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Xcel Energy Information Request No. 46  
Docket No.: E002/M-19-666  
Response To: Fresh Energy  
Requestor: Isabel Ricker  
Date Received: February 5, 2020

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Question:

Reference:

Xcel's Integrated Distribution Plan filed November 1, 2019, at pp. 51 and 64.

Request:

Please explain the inconsistency between the statements that the Company “strive(s) to load feeders to approximately 75 percent of maximum capacity”, and “We apply thresholds that risks must exceed before we develop a project to mitigate the risk. For N-0 conditions, the overload must exceed 106 percent.”

Response:

There is no inconsistency, as the two thresholds have different applications.

The 75% threshold guides contingency planning to provide capacity for outage response and maintenance through switching. While the distribution system is not fully networked and redundant like the transmission grid, we work to build in redundancy as much as practicable, and this is one example. Without the ability to employ switching (transferring portions of the load from the impacted feeder to adjacent feeders) in outage or maintenance situations, all customers on the impacted feeder would be without power while the repairs are made or the maintenance completed. The 106% threshold guides planning for system-normal operation to ensure capacity without undue risk to reliability or equipment.

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Xcel Energy Information Request No. 47  
Docket No.: E002/M-19-666  
Response To: Fresh Energy  
Requestor: Isabel Ricker  
Date Received: February 5, 2020

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Question:

Reference:

Xcel's Response to Fresh Energy IR 3 in Docket 19-666, Attachment A.

Request:

Fresh Energy notes that IEEE states on p. 2 of the report that, "Each participant can choose to share their results."

- a. Please provide NSPM's participant code in the 2019 IEEE study.
- b. For each page 11-24 of the 2019 IEEE study, please indicate the quartile in which NSPM is shown.

Response:

- a. As noted in our response to Fresh Energy Information Request No. 3, we cannot agree to provide any of the participant codes of the utilities that participate in the IEEE benchmarking study. While we have some discretion to share the Company's results, we can only share our participant code if we can guarantee it cannot be used in combination with other information to reverse engineer the results of other survey participants. This survey is particularly valuable because of the strong and consistent participation by parties, facilitated in large part by the anonymity of the data. Were that anonymity to be compromised, the value of the survey also would be compromised. We believe maintaining the Company's participant code as internal information is the best safeguard to preserve the integrity of the IEEE survey and the confidentiality of other survey participants' information.
- b. We provide the requested NSPM quartile information by page number below:

**Table (FE-47) 1: NSPM Quartile Performance – 2019 IEEE Report**

| <b>Page</b> | <b>NSPM Quartile</b> |
|-------------|----------------------|
| 11          | 2 <sup>nd</sup>      |
| 12          | 1 <sup>st</sup>      |
| 13          | 1 <sup>st</sup>      |
| 14          | 1 <sup>st</sup>      |
| 15          | 2 <sup>nd</sup>      |
| 16          | 2 <sup>nd</sup>      |
| 17          | 1 <sup>st</sup>      |
| 18          | 2 <sup>nd</sup>      |
| 19          | 2 <sup>nd</sup>      |
| 20          | 2 <sup>nd</sup>      |
| 21          | 2 <sup>nd</sup>      |
| 22          | 2 <sup>nd</sup>      |
| 23          | 2 <sup>nd</sup>      |
| 24          | 2 <sup>nd</sup>      |

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Xcel Energy Information Request No. 48  
Docket No.: E002/M-19-666  
Response To: Fresh Energy  
Requestor: Isabel Ricker  
Date Received: February 5, 2020

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Question:

Reference:

Xcel's Response to Fresh Energy IR 11 in Docket 19-666.

Request:

Please provide the expected SAIDI, SAIFI and CAIDI improvements from the undergrounding of "50 miles of high impact tap lines" resulting in "substantial service performance improvement for customers connected to those lines."

Response:

We calculate SAIDI, SAIFI, and CAIDI on a system-wide basis, as they are intended to measure the Company's overall reliability performance over time. For context, we have approximately 25,000 miles of lines on the NSPM system, so we do not expect reliability improvements on 50 miles of tap lines to have a discernable impact to our system SAIDI, SAIFI, or CAIDI metrics. We do, however expect the reliability experience for the customers on those lines to appreciably improve. It may be possible to approximate the reliability improvement for customers on the undergrounded lines in the form of established reliability metrics. However, for these calculations to be meaningful, we would need to calculate the impacts on specific lines – and as noted in our response to Fresh Energy IR 11, we do not yet have specific plans related to these particular investments.

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Preparer: Betsy Coppock  
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Xcel Energy

Information Request No. 49

Docket No.: E002/M-19-666

Response To: Fresh Energy

Requestor: Isabel Ricker

Date Received: February 5, 2020

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Question:

Reference:

Xcel's Response to Fresh Energy IR 22 in Docket 19-666, Attachment B – CMO-ICE Calculator, tab 'DO NOT FILE – Instructions.'

Request:

- a. Please explain why the analysis includes Xcel's customers in both Colorado and Minnesota.
- b. Please provide an updated live electronic version of the Excel spreadsheet, with formulas intact, reflecting the outage costs for NSPM customers only.

Response:

a) The Company uses the CMO-ICE Calculator to develop a single value for a Customer Minute Out (CMO) across all of our jurisdictions so that we have a consistent metric for assessing risks in each jurisdiction. In developing this CMO value, we include all of Xcel Energy's electric customers across all jurisdictions (as shown on the "Variance & Customer Count" tab) to develop an overall ratio of Residential:Small C&I:Large C&I customers. As can be seen in the Xcel Customer Count table on that tab, this overall ratio is generally consistent with the operating-company-specific ratios. We use this overall ratio to calculate a single CMO value, as shown on the "XCEL CMO Calculation" tab, using the Lawrence Berkeley National Laboratory ICE Calculator, and following the instructions set out on the "DO NOT FILE – Instructions" tab. One step of those instructions is to select a state or states to use as a parameter in calculating CMO values. Because the vast majority of Xcel Energy's customers are located in Colorado and Minnesota, and because our service territory in other states like Texas and Wisconsin does not include major metropolitan areas (limiting the applicability of those states' CMO profiles to our customers), the state parameters we set in calculating a CMO value are limited to Colorado and Minnesota.

b) The Company does not have in its possession, custody, or a control, a version of the CMO-ICE Calculator spreadsheet with outage costs for NSPM customers only.

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Xcel Energy

Information Request No. 50

Docket No.: E002/M-19-666

Response To: Fresh Energy

Requestor: Isabel Ricker

Date Received: February 5, 2020

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Question:

Reference:

Xcel's November 1, 2019 Integrated Distribution Plan (IDP), Attachment M2 – page 127 of 202.

Request:

Fresh Energy understands that Xcel intends to deploy FLISR on 208 feeders located throughout the Twin Cities metropolitan area, and this deployment will cover 267,182 customers and require 655 devices.

- a. Provide a table showing for each reliability region that Xcel reports on (East Metro, West Metro, Northwest, and Southeast): total number of feeders, total number of customers, number of FLISR devices planned, number of feeders FLISR will be installed on, and number of customers expected to be impacted by FLISR deployment.
- b. Provide a table showing for each reliability region: total number of feeders, total number of customers, number of FLP devices planned, the number of feeders FLP will be installed on, and the number of customers expected to be impacted by FLP deployment.
- c. Please provide the most recent annual SAIDI, SAIFI, CAIDI, and CMO values for each reliability region.
- d. Please provide a table showing the SAIDI, SAIFI, CAIDI, and CMO values (or an estimated range of values), by reliability region, that Xcel expects to see once the FLISR deployment currently proposed is complete.

Response:

- a. See Table (FE-50) 1 below.

**Table (FE-50) 1: NSPM State of Minnesota FLISR Proposal by Reliability Reporting Area**

| Region     | Customers<br>(YE 2019) | Feeders | FLISR<br>Devices | FLISR<br>Feeders | Impacted Customers<br>(FLISR) | 2019 ALL DAYS Region |        |        | Annual CMO<br>Improvement | Annual SAIDI<br>Improvement |
|------------|------------------------|---------|------------------|------------------|-------------------------------|----------------------|--------|--------|---------------------------|-----------------------------|
|            |                        |         |                  |                  |                               | SAIFI                | SAIDI  | CAIDI  |                           |                             |
| Metro East | 424,150                | 290     | 245              | 73               | 135,696                       | 0.85                 | 104.56 | 122.52 | 8,541,911                 | 6.79                        |
| Metro West | 611,784                | 497     | 410              | 133              | 211,924                       | 0.74                 | 79.93  | 107.38 | 18,245,346                | 14.51                       |
| Northwest  | 121,815                | 108     | -                | -                | -                             | 0.94                 | 150.75 | 160.63 |                           | -                           |
| Southeast  | 129,823                | 144     | -                | -                | -                             | 1.32                 | 374.23 | 283.47 |                           | -                           |
| Minnesota  | 1,287,572              | 1,039   | 655              | 206              | 347,620                       | 0.86                 | 124.50 | 145.29 | 26,787,256                | 21.30                       |

*Notes:* All Days SAIFI, SAIDI, CAIDI is defined as all causes, all levels, all days (no exclusions); Annual CMO Improvement is after FLISR is fully deployed; Annual SAIDI Improvement based on 2010 to 2018 average. Minnesota customers of North Dakota and South Dakota regions are grouped with the Northwest and Southeast regions respectfully as per MN QSP filing.

- b. As discussed in our IDP, FLP is a subset of FLISR. While FLP can be separately deployed, we are not proposing a specific deployment of FLP as part of our FLISR proposal. Rather, we expect FLP on the NSP system will be primarily utilized in the following ways:
- All FLISR targeted feeders will also include FLP functionality.
  - Existing relays and other devices that exist in the field today that provide the required telemetry will be brought into the advanced distribution management system (ADMS) over time to be utilized for FLP.
  - Where other projects occur that install devices that provide the required telemetry for FLP, those devices will be brought into the ADMS and utilized for FLP.
- c. Please see Table (FE-50) 1 above.
- d. Please see Table (FE-50) 1 above for the available information. Our FLISR impact analysis is based on CMO savings, which allows for quantification of benefits. CMO correlates with SAIDI, so we provide a SAIDI view in the above Table. We have not calculated specific SAIFI or CAIDI impacts, however, as the IDP explains, the nature of FLISR is that it will reduce the number/frequency of sustained events for customers on FLISR-enabled feeders. We note additionally that we have generally discussed the expected impacts of grid modernization on our reliability indices in our April 1, 2019 Annual Electric Service Quality Report in Docket No. E002/M-19-261, beginning at page 30.<sup>1</sup>

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<sup>1</sup> See filing on eDockets at:  
<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={20C6DA69-0000-C614-B4C4-A9F53F66EBAC}&documentTitle=20194-151596-01>



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