

January 27, 2020

Ryan Barlow
Acting Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101

RE: **Supplemental Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. E002/M-19-685

Dear Mr. Barlow:

Attached are the supplemental comments of the Minnesota Department of Commerce, Division of Energy Resources (Department) in the following matter:

Northern States Power Company, d/b/a Xcel Energy's 2019 Hosting Capacity Analysis Report.

The Report was filed on November 1, 2019, by:

Bria E. Shea
Director, Regulatory & Strategic Analysis
Northern States Power Company d/b/a/ Xcel Energy Services Inc.
414 Nicollet Mall
Minneapolis, MN 55401

The Department recommends that the Minnesota Public Utilities Commission (Commission) accept Xcel Energy's Report with requests for the provision of certain information in the next report. The Department is available to respond to any questions the Minnesota Public Utilities Commission may have on this matter.

Sincerely,

/s/ MATTHEW LANDI
Rates Analyst

ML/ja
Attachment



Before the Minnesota Public Utilities Commission

**Supplemental Comments of the Minnesota Department of Commerce
Division of Energy Resources**

Docket No. E002/M-19-685

I. BACKGROUND

On November 1, 2019 Northern States Power d/b/a Xcel Energy (Xcel or the Company) filed its 2019 Hosting Capacity Analysis Report as required by Minn. Stat. §216B.2425, subd. 8 (the Statute) and the Minnesota Public Utilities Commission's (Commission) August 15, 2019 Order in Docket No. E002/M-18-684.

On December 30, 2019, the Minnesota Department of Commerce (Department), Interstate Renewable Energy Council, Inc. (IREC), and Fresh Energy submitted Initial Comments in this proceeding.

On January 14, 2020, the Commission issued a Notice of Comment Period (Notice), which established a supplemental comment period. The Notice creates a supplemental comment period deadline of January 27, 2020.

The Notice lists the following topic as open for comment:

The scope of this supplement comment period is limited to issues raised in the initial and reply comment period.

The Notice also indicates that the Department requested additional information anticipated for inclusion in Xcel Energy's Reply Comments.

On January 17, 2020, the Department, IREC, and Xcel submitted Reply Comments.

The Department responds to the Commission's Notice below.

II. DEPARTMENT ANALYSIS

A. RESPONSE TO XCEL'S REPLY COMMENTS

In Initial Comments, the Department made eight separate requests to Xcel for additional information and analysis related to the 2019 Hosting Capacity Analysis Report (the 2019 Report or HCA Report). The Department made these requests in order to determine whether the Company complied fully with the Commission's August 15, 2019 Order in Docket No. E002/M-18-685 (the 2019 Order) and Minn. Stat. §216B.2425, subd. 8 (the Statute), and as a means to gather more information and analysis to better inform the substantive and procedural recommendations that the Department makes in these supplemental comments.

The Department reviewed Xcel's Reply Comments and responds below in the context of the Department's requests for additional information and analysis.

1. Stakeholder Involvement Plan

The Department requested that Xcel provide in Reply Comments a preliminary plan to identify and engage additional stakeholders for involvement in the Company's next iteration of the hosting capacity analysis.

In its Reply Comments, Xcel outlined a preliminary plan for stakeholder engagement for the Company's 2020 HCA.¹ Xcel indicated, and the Department acknowledges, there was a short period of time between the Commission's 2019 Order and the publication of the 2019 Report, which precluded a more intensive stakeholder engagement process.

The Department appreciates that the Company recognizes the importance of engaging stakeholders early in the process leading to the publication of the HCA Report. The Company plans to start earlier for the 2020 HCA Report, beginning with stakeholder outreach in early March to discuss the new DRIVE combined methodology.² The Company also plans a second stakeholder session in the April/May timeframe and seeks to solicit feedback on technical assumptions and inputs used in the HCA, and to discuss the public-facing results of the HCA (the heat map and the tabular results).³

The Department supports Xcel's plan to engage in a more meaningful and extensive stakeholder process for the 2020 HCA. The Department requests that the Company provide the results of the stakeholder process, to be included in the 2020 HCA Report. This summary should include an overview of the feedback and suggestions provided by participants, and should include whether the Company incorporated such feedback and suggestions, and if not, an explanation for why the Company did not incorporate such feedback and suggestions.

The Department recommends that the Commission require Xcel to implement its 2020 stakeholder engagement plan as outlined in its January 17, 2020 Reply Comments. The Department also recommends that the Commission require Xcel to provide the results of the stakeholder process, including an overview of the feedback and suggestions provided by stakeholders, whether the feedback and suggestions are included in the 2020 HCA, and an explanation for any feedback and suggestions received but not included in the 2020 HCA Report. (Recommendation 2)

2. Plan to Integrate the Pre-Application Data Report and the HCA

The Department noted that, in order for the Company to comply with Order Point #6 of the 2019 Order, Xcel needed to develop a specific plan, including a specific cost estimate and timeline for implementation, to integrate the pre-application data report and the HCA and provide the plan in its

¹ [Xcel Reply Comments](#), dated January 17, 2020, at 23-24.

² Xcel Reply Comments, at 24.

³ Xcel Reply Comments, at 24.

Reply Comments. The plan should identify any pathways that would enable Xcel to maintain free and public access to the HCA.

The Company responded broadly by discussing the statutory and regulatory framework of the HCA in Minnesota, suggesting that Minn. Stat. §216B.1611 establishes a standard statewide process for interconnection, and that this process is governed by the Commission in the Minnesota Distribution Interconnection Process (MN DIP) in Docket No. E999/CI-16-521.⁴ Xcel characterized the MN DIP process as controlling “where interconnection studies are needed, and does not include hosting capacity as part of this process” and also explained that Xcel’s MN DIP pre-application report is focused on a specific project at a specific location, at a specific point in time, whereas the HCA is more generalized.⁵ Xcel also argued that “increasing the depth and/or breadth of the HCA to replicate or replace the need for the MN DIP pre-application report process will necessarily increase the resources required to perform the analysis,” concluding that integrating the pre-application process and the HCA would conflict with cost-causation principles.

In review of Xcel’s Reply Comments, the Department concludes that Xcel has still not provided a specific plan to integrate pre-application data report and the HCA, as required by the 2019 Order. In the body of the 2019 Order, the Commission clearly explained the reasoning behind Order Point #6:⁶

Xcel and the commenters have quite different ambitions for a HCA, and seek Commission guidance on which objectives Xcel should pursue. More sophisticated objectives will entail greater cost and effort – but the relative costs and benefits have not been well developed in the record.

Accordingly, the Commission will direct Xcel to collaborate with stakeholders in evaluating the costs and benefits associated with developing and implementing a HCA with increasing levels of sophistication – that is,

- A HCA able to provide an early indicator of possible locations for interconnection;
- A HCA able to replace or augment initial review screens and/or supplemental review in the interconnection process; and
- A HCA able to automate interconnection studies.

While Xcel’s 2019 HCA Report and its Reply Comments generally discussed current challenges, the Company did not furnish specific information that would enable the Commission and stakeholders to evaluate whether the HCA could or should achieve the objectives identified in sub-items A through C of Order Point #6 (which correspond to the bulleted items listed above).

⁴ Xcel Reply Comments, at 8.

⁵ Xcel Reply Comments, at 8.

⁶ 2019 Order, at 12-13.

In the HCA Report, Xcel stated that “despite its clear benefits, integration of pre-application data with the hosting capacity map includes some significant costs and barriers that must be addressed,” and then purported to provide an overview of the “obstacles and benefits of integrating the pre-application report and hosting capacity map.”⁷ The table Xcel provided—Table 9—listed the information that is currently provided in its MN DIP pre-application report, and the effort and challenges that would be involved in order to provide that information within the hosting capacity map.⁸

The information in Xcel’s Table 9 has a limited value as applied to Order Point #6. It is difficult to see how the general categorization of the MN DIP pre-application information provided in Table 9 is useful to the assessment of whether the HCA and MN DIP pre-application report can or should be integrated. For instance, no specific cost information was provided.

The Department noted in Initial Comments, and reaffirms here, that “while [the information provided in Table 9] and [the discussion on pages 44 through 46 of Xcel’s 2019 Report] is helpful as a preliminary matter, providing a specific plan to integrate the pre-application data report and the HCA with an accompanying cost estimate and implementation timeline is necessary in order for stakeholders and the Commission to weigh the merits of such an endeavor.”⁹ The Department’s position is information-seeking in nature, and not necessarily intended to lead to a requirement that Xcel implement a specific plan to integrate the two processes. Absent specific cost and benefit information related to integration as contemplated by Order Point #6, and without a potential plan for how these two processes could be integrated in practice, the Commission and stakeholders are left with a limited understanding of whether the HCA can achieve the goals identified in sub-items A through C of Order Point #6. It is difficult to assess the merits of integration without specific information, and Xcel has not provided information that enables such an assessment.

While the Department agrees that it is not likely that the current, more general, HCA can be used to substitute for the MN DIP pre-application process, the two analyses should be able to inform one another since their shared goal is to determine Xcel’s distribution system hosting capacity by substation or feeder. Currently, the HCA is conducted in isolation from the MN DIP pre-application process and provides little value for those using the MN DIP pre-application process. Conducting the two analyses in isolation fails to allow one to inform the other, resulting in a loss of potential process efficiencies and cost savings. This loss of potential process efficiencies and cost savings should be quantified to a sufficient degree to enable stakeholders and the Commission to assess whether there is wisdom to integrating the HCA and the MN DIP pre-application process.

The Department requests that Xcel commit to complying with the Commission’s Order Point #6 by looking for opportunities for process efficiencies between the MN DIP pre-application and screening processes and the HCA going forward.

⁷ 2019 Report, at 44.

⁸ 2019 Report, at 44-46.

⁹ Department Initial Comments, at 10.

The Department recommends that the Commission retain Order Point #6 from the Commission's August 15, 2019 Order in Docket No. E002/M-18-684 to ensure that Xcel continues to work with stakeholders to identify opportunities to integrate the HCA and the MN DIP pre-application and screening processes in future iterations of the HCA. (Recommendation 3)

3. Identify Solutions for Increasing Individual Feeder Hosting Capacity

The Department requested that Xcel explain why it did not determine all of the solutions for increasing the hosting capacity for each individual feeder, as required by the Commission in Order Point #3B.

On pages 5 and 6 of Xcel's Reply Comments, the Company explained that the analysis required by the Commission in Order Point #3B is complex and novel, and stated that it is the Company's belief that this was one of the first attempts in the utility industry at automating a mitigation assessment for hosting capacity.

Xcel indicated that its mitigation assessment, conducted in partnership with the Electric Power Research Institute (EPRI), took approximately 400 hours of EPRI's time to provide the results for "just the most cost-effective solution at *one* location for each feeder" and that "expanding the analysis to encompass *all* potential solutions would have exponentially increased the complexity and time, and would not have been completed in time to meet our filing deadline."¹⁰

In view of this explanation, the Department concludes that Xcel's approach to complying with Order Point #3B was reasonable and appropriate. While the analysis did not yield results that would indicate the specific mitigation options at each individual feeder, it provided the Commission with a reasonable basis for assessing what mitigation options are available on its feeders and the cost to implement those options. At this time, the provision of more detailed information appears unreasonable and cost prohibitive.

The Department is interested in the applicability of the mitigation analysis conducted by the Company in partnership with EPRI in the interconnection process, and specifically, the extent to which the mitigation analysis performed can be relied upon in the interconnection process for a specific project.

The Department recommends that the Commission require Xcel to perform mitigation analyses in future HCAs that provide information related to: (1) the frequency at which constraints to individual feeders occur; (2) the mitigation options available for those constraints and a discussion of whether distributed energy resources can also serve as a mitigation option; (3) the amount of additional hosting capacity that can be obtained by implementing the identified mitigation option; (4) the cost of each mitigation option; and (5) whether the mitigation analysis performed by Xcel can be relied upon to interconnect specific and actual distributed energy resource project proposals. (Recommendation 4)

¹⁰ Xcel Reply Comments, at 5.

4. Feeder-Level Mitigation Options

The Department requested that Xcel provide (1) information on each potential mitigation option available to the feeders identified as having zero hosting capacity, (2) the potential cost for each mitigation option for each feeder, and (3) a range of the total aggregate cost of the mitigation options. Further, the Department requested that if Xcel is unable to provide this information, Xcel should provide an explanation that establishes a reasonable basis for Xcel's inability to do so.

In review of Xcel's explanation regarding its mitigation analysis on pages 5 and 6 of its Reply Comments, the Department concludes that the limited provision of information related to the Department's request and as it relates to Order Point #3 of the 2019 Order is reasonable at this time.

5. Capabilities of Synergi

The Department requested that Xcel explain what capabilities Synergi has in conducting a HCA and to discuss the appropriateness of comparing Synergi and the DRIVE tool to satisfy the requirements of Order Point #5B of the 2019 Order.

The Company responded to this request on pages 4 and 5 of its Reply Comments. Xcel explained that there are three commercially available tools that can be used to conduct HCAs, and that two of them—DRIVE and Synergi—are currently available to the Company. Xcel further explained that the positive correlation of the results of its comparison of the DRIVE results to Synergi was aligned with San Diego Gas & Electric's (SDG&E's) findings.¹¹

In review of the 2019 Report and Xcel's Reply Comments, the Department concludes that Xcel's approach to comply with Order Point #5B was reasonable at this time. However, the Department is interested in the capabilities of Synergi's ability to conduct an HCA. Synergi is available to the Company and apparently does not require Xcel to incur an additional cost to conduct an HCA. In the absence of more specific information related to the capabilities, current and reasonably foreseeable, of Synergi in conducting a HCA, and considering the lack of any incremental cost to conduct a HCA using Synergi, the Department requests that the Company provide an update on the evolving capabilities of Synergi in future HCAs and a discussion of which tool is more capable of providing an accurate and reliable HCA.

The Department recommends that the Commission require Xcel to provide an update on the evolving capabilities of Synergi in future HCAs and a discussion of which tool is more capable of providing an accurate and reliable HCA. (Recommendation 5)

¹¹ Xcel Reply Comments, at 4.

6. HCA Updates

The Department requested that Xcel develop a proposal to provide monthly, quarterly, and semi-annual updates to the HCA in Reply Comments, including the costs associated with each frequency, and whether and how any additional costs can be imposed on those who obtain a benefit from more frequent updates.

The Company replied that they were unable to fully develop a proposal in time for inclusion in its Reply Comments and indicated that they would provide a full analysis with its 2020 HCA filing.¹²

The Department recommends that the Commission require Xcel to develop a proposal to provide monthly, quarterly, and semi-annual updates to the HCA, including the costs associated with each frequency, and whether and how any additional costs can be imposed on those who obtain a benefit from more frequent updates. (Recommendation 6)

7. Sensitivity Analysis

The Department requested that Xcel discuss whether it is valuable to perform a sensitivity analysis on any other variable in Xcel's HCA.

On page 17, Xcel responded that sensitivity analyses have been conducted for two of the most impact factors—voltage and power factor. Xcel also indicated that it analyzed the effect of load and generation on hosting capacity for various locations. Xcel explained that the only other factor that may be useful to include in its sensitivity analysis is the increment at which it adds generation to the model, but that doing so would provide dubious value, as it would only improve granularity but not alter the hosting capacity significantly.¹³

In review of Xcel's explanation, the Department concludes that performing sensitivity analysis on additional factors would not yield useful results.

8. Responses to Stakeholder Requests

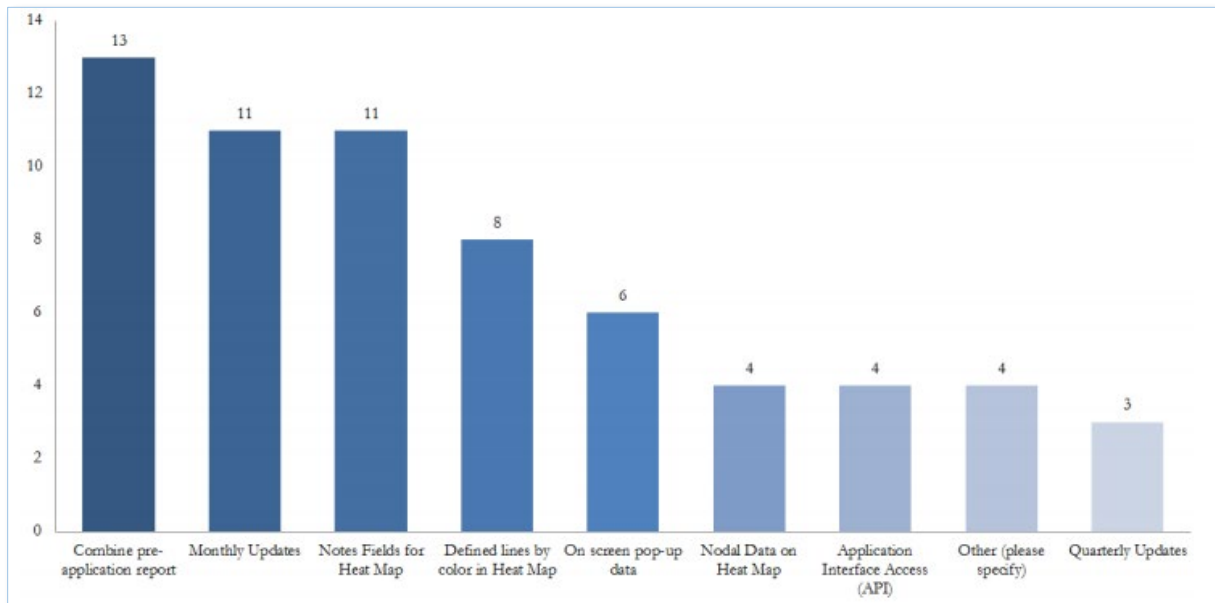
The Department requested that Xcel respond to each of the stakeholder suggestions and requests listed in Figure 2 of the Compliance Filing and in response to Xcel's survey by developers and other stakeholders, explaining the feasibility of each of the items related to improving the public-facing hosting capacity map.

¹² Xcel Reply Comments, at 9.

¹³ Xcel Reply Comments, at 17.

Xcel provided new insight into its survey results and explained that only 15 individuals responded.¹⁴ Xcel provided a new figure that ranked the five most important functionality changes for the HCA based on the number of responses it received for each functionality change. The Department provides Figure 1 of Xcel’s Reply Comments below for reference.

Figure 1. Rank the FIVE Most Important Functionality Changes for the HCA. (Reported by Stakeholder Interest)¹⁵



Xcel also provided a table that listed each of the functionality changes, the number of affirmative responses for each, and its assessment of the feasibility of implementing each functionality change. The Department reproduces that table here in its entirety.

¹⁴ Xcel Reply Comments, at 25.

¹⁵ Xcel Reply Comments, at 26.

Table 1. High Level Feasibility Assessment of Ranked Functionality Changes¹⁶

Reponses	Functionality Change	Feasibility Assessment
13	Combine pre-application and HCA	Reviewing for 2020 HCA
11	Monthly updates	Reviewing for 2020 HCA
11	Notes fields for Heat Map	Reviewing for 2020 HCA
8	Defined lines by color in Heat Map	Implicates security and privacy risks if provided at this level of detail
6	On-screen pop-up data	Added in 2019
4	Nodal data on Heat Map	There are approximately 3,000-4,000 nodes per feeder. While not fully nodal level, we already provide sub-feeder level information. Given that very few stakeholders ranked this as a priority we have not moved forward with this suggestion at this time.
4	Other (please specify)	Other requests included accuracy, real data, and size and length of conductors. We could include these details as part of the first three functionality changes.
4	Application Interface Access (API) <i>Note: API is an electronic data exchange protocol.</i>	Given very few stakeholders ranked this as a priority we have no (sic) moved forward with this suggestion at this time.
3	Quarterly updates	See "Monthly Updates"

As can be surmised from Figure 1 and Table 1 of Xcel’s Reply Comments, Xcel explained that the majority of respondents would like to see the hosting capacity (1) combined with the pre-application report, (2) have the details updated monthly, and (3) include notes fields for further information.¹⁷

Items #1 and #2 were addressed earlier by Xcel and subject to Department recommendations listed above.

Xcel explained that they were not able to implement Item #3 fully as part of the 2019 HCA Report.¹⁸ Xcel committed to further stakeholder engagement to define specifically the information that would be most helpful, and stated that it would continue to examine this for potential inclusion in its 2020 HCA.¹⁹

¹⁶ Xcel Reply Comments, at 26.

¹⁷ Xcel Reply Comments, at 26.

¹⁸ Xcel Reply Comments, at 28.

¹⁹ Xcel Reply Comments, at 28.

The Department appreciates this feedback and Xcel's commitment to a more extensive stakeholder process. The Department reaffirms Recommendation X above.

B. RESPONSE TO STAKEHOLDER COMMENTS AND RECOMMENDATIONS

The Department evaluated stakeholder comments and recommendations. Below are aspects of stakeholder comments and recommendations that the Department supports.

1. Additional Information Related to Criteria Violation Values

On pages 12 through 14 of IREC's Initial Comments, IREC generally recommended that Xcel should be required to publish values for each of the HCA criteria. Doing so would allow "customers to see the quantity of DERs that can be supported without violating each criteria," thereby allowing "customers to understand whether the violation can be addressed through DER system design, or to better understand the type of distribution system upgrades that may be required in order to interconnect."²⁰

Xcel explained in its Reply Comments that the provision of this additional information may not be useful or actionable, and could even be misleading, as a mitigation option employed to address one of the criteria violations is likely to affect a different criteria violation.²¹ Xcel provided the following explanation:

Using IREC's example where Primary-Over-Voltage is the first limiting element at 500 kW, and Thermal for Discharging DER is the next limiting element at 750 kW, the second element/ the thermal violation may be affected by whatever mitigation is chosen to solve the first element/ the voltage violation. For example, if power factor correction is chosen to solve the Primary-Over-Voltage condition, the Thermal for Discharging DER value could become more restrictive as a result. Conversely, if reconductoring is chosen as the first mitigation, the 750 kW value may become larger and not be an issue at all.

Xcel committed to examine how it might be able to increase the granularity of this information in a way that maintains its practicable usability, and discuss the results of its examination in its next HCA.²²

The Department supports IREC's position but acknowledges that the additional information provided may not be as useful as IREC hopes, as Xcel explained. Still, those who use the HCA are likely to be sophisticated and knowledgeable about the implications of this information. One can imagine that a developer will understand that implementing a mitigation option such as a power factor correction is likely to affect the thermal discharging DER value. Xcel can provide appropriate caveats that

²⁰ [IREC Initial Comments, dated December 30, 2019](#), at 13.

²¹ Xcel Reply Comments, at 12-13.

²² Xcel Reply Comments, at 13.

accompany this information. On balance, the Department supports the provision of this additional information but defers to Xcel on how best to present the information in a meaningful and useful way.

The Department recommends that the Commission require Xcel to provide more granular information regarding HCA criteria values. (Recommendation 7)

2. Expanded Use of Load DERs in the HCA

Both IREC and Fresh Energy recommended that Xcel incorporate the addition of load characteristics of DERs, such as energy storage and electric vehicles.²³ Further, Fresh Energy recommended that the Company “expand the list of potential mitigations to include the addition of load DERs—especially those that increase minimum daytime load, shift peak load, and be managed to provide grid support services.”²⁴

Xcel responded that “[t]here would be little to no benefit provided by adding load based DER to the HCA” and explained that:²⁵

Adding load to allow for the installation of more DER generation has at most, little more than a one-to-one effect on the system—and depending on load characteristics, could be less. This means that for every one MW of load added, the hosting capacity at that location can be increased by one MW at most.

Xcel also explained that without relevant and usable information about the load’s operational characteristics, the analysis would be theoretical in nature, and concluded that this analysis “will not provide the broad benefits that parties are looking for, and that this information is better placed within our existing distribution planning/study process(es).”²⁶

The Department agrees with Xcel’s conclusion. However, the Department agrees with Fresh Energy’s recommendation that Xcel include load DERs in its analysis of mitigation options. Xcel indicated that it is open to requesting that EPRI add load DER into their Mitigation Assessment Tool as a potential mitigation alternative and committed to reporting the results of its discussion with EPRI in the 2020 HCA.²⁷

The Department notes that such a discussion and the development of EPRI’s Mitigation Assessment Tool may have too long of a lag time such that meaningful improvements to Xcel’s 2020 HCA may be foreclosed. While the Department offers a recommendation below to require Xcel to work with EPRI to develop the Mitigation Assessment Tool, the Department also offers the following recommendation

²³ [Fresh Energy Initial Comments, dated December 30, 2019](#), at 3. IREC Initial Comments, at 29-30.

²⁴ Fresh Energy Initial Comments, at 2.

²⁵ Xcel Reply Comments, at 13.

²⁶ Xcel Reply Comments, at 14.

²⁷ Xcel Reply Comments, at 15.

that is aimed at requiring Xcel to provide an illustrative technical and economic analysis of how a load DER can affect hosting capacity.

The Department recommends that the Commission require Xcel to request that EPRI add load DER into EPRI's Mitigation Assessment tool. If such a feature can be added in time to conduct such analysis for the 2020 HCA, Xcel should do so. If it cannot be added in time, or added at all, Xcel should provide the results of its discussion with EPRI. (Recommendation 8)

If load DER cannot be incorporated into EPRI's Mitigation Assessment tool in time to be included in Xcel's 202 HCA, the Department recommends that the Commission require Xcel to conduct an illustrative technical and economic analysis of the effect that a load DER can have on hosting capacity as an alternative to traditional mitigation options. (Recommendation 9)

C. OTHER ISSUES

The Department recommended that the Commission maintain Order Point #5B for Xcel's next hosting capacity analysis report.

Xcel's Reply Comments provided a helpful discussion regarding this recommendation. Xcel indicated that it does not maintain all of the tools used in various jurisdictions that conduct HCAs.²⁸ The maintenance of Order Point #5B for Xcel's next HCA may require Xcel to acquire additional software at a currently unknown cost without a reasonable basis. Instead, Xcel should be required to directly compare the results of its HCA to software it does maintain that is also capable of conducting an HCA: Synergi. Accordingly, the Department amends the first recommendation in the Department's Initial Comments to read as follows:

The Department recommends that the Commission require Xcel to analyze and compare the hosting capacity of a selection of representative feeders using both the DRIVE tool and Synergi. (Amended Recommendation 1)

This recommendation is in addition to the Department Recommendation 5 above regarding the evolving capabilities of Synergi and assessing which tool is most appropriate to use in conducting an HCA.

III. RECOMMENDATIONS

The Department appreciates the opportunity to comment further on the Company's 2019 Report.

Based on our review Xcel's 2019 Report, stakeholder comments, and Xcel's Reply Comments, the Department makes the following recommendations:

²⁸ Xcel Reply Comments, at 4.

1. (Amended from Initial Comments) The Department recommends that the Commission require Xcel to analyze and compare the hosting capacity of a selection of representative feeders using both the DRIVE tool and Synergi.
2. The Department recommends that the Commission require Xcel to implement its 2020 stakeholder engagement plan as outlined in its January 17, 2020 Reply Comments. The Department also recommends that the Commission require Xcel to provide the results of the stakeholder process, including an overview of the feedback and suggestions provided by stakeholders, whether the feedback and suggestions are included in the 2020 HCA, and an explanation for any feedback and suggestions received but not included in the 2020 HCA Report.
3. The Department recommends that the Commission retain Order Point #6 from the Commission's August 15, 2019 Order in Docket No. E002/M-18-684 to ensure that Xcel continues to work with stakeholders to identify opportunities to integrate the HCA and the MN DIP pre-application and screening processes in future iterations of the HCA.
4. The Department recommends that the Commission require Xcel to perform mitigation analyses in future HCAs that provide information related to: (1) the frequency at which constraints to individual feeders occur; (2) the mitigation options available for those constraints and a discussion of whether distributed energy resources can also serve as a mitigation option; (3) the amount of additional hosting capacity that can be obtained by implementing the identified mitigation option; (4) the cost of each mitigation option; and (5) whether the mitigation analysis performed by Xcel can be relied upon to interconnect specific and actual distributed energy resource project proposals.
5. The Department recommends that the Commission require Xcel to provide an update on the evolving capabilities of Synergi in future HCAs and a discussion of which tool is more capable of providing an accurate and reliable HCA.
6. The Department recommends that the Commission require Xcel to develop a proposal to provide monthly, quarterly, and semi-annual updates to the HCA, including the costs associated with each frequency, and whether and how any additional costs can be imposed on those who obtain a benefit from more frequent updates.
7. The Department recommends that the Commission require Xcel to provide more granular information regarding HCA criteria values.
8. The Department recommends that the Commission require Xcel to request that EPRI add load DER into EPRI's Mitigation Assessment tool. If such a feature can be added in time to conduct such analysis for the 2020 HCA, Xcel should do so. If it cannot be added in time, or added at all, Xcel should provide the results of its discussion with EPRI.

9. If load DER cannot be incorporated into EPRI's Mitigation Assessment tool in time to be included in Xcel's 202 HCA, the Department recommends that the Commission require Xcel to conduct an illustrative technical and economic analysis of the effect that a load DER can have on hosting capacity as an alternative to traditional mitigation options.
10. The Department recommends that the Commission require Xcel to analyze and compare the hosting capacity of a selection of representative feeders using both the DRIVE tool and Synergi.

/ja

CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

**Minnesota Department of Commerce
Supplemental Comments**

Docket No. E002/M-19-685

Dated this **27th** day of **January 2020**

/s/Sharon Ferguson

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Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_19-685_Official
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