

Important Upfront Considerations for Effective Development of Hosting Capacity Tools and Analyses

Valuable Uses of Hosting Capacity Analyses

- Sharing of data about the status of the distribution system to “inform” the interconnection process
- Sharing of data to help optimize the use of existing grid infrastructure and to assist with the beneficial siting of full range of DERs (including those not requiring interconnection such as energy efficiency and demand response)
- Use in the actual review and processing of interconnection applications. Initially the analyses can be used to supplement or replace the screening criteria applied to DERs and ultimately may be able to semi-automate or fully automate the study process for DERs
- Inform the development and application of locational valuation assessments for DERs
- To inform and guide the planning process
 - Immediate identification of locations that may need upgrades or be experiencing constraints
 - Identification of locations where DERs may help alleviate constraints
 - Use in long range planning when combined with forecasting

In order to ensure that the hosting capacity analyses in New York are developed in a manner that enables achievement of these objectives, it is important to identify them upfront. There are numerous decision points throughout the development of the hosting capacity analyses that will impact whether the outcomes above are achieved in an efficient and timely manner.

For example, below is a list of just some of the considerations that have come up to date in assessing development of hosting capacity analyses that could be informed by identification of clear upfront objectives:

- Selection of methodology that is sufficiently accurate to allow use in the interconnection process (i.e. results are accurate within an appropriate level of confidence when compared to a power flow mode I).
- Use of time-series or dynamic models
- Frequency of updates (i.e. “real time”, weekly, monthly, etc.)
- Computational/processing time limitations
- Ability to identify specific “limiting criteria” with analysis results
- Transparency regarding methodology (and underlying assumptions) to enable meaningful use of data shared
- Ability to provide hosting capacity results for full range of DERs (i.e. not just PV)
- Assumptions regarding back feeding beyond the substation and impacts on the transmission system

Though there are many important uses of the hosting capacity analyses, IREC is particularly interested in ensuring REV is planning for the functionality and accuracy necessary to enable hosting capacity to be used in the interconnection process from the start. Why?

- Recent reports have vividly demonstrated the impact that growing interconnection queues can have on the ability of utilities to process applications in a timely manner.
- Data to “inform” the interconnection process will assist with the queue, but experience in other states has shown that is not sufficient and that we should strive for, and can achieve, greater efficiencies in the interconnection process.

- Putting aside the larger community solar projects, the NY utilities need to be prepared to process thousands of applications a month for small (rooftop) interconnections and a proper hosting capacity analysis can make that nearly automatic and can also ensure the locations of those projects are taken into account for evaluation of other projects. This will result in significant savings for customers and utilities.
- Uncertainty regarding the accuracy of hosting capacity assessments will impair the ability of applicants to invest resources in planning and designing appropriately located projects. In other words, a perceived risk that the interconnection results will be different than what the hosting capacity results indicated will increase the costs of development.
- It is important that the locational value assessments be highly accurate if they are going to be used for determination of rates and other cost assessments. If the hosting capacity analysis does not provide accurate results in an interconnection context that suggests that the valuation results will also be inaccurate.
- It is not our expectation that the hosting capacity analyses will be fully integrated into the interconnection process overnight, but planning for that eventuality upfront will reduce the costs of their development over the long-term while also enabling greater benefits to justify the cost of development.

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