

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

Katie Sieben	Chair
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
John Tuma	Commissioner

March 17, 2020

**In the Matter of Xcel Energy’s Integrated
Distribution Plan and Advanced Grid
Intelligence and Security Certification
Request**

Docket No. E002/M-19-666

INITIAL COMMENTS OF FRESH ENERGY

Fresh Energy submits these initial comments in response to the Commission’s February 12, 2020 *Notice of Extended Comment Period* on the Integrated Distribution Plan (“IDP”) and Advanced Grid Intelligence and Security (“AGIS”) certification request submitted by Xcel Energy (“Xcel” or “the Company”).

Introduction

Fresh Energy strongly supports the Commission’s work to facilitate comprehensive and transparent distribution system planning to enhance reliability, affordability, efficiency, customer engagement, and information access.¹ Xcel has produced a strong second IDP that meaningfully builds on the inaugural plan.

In these comments, Fresh Energy addresses the Commission’s questions about the Xcel’s 2019 IDP, then addresses the Company’s request for certification of its proposed AGIS investments and Advanced Planning Tool (APT), as well as the technical merits of those proposed investments.

2019 Xcel IDP

Given the large volume of documents filed by the Company in this docket and the

¹ PUC Order *Approving Integrated Distribution Planning Filing Requirements for Xcel Energy*, August 30, 2018, Docket 18-251, p. 6

relatively short comment period, Fresh Energy focused primarily on a review of the Company's AGIS certification request. We do, however, have the following brief comments on the IDP.

1. Should the Commission accept or reject Xcel Energy's IDP?

We recommend that the Commission accept Xcel's 2019 IDP. It builds on the Company's initial IDP filed in 2018 and is responsive to feedback from the Commission and stakeholders. Together with the AGIS filing, the IDP provides a robust picture of the Company's focus for its distribution business over the next several years. Fresh Energy appreciates the work done by Xcel to put plans in place for a suite of investments that will significantly modernize Xcel's distribution system, reduce electricity consumption, facilitate greater use of distributed energy resources, and enhance reliability for all customers. These are important energy policy goals for our state and Fresh Energy is pleased to see Xcel moving decisively toward them.

2. Does the IDP filed by Xcel Energy achieve the planning objectives outlined in the filing requirements as amended by the Commission's July 16, 2019 Order?

We believe the Company's IDP adequately achieves the Commission's planning objectives and filing requirements. While the filing is voluminous, the Company provided compliance matrices mapping IDP and AGIS plan content to the planning objectives, IDP filing requirements, and other relevant Commission orders.² The Company's IDP Attachment B provides additional detail on the correlation of specific IDP content to the Commission's planning objectives.

3. What IDP filing requirements provide the most value to the process, and why?

Fresh Energy believes all of the filing requirements provide value to the IDP process in various ways. However, as described below, much of the information does not change significantly from year to year and we believe a biennial IDP filing is sufficient.

4. Are there filing requirements that are not informative and/or should be deleted or modified, and why?

Fresh Energy believes all of the filing requirements provide value in various ways and none should be deleted or modified at this time.

5. Should the Commission accept Xcel Energy's request to file the next IDP no later than November 1, 2021? Should the Commission move from an annual to biennial

² Xcel, *Attachments A2, C and J* filed November 1, 2019, Docket 19-666

IDP filing for the Company going forward?

Fresh Energy recommends that the Commission accept the Company's request to file its next IDP no later than November 1, 2021. We also support a biennial IDP filing going forward.

Much of the information provided in the Company's IDP does not change significantly from year to year and its usefulness would not be impacted by a biennial filing. However, the Commission and stakeholders may benefit from continued regular reporting on Xcel's progress implementing grid modernization projects that evolve from the IDP, such as AGIS. Fresh Energy recommends that the Commission establish a performance reporting framework for tracking AGIS progress and benefit realization, described below. This will provide the Commission and stakeholders with sufficient information to monitor Xcel's accomplishments between future biennial IDP filings.

6. Are there other issues or concerns related to this matter?

Fresh Energy has concerns about two elements of the IDP. The Company is proposing to spend \$81-88 million of capital per year beginning in 2021 on various equipment replacement and upgrades.³ This represents more than a 400% increase in spending for the System Expansion or Upgrades for Reliability and Power Quality category compared to 2019 levels.⁴

In response to Fresh Energy information requests, Xcel admits that it has no plan of how or where it intends to spend the money, stating "we do not yet have specific plans related to these particular investments."⁵ Furthermore, the Company has not quantified the expected reliability improvements from this significant capital spending. Xcel states, "the details of the ISI program are still in development. As such, we have not completed any specific analyses of associated impacts to reliability metrics."⁶

The Company has provided no evidence to support its claim that an incremental \$81-88 million per year of capital spending is necessary. We understand that Xcel is not requesting certification or cost recovery of the ISI initiative through this proceeding, but we are concerned by its inclusion in the IDP and 5-year distribution capital budgets. Should the Company wish to proceed with the ISI initiative, we recommend that the Commission require Xcel to develop a formal ISI Plan based on demonstrated needs and a clear articulation of expected reliability

³ Xcel, *Attachment G1* filed November 1, 2019, Docket 19-666, p. 2 of 2

⁴ Xcel, Response to Fresh Energy IR No. 23, Attachment A: 2019 capital expenditures in this category were \$19.8 million

⁵ Xcel, Responses to Fresh Energy IR Nos. 2, 10, 11, and 14, Docket 19-666

⁶ Xcel, Response to Fresh Energy IR No. 15, Docket 19-666

improvements. The ISI Plan should be filed with any future requests for cost recovery or certification of the ISI initiative, or with Xcel's next IDP, whichever comes first.

Fresh Energy continues to have concerns about the Company's approach to Non-Wires Alternatives ("NWA") as we initially expressed in our comments on Xcel's 2018 IDP.⁷ The Company's Attachment H in this proceeding provides a lengthy explanation of how difficult it is for Xcel to model NWA given its current planning capabilities. Fresh Energy is optimistic that the Company's deployment of the Advanced Planning Tool, which we fully support as described below, will allow Xcel to more easily and rigorously evaluate NWA for inclusion in its next IDP.

AGIS Certification Request

1. Should the Commission approve, modify, or deny certification of the following investments which are components of Xcel Energy's AGIS Initiative at this time?

(i) Implications of Certification

Fresh Energy has observed a marked lack of consensus and comfort among Minnesota stakeholders around the definition, criteria, and implications of certification. Because certification of a distribution project makes the investment eligible for rider recovery, certification is necessarily interpreted by parties as an endorsement of the project's importance, and thus seen as preliminary approval even though cost recovery decisions occur in a separate proceeding.

The Commission's previous certifications of distribution investments (the Advanced Distribution Management System (ADMS) and residential time of use pilot) have represented a limited finding that a project is consistent with the statutory requirements of Minn. Stat. §216B.2425 Subd 2(e),⁸ i.e. that a project will "modernize the...distribution system by enhancing reliability, improving security against cyber and physical threats, and by increasing energy conservation opportunities by facilitating communication between the utility and its customers."⁹

The Commission's August 7, 2018 Order Approving Pilot Program, Setting Reporting Requirements, And Denying Certification Request set forward several content requirements for future certification requests:

⁷ Fresh Energy, *Initial Comments* filed February 22, 2019, Docket 18- 251, pp. 3-5

⁸ PUC *Order Certifying ADMS under Minn. Stat. § 216b.2425 and Requiring Distribution Study* issued June 28, 2016, Docket 15-962, p. 9

⁹ Minn. Stat §216B.2425 Subd 2(e) ([link](#))

11. Xcel may file a Grid Modernization Report and certification request on November 1, 2018 in combination with an Integrated Distribution Plan in Docket No. E-002/CI-18-251. The filing should include for any certification request(s) at a minimum: (1) details on why the project is necessary for grid modernization; (2) how it is in the public interest; (3) how it is consistent with the Commission’s Guiding Principles for Grid Modernization (Docket 15-556); (4) the intended objectives for the project; (5) a description of the available alternatives to meet the intended objectives; (6) a cost benefit analysis of the project; (7) and potential interrelation with other initiatives, projects, and Xcel’s long-term grid modernization plans.¹⁰

This guidance from the Commission provides direction to utilities on the *content* of certification petitions but is comparatively silent on *criteria* projects must meet in order to be certified. A determination of consistency with Minn Stat. §216B.2425 Subd 2(e) ensures a project has demonstrated potential benefits to the distribution system and/or Xcel customers, but does not specifically address the appropriateness of rider recovery.

Fresh Energy recommends that the Commission provide more direct guidance on the criteria for achieving certification to aid stakeholders in evaluating future certification requests. When the Commission previously considered stakeholder requests for certification criteria, the Commission stated “...it is more prudent to develop [certification] criteria over time as the Commission gains experience with grid modernization”.¹¹ Given the scale of investments now before the Commission for certification, the likelihood of additional complex proposals for certification in the next few years, and the experience the Commission has gained through grid modernization proceedings to date, Fresh Energy believes it is an appropriate time to provide this guidance.

Of particular importance is adding criteria that ensure a project warrants consideration for rider recovery. Rider recovery conveys benefits to the utility and therefore requires a clear demonstration that preferential cost recovery is warranted. For transmission projects, certification serves as an alternative to a certificate of need process, where there is a determination of prudence, reasonableness, and public interest. When the Commission approved certification of Xcel’s ADMS, Commissioner Schuerger proposed an alternative decision option including a requirement that “a utility must demonstrate that the project is a “priority project,” that is, a project of such importance that it warrants current cost

¹⁰ PUC Order *Approving Pilot Program, Setting Reporting Requirements, And Denying Certification Request* issued August 7, 2019, Docket 17-776, p. 9

¹¹ PUC Order *Certifying ADMS under Minn. Stat. § 216b.2425 and Requiring Distribution Study* issued June 28, 2016, Docket 15-962, p. 9

recovery through a rider”.¹² Fresh Energy agrees that this criteria is both reasonable and necessary for ensuring a balance between consumer protection and investment efficiency.

Fresh Energy recommends that the Commission provide guidance on the threshold projects should meet for certification, and suggests the following criteria. These criteria are based on Commissioner Schuerger’s proposed alternative decision options referenced above.¹³

Certification requirements for distribution system projects:

1. The project is consistent with Minn. Stat. §216B.2425 Subd 2(e) and is necessary for modernizing the utility distribution system with respect to (i) enhancing system reliability, (ii) improving system security, and/or (iii) increasing energy conservation.
2. The project is a priority project above and beyond normal distribution projects, consistent with Minn. Stat. §216B.16 Subd. 7b(a)(1) and is appropriate to consider for current cost recovery through the transmission cost recovery (TCR) rider.
3. The information that the Commission requires to make its certification determination includes but is not necessarily limited to:
 - a. The utility has identified specific expected improvements in distribution system reliability, security, and/or energy conservation that would result from the project and how they will be achieved.
 - b. The utility has identified specific metrics and evaluation methods that will be used to assess the project’s performance and whether it has achieved the expected improvements.
 - c. The utility has performed a detailed cost benefit analysis and provided supporting evidence for the estimated costs and benefit levels used in the calculation. This shall include a discussion of mechanisms that will be employed to maximize cost reductions and minimize cost increases.
 - d. The utility has thoroughly considered the feasibility and costs and benefits of alternatives and has demonstrated that the proposed approach is preferable to alternatives.
 - e. Criteria that will be used by the utility to determine whether at any point

¹² PUC *Revised Decision Options: Proposed Motions of Commissioner Schuerger*, filed May 24, 2016, Docket 15-962, Proposed Decision Option 50.

¹³ PUC *Revised Decision Options: Proposed Motions of Commissioner Schuerger*, filed May 24, 2016, Docket 15-962, Proposed Decision Option 50.

it has become imprudent to bring the certified project to completion due to the project failing to meet its performance and/or cost expectations.

Fresh Energy believes it would be preferable to defer a decision on certification of the AGIS and APT projects until the Commission has developed guidance on the threshold projects should achieve in order to be certified. However, should the Commission prefer to make a decision concurrent with its consideration of Xcel's 2019 IDP, we recommend the Commission establish clear metrics for evaluating the performance of any AGIS investments that are certified (as discussed further in response 4 below), require at-least annual reporting on these metrics, and consider additional consumer protection mechanisms as part of any TCR proceedings that include AGIS or APT investments.

(ii) Fresh Energy Recommendations on Xcel's Proposed AGIS and APT Investments

In this section, Fresh Energy discusses the technical merits of the Advanced Grid Intelligence and Security (AGIS) initiative and the advanced planning tool (APT) as they relate to the Commission's stated grid modernization goals. We also provide a certification recommendation on each proposed investment, should the Commission deem it necessary or appropriate to certify or deny certification at this time.

a. Advanced Metering Infrastructure ("AMI")

Fresh Energy supports Xcel's plans to implement AMI. We believe the Company has satisfied the content requirements in the Commission's August 7, 2018 Order and demonstrated that AMI will modernize the distribution system by increasing energy conservation opportunities by facilitating communication between the utility and its customers. The Company's current AMR system is becoming obsolete,¹⁴ and AMI can provide the Company with new capabilities for enhanced planning and operations. Xcel's customers will also benefit from new tools and information to reduce peak demand and energy consumption, reducing both bills and demand on the electric system.

In order to maximize these opportunities and ensure customer benefits from AMI are achieved, Fresh Energy recommends that Xcel develop a Draft Rate Design Roadmap to accompany the next IDP. The roadmap would describe how Xcel will leverage AMI capabilities to support the Commission's and Xcel's stated priorities for customer savings, grid reliability and efficiency, and emission reductions. We see this roadmap as building on the Company's work to modernize time of use rates and off-peak electric vehicle charging by proactively planning for advanced rate designs and demand management with a suite of technologies. This draft roadmap

¹⁴ Xcel, *Attachment M2, Bloch Direct* filed November 1, 2019, Docket 19-666, p. 49 of 202

should include the following components:

- a. A summary of the Company's current advanced rate designs and demand management programs, advanced rate designs in development, and relevant industry best practices.
- b. A timeline for offering updated dynamic rates and/or demand management programs for all customer classes.
- c. Potential rate and program design strategies to support low-income customer participation in these offerings.
- d. A discussion of opportunities for utilizing distributed energy resources and/or beneficial electrification technologies in conjunction with planned dynamic rates and/or demand management programs.
- e. Enrollment mechanisms for convenient customer participation in the advanced rate offerings.
- f. Implementation plans for offering advanced rates, including education and outreach to customers.
- g. Evaluation plans for monitoring, verifying, and improving the effectiveness of advanced rate designs.¹⁵

Fresh Energy also recommends that Xcel engage stakeholders in the process of preparing this public-facing rate design plan and host at least two stakeholder meetings by April 30, 2021 to solicit input from stakeholders and inform the Draft Rate Design Roadmap.

Should the Commission choose to make a certification determination at this time, Fresh Energy recommends that the Commission approve Xcel Energy's certification request for AMI as long as the Company commits to developing a Draft Rate Design Roadmap to be filed with the next IDP

b. Field Area Network (“FAN”)

Fresh Energy supports Xcel's proposed FAN investment. We believe the Company has satisfied the content requirements in the Commission's August 7, 2018 Order and demonstrated that the proposed FAN investment will advance multiple grid modernization goals by improving communications between the utility, customers, and grid infrastructure.

The Company's synergistic use of a single communications network for both AMI and intelligent grid devices is unique. As Company witness Harkness explains, "... the Company determined that it will be more functional and is preferable to have a FAN network that allows for connectivity of diverse devices (meters, capacitor banks, sensors, etc.). Allowing devices to connect both to each other and to back

¹⁵ These components are based on those required by the Hawaii Public Utilities Commission's Decision and Order No. 36230, filed March 25, 2019 in Docket No. 2018-0141, pp. 50-54 ([link](#))

office applications not only increases the ability to conduct peer-to-peer communications on a local feeder but also reduces overhead associated with managing, supporting, and monitoring multiple networks of diverse manufacturers and network management tools.”¹⁶ Fresh Energy fully supports this approach.

Should the Commission choose to make a certification determination at this time, Fresh Energy recommends that the Commission approve Xcel Energy’s certification request for FAN.

c. Fault Location, Isolation, and Service Restoration (“FLISR”)

Fresh Energy recommends that the Commission deny Xcel’s certification request for FLISR. The Company has not sufficiently demonstrated the need for significant reliability improvement and may have improperly applied the Interruption Cost Estimate (“ICE”) Calculator to quantify the customer benefits from improved reliability.

The Company explains that FLISR is a form of distribution automation that involves the deployment of automated switching devices that detect feeder mainline faults, isolate them, and restore power to unfaulted sections. Xcel expects FLISR to reduce outage durations for customers and improve overall system reliability performance metrics, such as SAIDI and SAIFI. However, while outage durations will decrease, customers may see an increase in the number of momentary (less than 5 minutes) outages as FLISR isolates the faulted section.¹⁷

Xcel proposes to spend \$61 million (NPV) of capital over 10 years and \$4.6 million (NPV) of O&M over 20 years¹⁸ deploying FLISR on 206 circuits. The Company projects a 21.3 minute improvement in SAIDI on these circuits.¹⁹ The Company is claiming \$103 million NPV²⁰ of customer benefits from FLISR and a resulting FLISR benefit cost ratio between 1.31 and 1.53.²¹

Fresh Energy believes the Company has failed to demonstrate the need for such a significant improvement in reliability. According to industry-wide benchmarking studies, Xcel’s overall system reliability is consistently in the first or second quartile compared to other utilities.²² The majority of the circuits (133 out of 206) targeted for FLISR deployment are in the Company’s Metro West region,²³ which already

¹⁶ Xcel, *Attachment M3, Harkness Direct* filed November 1, 2019, Docket 19-666, p. 113 of 143

¹⁷ Xcel, *Attachment M2, Bloch Direct* filed November 1, 2019, Docket 19-666, pp. 115-116 of 202

¹⁸ Xcel, *Attachment M5, Duggirala Direct* filed November 1, 2019, Docket 19-666, p. 61 of 161

¹⁹ Xcel, *Attachment M2: Bloch Direct* filed November 1, 2019, Docket 19-666, p. 126 of 202

²⁰ Xcel, *Attachment M5: Duggirala Direct* filed November 1, 2019, Docket 19-666, p. 62 of 161

²¹ Xcel, *IDP Attachment M5: Duggirala Direct* filed November 1, 2019, Docket 19-666, p. 6 of 161

²² Xcel, Response to Fresh Energy IR No. 47

²³ Xcel, Response to Fresh Energy IR No. 50

has the best SAIDI in the Company's system compared to other regions.²⁴

Fresh Energy also believes the Company may have improperly applied the ICE Calculator, an online tool developed by Lawrence Berkeley National Lab ("LBNL") and Nexant²⁵ for utilities, government organizations, and other entities to estimate interruption costs and/or the benefits associated with reliability improvements. The ICE Calculator uses an econometric model that includes datasets from interruption cost estimation or willingness-to-pay surveys conducted by 10 different utilities across the country between 1989 and 2012.²⁶ Inputs to the ICE Calculator include the frequency and duration of sustained outages. LBNL and Nexant intend the ICE Calculator outputs to reflect the economic value of avoided outage costs for residential, small C&I, and medium/large C&I customers.

On the ICE Calculator website's 'Documentation' tab, the first document listed is titled, "Using the ICE Calculator for FLISR Reliability Improvement Value (2018)". The description of the document states,

[FLISR] is a popular way to improve service reliability ... The ICE Calculator is a widely accepted tool for calculating ... the value of reliability improvements. ***It is very important to use the tool properly to avoid over-estimating the value.*** This document provides a very basic example of how to use the ICE tool to accurately calculate the reliability benefits when sustained outages are changed to momentary outages.²⁷

The referenced document states,

Since the ICE calculator does not directly call out (momentary interruption frequency or) MAIFI, the user might be tempted to simply input new SAIDI, CAIDI and SAIFI numbers. However, ***this substantially overstates the reliability benefit because it assumes there will not be any momentary interruptions...*** Had this [correct model] not accounted for the momentary outages,...the ICE Calculator overstates the more accurate amount by...***about 50% more benefit than will actually be realized.***²⁸

It is difficult to determine precisely how the Company applied the ICE calculator in its cost-benefit analysis. In response to Fresh Energy information requests seeking

²⁴ PUC Staff, *Briefing Papers Volume 1* filed December 19, 2019, Docket M-19-261, p. 10

²⁵ Lawrence Berkeley National Laboratory, *ICE Calculator webpage* ([link](#))

²⁶ Lawrence Berkeley National Laboratory, *Updated Value of Service Reliability Estimates for Electric Utility Customers in the United States*, January 2015, p. iv ([link](#))

²⁷ Lawrence Berkeley National Laboratory, *ICE Calculator Documentation* ([link](#)) (emphasis added)

²⁸ Conrad Technical Services LLC, *Using the ICE Calculator for FLISR Reliability Improvement Value*, p. 2 ([link](#)) (emphasis added)

clarification, Xcel states, “We are not able to provide screen shots of the LBNL ICE calculator because we used an internally-developed tool, the Customer Minute Out (CMO) calculator, which for this set of reliability benefits, is rooted in the 2015 LBNL ICE calculator”,²⁹ and “we developed and used the CMO calculator based on the LBNL ICE calculator to calculate benefits. The newer CMO calculator was used to calculate the CMO benefit at an individual feeder level...Each individual worksheet was not saved.”³⁰

The Company acknowledges that FLISR will convert sustained interruptions to momentary interruptions for some customers,³¹ but Xcel also states, “The Company did not take into account the impact of increased momentary interruptions from FLISR in lieu of a sustained interruption.”³² However, these interruptions are important, in particular to power quality-sensitive customers. At the Commission’s March 5, 2020 Agenda Meeting the Company stated, “momentary interruptions can be very disruptive to commercial customers.”³³

Fresh Energy requests that the Company, in its reply comments, provide the historical SAIDI and SAIFI each year 2015-2019 for the 206 circuits it proposes for FLISR. Fresh Energy also requests that the Company provide an updated cost-benefit analysis for FLISR, with electronic versions of all supporting spreadsheets, accounting for the impact of increased momentaries, as recommended by LBNL/Nexant.

d. Integrated Volt-Var Optimization (“IVVO”)

Fresh Energy is enthusiastic about the system-wide energy conservation that IVVO can achieve and we support the Company’s planned investments in this technology, as long as the Company commits to achieving a minimum 1.5% reduction in customer energy consumption.

The Company has experience with IVVO from one pilot project in Minnesota (“Wilson”) and two in Colorado. The Wilson pilot suggested an achievable reduction in customer energy consumption of over 2%. The Colorado pilots demonstrated customer energy savings of 2.5-4.05%. The Company cites a nationwide average of energy savings from IVVO field trials by other utilities of 1.6-2.7%.³⁴ A commitment by the Company for a minimum 1.5% energy savings for its customers from IVVO is reasonable, particularly when the Company states, “Our

²⁹ Xcel, Response to Fresh Energy IR No. 31(a)

³⁰ Xcel, Response to Fresh Energy IR No. 36(a)

³¹ Xcel, *IDP Attachment M2, Bloch Direct* filed November 1, 2019, Docket 19-666, at pp. 110-111 of 202

³² Xcel, Response to Fresh Energy IR No. 36(c)

³³ Xcel, Presentation at PUC Agenda Meeting March 5, 2020

³⁴ Xcel, *IDP Attachment M2, Bloch Direct* filed November 1, 2019, Docket 19-666, pp. 164-168 of 202

engineers feel confident they...may be able to achieve 1.5 percent.”³⁵ Fresh Energy encourages Xcel to aim for greater customer energy savings, at least in the range of results from its Minnesota and Colorado pilots (2-4%), but recommends that the Commission ask Xcel to commit to 1.5% as a starting point.

As described below, Fresh Energy also recommends that the Commission require the Company to measure and report its progress on achieving 225-900 MWh of electrical loss savings and a 0.7% reduction in system peak demand from IVVO.

Should the Commission choose to make a certification determination at this time, Fresh Energy recommends that the Commission approve Xcel Energy’s certification request for IVVO, as long as the Company commits to achieving a minimum 1.5% reduction in customer energy consumption from the IVVO technologies.

2. Should the Commission certify the Advanced Distribution Planning Tool (“APT”) at this time?

Fresh Energy strongly supports Xcel’s implementation of the proposed APT. We have been critical in the past of the Company’s load forecasting methodology,³⁶ and we continue to have concerns that the Company has been consistently developing artificially high peak load forecasts resulting in unnecessary capital spending. In fact, in response to an information request in this docket, Xcel confirmed that its actual 2019 feeder peak loads were significantly below forecasted 2019 peak loads across all planning areas.³⁷

The Company confirmed that it has selected LoadSEER from Integral Analytics as its APT.³⁸ Fresh Energy is familiar with LoadSEER and considers it to be a state-of-the-art tool for load and DER forecasting. This is a major upgrade to the Company’s distribution planning capabilities and we fully support APT implementation. Should the Commission choose to make a certification determination at this time, Fresh Energy recommends that the Commission approve Xcel Energy’s certification request for the APT.

3. What, if anything, should the Commission set as conditions or clarify if granting certification of these distribution projects?

As described below, Fresh Energy recommends that the Commission require the Company to define and track metrics tied to the major AGIS Cost-Benefit Analysis (“CBA”) benefit categories and key CBA assumptions, and report on these on an

³⁵ Xcel, *IDP Attachment M1, Gersack Direct* filed November 1, 2019, Docket 19-666, p. 166 of 301

³⁶ Fresh Energy, *Initial Comments* filed February 22, 2019, Docket 18- 251, pp. 8-10

³⁷ Xcel response to Fresh Energy IR No. 26, Attachment A

³⁸ Xcel response to Fresh Energy IR No. 21

annual basis. Performance on these metrics could be an important data point when considering requests for recovery in the TCR rider process. Fresh Energy does not have specific recommendations on how to incorporate metrics into the TCR process at this time, but would welcome further discussion with Xcel and stakeholders on this topic.

4. What should the Commission consider or address related to realizing benefits of each of the investments in the Company’s AGIS Initiative for ratepayers?

While the Company proposes to track various implementation and post-deployment metrics,³⁹ along with other overall service quality metrics related to AGIS,⁴⁰ it is important that the Commission also hold the Company accountable for actually achieving the customer benefits it is claiming in its CBA.

As shown in Figure 1 below, twelve benefit categories make up 96% of the total benefits in the Company’s CBA.

	AGIS Component	Metric	NPV of Benefits	% of Total	Cum. % of Total
1	AMI	Avoided Drive-by Meter Reading Cost (capital & O&M)	\$223,137,004	37%	37%
2	AMI	Critical Peak Pricing-DSM Peak	\$138,479,332	23%	60%
3	FLISR	Customer Minutes Out- Customer Savings	\$98,458,717	16%	76%
4	AMI	Theft / Tamper Detection & Reduction	\$22,354,455	4%	80%
5	AMI	Avoided Meter Purchases	\$17,455,428	3%	83%
6	IVVO	Energy Reduction	\$14,934,748	2%	85%
7	AMI	Time Of Usage-Customer Energy Price Shift	\$13,576,886	2%	88%
8	AMI	Costs Savings from Remote Disconnect Capability	\$12,291,603	2%	90%
9	AMI	Reduced Outage Duration Benefit	\$10,323,309	2%	91%
10	AMI	Reduced Consumption on Inactive Meters	\$9,235,364	2%	93%
11	AMI	Outage Management Efficiency (storm spend capital)	\$9,047,289	2%	94%
12	AMI	Reduced Uncollectible / Bad Debt Expense	\$7,493,278	1%	96%

Figure 1 – Top CBA Benefit Categories⁴¹

Additionally, Company witnesses Bloch, Cardenas, and Duggirala, provided details in their testimony⁴² of the underlying assumptions in the CBA benefit calculations, as summarized in Figure 2 below.

³⁹ Xcel IDP Attachment M1, Gersack Direct, at p. 301 of 301

⁴⁰ Xcel IDP Attachment M4, Cardenas Direct, at p. 40 of 50

⁴¹ Fresh Energy analysis of Xcel’s CBA for AGIS investments

⁴² Respectively: Xcel IDP Attachments M2, M4, and M5

AGIS				
Component	Metric	Baseline	Target	Source
AMI (capital)	Capex for Asset Health/Reliability, Capacity projects	TBD	1% reduction	Bloch, p. 164
	Storm related capital restoration costs	TBD	10% reduction	Bloch, p. 165
	AMI meter failure rate (avoided meter purchases)	N/A	0.5%	Bloch, p. 165
AMI (O&M)	Annual trips for damaged customer equipment	1,796 trips	50% reduction	Bloch, p. 170
	Annual trips for residential manual disconnection	TBD	70% reduction	Bloch, p. 171
	Annual trips for residential manual reconnection	TBD	95% reduction	Bloch, p. 171
	Annual "OK on Arrival" field visits	7,464 trips	50% reduction	Bloch, p. 172
	Annual voltage investigation field visits	2,858 trips	50% reduction	Bloch, p. 173
	O&M for Asset Health/Reliability, Capacity projects	TBD	0.1% reduction	Bloch, p. 173
	O&M for storm related activity	\$2.1 million	10% reduction	Bloch, p. 174
AMI (other)	Customer-minutes of outage (CMO) - major events	115 million	0.5% reduction	Bloch, p. 177
	CMO - single customer events	1.05 million	20% reduction	Bloch, p. 178
	CMO - tap level events	TBD	TBD	Bloch, p. 179
	Cost of consumption on inactive meters	TBD	20% reduction	Cardenas, p. 62
	Commodity bad-debt expense	TBD	8% reduction	Cardenas, p. 64
	Residential demand shift from TOU rates	TBD	161 MW	Duggirala, p. 28
	Medium C&I demand shift from TOU rates	TBD	52 MW	Duggirala, p. 28
	Residential peak demand reduction from CPP	TBD	164 MW	Duggirala, p. 28
Medium C&I peak demand reduction from CPP	TBD	90 MW	Duggirala, p. 28	
IVVO	Customer energy consumption	TBD	1.5% reduction	Bloch, p. 272
	Electrical loss savings	TBD	225-900 MWh	Bloch, p. 274
	System peak demand	TBD	0.7% reduction	Bloch, p. 275

Figure 2 – Metrics for Key CBA Assumptions

Fresh Energy requests that the Company, in its reply comments, provide baselines, targets and a plan for measuring, verifying and reporting on these top benefit categories and key CBA assumptions for the AGIS investments.

Fresh Energy also recommends that the Commission require the Company to measure and report its progress on achieving the CBA benefits and underlying CBA assumptions for each AGIS investment. Fresh Energy recommends the company provide this information in an annual report starting November 1, 2020 to be filed in this docket.

- 5. At the stage of certification, what consideration should the Commission give to subsequent cost recovery, via either the Transmission Cost Recovery rider or general rate case, for each of the AGIS investments?**

As discussed above, Fresh Energy believes that an approval of certification should indicate that a project has demonstrated additional importance and warrants consideration for rider recovery. We propose that the utility should demonstrate that the project is a priority project above and beyond normal distribution projects, consistent with Minn. Stat. §216B.16 Subd. 7b(a)(1).

- 6. Are there any other issues or concerns related to this matter?**

None at this time.

Summary of Fresh Energy's Recommendations:

1. If Xcel wishes to pursue the Incremental System Investment initiative, the Company shall develop a formal ISI Plan based on specific demonstrated needs and a clear articulation of expected reliability improvements. The ISI Plan should be filed with any future request for cost recovery or certification, or with Xcel's next IDP, whichever comes first.
2. For future requests for certification of for distribution system projects, the Commission will use the following criteria:
 1. The project is consistent with Minn. Stat. §216B.2425 Subd 2(e) and is necessary for modernizing the utility distribution system with respect to (i) enhancing system reliability, (ii) improving system security, and/or (iii) increasing energy conservation.
 2. The project is a priority project above and beyond normal distribution projects, consistent with Minn. Stat. §216B.16 Subd. 7b(a)(1) and is appropriate to consider for current cost recovery through the transmission cost recovery (TCR) rider.
 3. The information that the Commission requires to make its certification determination includes but is not necessarily limited to:
 - a. The utility has identified specific expected improvements in distribution system reliability, security, and/or energy conservation that would result from the project and how they will be achieved.
 - b. The utility has identified specific metrics and evaluation methods that will be used to assess the project's performance and whether it has achieved the expected improvements.
 - c. The utility has performed a detailed cost benefit analysis and provided supporting evidence for the estimated costs and benefit levels used in the calculation. This shall include a discussion of mechanisms that will be employed to maximize cost reductions and minimize cost increases.
 - d. The utility has thoroughly considered the feasibility and costs and benefits of alternatives and has demonstrated that the proposed approach is preferable to alternatives.
 - e. Criteria that will be used by the utility to determine whether at any point it has become imprudent to bring the certified project to completion due to the project failing to meet its performance and/or cost expectations.

3. Xcel shall develop a Rate Design Roadmap to accompany the next IDP that describes how the Company will leverage AMI capabilities to support the Commission's and Xcel's stated priorities. This roadmap should include the following components:
 - a. A summary of the Company's current advanced rate designs and demand management programs, advanced rate designs in development, and relevant industry best practices.
 - b. A timeline for offering updated dynamic rates and/or demand management programs for all customer classes.
 - c. Potential rate and program design strategies to support low-income customer participation in these offerings.
 - d. A discussion of opportunities for utilizing distributed energy resources and/or beneficial electrification technologies in conjunction with planned dynamic rates and/or demand management programs.
 - e. Enrollment mechanisms for convenient customer participation in the advanced rate offerings.
 - f. Implementation plans for offering advanced rates, including education and outreach to customers.
 - g. Evaluation plans for monitoring, verifying, and improving the effectiveness of advanced rate designs.
4. Xcel shall seek input from stakeholders on the development of the Draft Rate Design Roadmap and host at least two stakeholder meetings by April 30, 2021.
5. The Company shall measure AGIS investments' performance on key metrics, including those listed below, and shall report on its progress achieving these metrics in an annual report starting November 1, 2020 to be filed in this docket.

AGIS				
Component	Metric	Baseline	Target	Source
AMI (capital)	Capex for Asset Health/Reliability, Capacity projects	TBD	1% reduction	Bloch, p. 164
	Storm related capital restoration costs	TBD	10% reduction	Bloch, p. 165
	AMI meter failure rate (avoided meter purchases)	N/A	0.5%	Bloch, p. 165
AMI (O&M)	Annual trips for damaged customer equipment	1,796 trips	50% reduction	Bloch, p. 170
	Annual trips for residential manual disconnection	TBD	70% reduction	Bloch, p. 171
	Annual trips for residential manual reconnection	TBD	95% reduction	Bloch, p. 171
	Annual "OK on Arrival" field visits	7,464 trips	50% reduction	Bloch, p. 172
	Annual voltage investigation field visits	2,858 trips	50% reduction	Bloch, p. 173
	O&M for Asset Health/Reliability, Capacity projects	TBD	0.1% reduction	Bloch, p. 173
	O&M for storm related activity	\$2.1 million	10% reduction	Bloch, p. 174
AMI (other)	Customer-minutes of outage (CMO) - major events	115 million	0.5% reduction	Bloch, p. 177
	CMO - single customer events	1.05 million	20% reduction	Bloch, p. 178
	CMO - tap level events	TBD	TBD	Bloch, p. 179
	Cost of consumption on inactive meters	TBD	20% reduction	Cardenas, p. 62
	Commodity bad-debt expense	TBD	8% reduction	Cardenas, p. 64
	Residential demand shift from TOU rates	TBD	161 MW	Duggirala, p. 28
	Medium C&I demand shift from TOU rates	TBD	52 MW	Duggirala, p. 28
	Residential peak demand reduction from CPP	TBD	164 MW	Duggirala, p. 28
	Medium C&I peak demand reduction from CPP	TBD	90 MW	Duggirala, p. 28
IVVO	Customer energy consumption	TBD	1.5% reduction	Bloch, p. 272
	Electrical loss savings	TBD	225-900 MWh	Bloch, p. 274
	System peak demand	TBD	0.7% reduction	Bloch, p. 275

Should the Commission choose to make certification determinations at this time, Fresh Energy recommends:

6. The Commission approves Xcel's request for Certification of the proposed AMI investment, conditioned on a commitment by Xcel to develop a Draft Rate Design Roadmap to be filed with the next IDP.
7. The Commission approves Xcel's request for Certification of the proposed FAN investment.
8. The Commission denies Xcel's request for Certification of the proposed FLISR investment.
9. The Commission approves Xcel's request for Certification of the proposed IVVO investment, conditioned on a commitment by Xcel to achieve a minimum 1.5% reduction in customer energy consumption from the IVVO technologies.
10. The Commission approves Xcel's request for Certification of the proposed Advanced Planning Tool.

Conclusion

Fresh Energy commends Xcel Energy for their ongoing efforts with the IDP, APT and AGIS initiatives. We appreciate the opportunity to comment and look forward to continuing to support this exciting work.

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ATTACHMENTS

Xcel Responses to Fresh Energy IRs 1-50 (PUBLIC)

Due to size constraints, the following documents are uploaded separately:

- Xcel Responses to Fresh Energy IRs 1-45, with revised response to IR 19, except for IR Nos. 6, 7, 9, 11, 14, and 24 – PUBLIC (pdf)
- Xcel Responses to Fresh Energy IRs 6, 7, 9, 11, 14, and 24 – PUBLIC (pdf)
- Xcel Responses to Fresh Energy IRs 46-50 – PUBLIC (pdf)
- Xcel Response to IR 23, Attachment A – PUBLIC (excel file)

Xcel Responses to Fresh Energy IRs 1-50 (TRADE SECRET)

Responses to IRs 22, 31, 32, 33, 35, 39, 43, and 44 contained trade secret information.

Due to size constraints, the following documents are uploaded separately:

- Xcel Responses to IRs 22, 31, 32, 33, Corrected Response to 35, 39, 43, and 44 – TRADE SECRET
- Xcel Response to IR 22, Attachment A – TRADE SECRET (pdf)
- Xcel Response to IR 22, Attachment B – TRADE SECRET (excel file)
- Xcel Response to IR 22, Attachment C – TRADE SECRET (excel file)
- Xcel Response to IR 31, Attachment B – TRADE SECRET (excel file)
- Xcel Response to IR 31, Attachment C – TRADE SECRET (excel file)
- Xcel Response to IR 32, Attachment A – TRADE SECRET (excel file)
- Xcel Response to IR 33, Attachment A – TRADE SECRET (excel file)
- Xcel Response to IR 35, Attachment A Corrected– TRADE SECRET (excel file)
- Xcel Response to IR 39, Attachment A – TRADE SECRET (excel file)