Efficiencies
   5. Promote solar generation beyond statutory minimums
   6. Encourage distributed generation, including financial incentives allowed under Minn. Stat. §216B.1611, subd. 2(b)

Staff note: If Option B is selected, staff presumes that a notice and comment period or a combination of comment periods and workshops will be conducted, pursuant to notices issued by the Executive Secretary.

IX. Appendix A

OAG Process (Staff-Included Procedural Details)

1. Issue a Notice for Comment seeking input on the OAG's proposed regulatory goals:
    a. Customer Focus
    b. Utility Performance
    c. Public Policy
2. At a Commission meeting, adopt, reject or modify the regulatory goals.
3. Convene a Commission led stakeholder workshop to broadly discuss desired regulatory outcomes associated with the adopted regulatory goals.
4. Issue a Notice for Comment seeking input on a list of regulatory outcomes, developed by staff based on input at the Commission-led workshop and the OAG's list of outcomes from its initial comments.
5. At a Commission meeting, adopt, reject, or modify a list of regulatory outcomes
6. Convene a Commission led stakeholder workshop to discuss the identification of metrics.
7. Issue a Notice for Comment seeking input on a list of metrics, developed by staff based on input at the Commission-led workshop and the OAG's list of outcomes from its initial comments.
8. At a Commission meeting, adopt, reject, or modify a list of metrics.
9. Require Xcel to submit reporting on an agreed upon timeframe to the Commission using the established regulatory goals, outcomes and metrics.
10. Require Xcel to establish a public facing tool ("scorecard" or "dashboard") that allows stakeholders and the public to track and view the metrics.
11. After a set period of time (possibly 1 year) convene a stakeholder workshop to discuss the metrics and possible next steps, including targets.
12. Issue a notice for comment period on possible next steps, and at a Commission meeting decide upon a course of action.