This question is: ___ **Trade Secret**

x **Public**

State of Minnesota
Public Utilities Commission

Utility Information Request

Docket Number: E002/M-20-812; E002/M-19-721 Date of Request: January 6, 2021

Requested From: Xcel Energy Response Due: January 20, 2021

Analyst Requesting Information: Michelle Rosier

Type of Inquiry:

	Financial		Rate of Return		Rate Design
	Engineering		Forecasting		Conservation
	Cost of Service		CIP	**x**	Other:

If you feel your responses are proprietary, please indicate.

Request Number 1	In Docket No. E002/M-17-797, Xcel Energy's November 8, 2017 Transmission Cost Recovery (TCR) Rider Petition estimated $31 million in capital costs would be needed for Geospatial Information System (GIS) Data Collection efforts which includes field verification of the distribution system as part of implementing the Advanced Distribution Management System (ADMS) (pp.15-16; Att. 1A, p. 19). In Docket No. E002/M-19-721, Xcel Energy's November 15, 2019 TCR Rider Petition highlights GIS improvements and $27.2 million in forecasted ADMS expenses in 2019 and 2020 for inclusion in the TCR. The $27.2 million includes capital, operating, and maintenance costs for ADMS and GIS improvements and removes ADMS and GIS improvement costs included in the base rates for 2016-2019. (pp. 9; 15; 18; Att. 1A, p.10-12; Att. 4B) The filing also discusses $12.8 million in GIS improvement costs between 2018-2024. (p. 15) The filing highlights the Company has completed "collecting data such as the size of wiring, the size and location of equipment such as transformers, switches, poles, phasing and connectivity, and device control settings" for 80 feeders as of 2019 and planned an additional 50 feeders in 2020 (130 feeders total). In addition, Xcel Energy notes the Company completed an ADMS "Testbed" review[1] noting "initial indications are encouraging, showing that we can expect adequate performance with lower data collection if coupled with additional sensors." (Att. 1A, pp. 10-12) In Docket No. E002/M-20-812, Xcel Energy's November 2, 2020 Hosting Capacity Analysis (HCA) Report filing states a "conceptual cost" of $40-48 million is needed for field verification of primary and secondary systems for monthly HCA updates or automated initial review screens. (p.20; Att. F) The 2020 HCA Report describes "... the collection of data such as the

1 Xcel Energy, Petition (November 8, 2017), Docket No. E002/M-17-797, Att. 1A, App. A, pp. 1-8: Identification of Impedance Model Improvements Needed to Implement ADMS Applications in Xcel Energy Territory appears to outline the ADMS "Testbed" review scope and timeline.

size of wiring, the size and location of equipment such as transformers, switches, poles, phasing, and connectivity. Hence, this process validates and enhances the various data attributes contained in the corporate GIS system by increasing its specificity and quality such that it could be used in an automated fashion to support the DER interconnection Use Case." The Company's 2020 HCA Report filing notes that field verification will benefit ADMS and the Advanced Planning Tool; as well as, potential future advanced applications like FLISR and IVVO. (Att. F at pp. 9-12)

Staff notes the GIS data to be collected appears nearly identical between the 2019 TCR petition and the 2020 HCA Report except for inclusion of device control settings in the 2019 TCR list. It is not clear to staff whether the GIS improvements in the 2019 TCR petition include secondary system data and/or extends beyond the 130 primary feeders planned or completed. Staff does not have a full picture of what is involved in the Company's GIS data improvements, field verification or validation, and how that differs from the standard, ongoing distribution asset management the Company currently does. For instance, the Company's November 1, 2019 Integrated Distribution Plan (E002/M-19-666) has an O&M budget that "…is composed of labor costs associated with maintaining, inspecting, installing, and constructing distribution facilities such as poles, wires, transformers, and underground electric facilities." (pp.19, 34)

The 2019 IDP also states: "The GIS data improvement needed to enable ADMS also furthers grid modernization efforts related to DER. Specifically, this effort will help DER adoption by improving the GIS model which is used for system planning and for hosting capacity analysis. The data collection and improvements will reduce the amount of time that planning engineers spend preparing each model for analysis. The verification and population of additional data attributes will also help our designers validate capacity necessary for EVs." (Att. M2, p. 35)

a. Please explain how the Company prioritized which 80-130 feeders would have field verification of data for the ADMS, and whether incremental data collection or validation is necessary for those feeders to achieve the primary and secondary system field data validations proposed in the 2020 HCA to enable more frequent HCA updates or automated Initial Review screens.

b. Please explain if, and why, the secondary system field verification conceptually proposed in the 2020 HCA Report is necessary to increase the frequency from the newly proposed quarterly HCA updates to monthly.

c. Please explain which, if any, benefits identified in the ADMS certification would not be fully realized without the additional GIS data improvements proposed in the 2020 HCA Report.

d. Please explain why the GIS data collection proposed in the 2020 HCA Report is incremental and a conceptual cost; rather than already included in the Company's annual O&M budget, ADMS budget, or otherwise captured in the Company's existing revenue requirements in base rates or the Transmission Cost Recovery (TCR) Rider.

e. Please provide a summary of results and any report created on what the Company refers to as the "ADMS 'Testbed'" review which discusses the level of data collection required for more frequent HCA, automated Initial Review screens, or to achieve the benefits proposed when ADMS was certified.