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PUBLIC UTILITIES COMMISSION

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February 28, 2018

XCEL ENERGY'S 2017 DISTRIBUTION SYSTEM / HOSTING CAPACITY STUDY **Docket E002/M-17-777**

FRESH ENERGY'S REPLY COMMENTS ON XCEL'S 2017 HOSTING CAPACITY REPORT

Fresh Energy appreciates the thoughtful comments provided by the Department of Commerce (Department) and Interstate Renewable Energy Council (IREC) pursuant to the November 15, 2017 Notice of Comment Period on Xcel Energy's 2017 Hosting Capacity Report. We also appreciate the report provided by Power System Consultants (PSC) on behalf of Lawrence Berkeley National Labs. We generally agree with the observations and ideas brought forward by all parties, and spotlight the following three points:

- Updating the results more frequently is necessary to guide development (*IREC)*
- The spreadsheet should contain additional detail, such as minimum and maximum load data *(Department, IREC)*
- Future reports should include a more detailed analysis of distribution upgrades and associated costs (*Department)*

I. Updating the results more frequently is necessary to guide development.

Fresh Energy strongly supports IREC's recommendation to increase the frequency of publication of updated results to monthly, ideally, or a phased approach that clearly defines a plan to accelerate the frequency of publication over time.[1] As IREC points out, if a key advantage in selecting the DRIVE tool is speed and ease of updating the results, compared to other methodologies which are more computationally intensive, we should be taking advantage of that attribute. The hosting capacity analysis published last November has accounted for existing DER that had signed Interconnection Agreements as of July 31, 2017.[2] A DER provider referencing the tool to guide a siting decision today would be missing nearly 7 months of new development. A DER provider looking to the tool this October would be without 15 months of DER development. As the pace of DER integration accelerates, that lag-time becomes more and more significant. Without increasing the frequency of publication, the tool may be useful for the first month or two after publication and then immaterial the remainder of the year.

Additionally, Fresh Energy concurs with IREC that the conversation about use cases and internal integration of the tool is slow to advance when had only through the docketed comment process. We are eager to further our understanding of the capabilities and limitations of the DRIVE tool and would welcome a chance to discuss through a Commission planning meeting, or workshop, similar to IREC's suggestion.[3]

II. The spreadsheet should contain additional detail, such as minimum and maximum load data.

We support the recommendation from the Department, IREC and PSC that the report include more detail, such as the load profile assumptions used in the analysis. Understanding the hosting capacity and load profiled during peak days and during

[1] IREC Comments, p. 13
[2] 2017 Hosting Capacity Report, p. 2
[3] IREC Comments, p. 6, 12, 17, 18

daytime minimum loading, for example, would be beneficial to a DER provider who could then "shape" a solution to address the constraints. As a comparison example, the California investor owned utilities are publishing 576 hourly values (maximum and minimum 24-hour periods each month) for the interconnection use case.[4] Currently, DER providers have access to load profile data through the capacity screen process. As mentioned in our initial comments, the results of the capacity screen are useful but fall short of providing minimum or maximum capacity values. The topic of how and where the hosting capacity analysis and capacity screening exercise intersect would be valuable to explore in a planning meeting or workshop. The interconnection process would be considerably streamlined if we could move away from individual location-by-location requests for data and instead have a hosting capacity analysis that provides a more complete picture.

III. Future reports should include a more detailed analysis of distribution upgrades and associated costs.

As stated in our initial comments, the statute is clear that identification of necessary upgrades to support the development of DER is to be explored as part of the hosting capacity analysis.[5] Fresh Energy strongly supports the Department's suggestions of supplemental information that would result in a broader understanding of how to guide investments to "unlock" additional hosting capacity.[6] We reiterate their suggestions below and add a few of our own:

- The frequency at which the constraints to individual feeders occur throughout the distribution system (Department)
- A range of potential costs for each of the mitigation options available for an individual feeder; and a range of total costs (Department)
- How much additional hosting capacity could be obtained by implementing the identified mitigation options on a technical and economic basis (Department)

[4] California DRP Integration Capacity Analysis Working Group Final Report, 3/15/17, p. 20. https://drpwg.org/wp-content/uploads/2016/07/ICA-WG-Final-Report.pdf
[5] Minn. Stat. §216B.2425, subd. 8
[6] Department Comments, p.12

- Whether there would be a cost-effective impact on the value of DERs if such mitigation options were pursued (Department)
- Descriptions of all projects (including scope, estimated cost, in-service dates) planned by Xcel, which directly or indirectly will increase hosting capacity on each circuit.
- Operating characteristics (i.e., the magnitude, frequency and duration) required for DER solutions to provide grid services (e.g., injection or absorption of real or reactive power) to mitigate each circuit constraint.

Fresh Energy expects that there are distribution system investments that will increase hosting capacity while being cost-effective for the system as a whole. Moreover, this exercise could help identify DER portfolio opportunities to avoid or defer other, more costly, infrastructure investments.

IV. Conclusion

Thank you to the Commission and Xcel for their ongoing efforts. We appreciate the opportunity to comment and look forward to continuing to support this exciting work.

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