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Utility Practices: Hosting Capacity and Locational Value Assessment

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Overview of the Effort

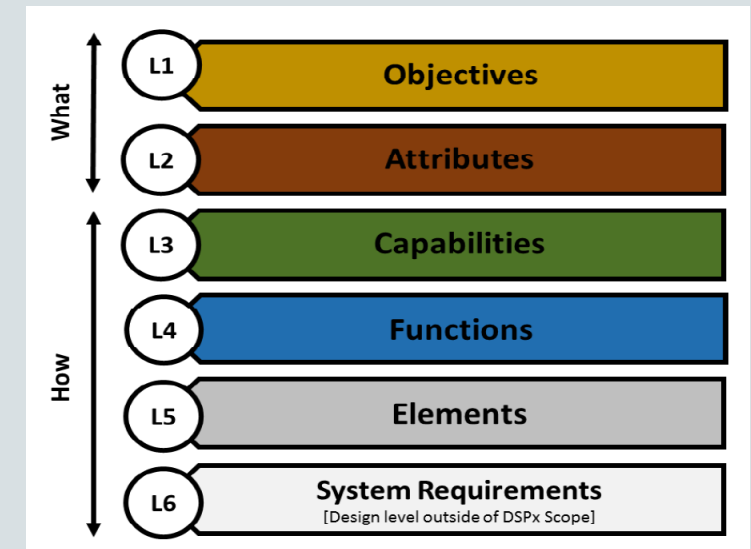
Scope

- DOE effort focused on current industry implementation
- Tracking utility progress on Integrated System Planning
- Focus on Hosting Capacity and Locational Value Assessment

Goals

- Document current industry efforts and trends
- Focus on use cases and value
- Present a framework focused on outcomes
- Coordination with other efforts at DOE and beyond

DSPx Taxonomy Framework



Use Cases for Hosting Capacity

Hosting Capacity supports DER integration as a:

1. Development guide
2. Interconnection technical screen
3. Distribution planning tool

	Objective	Method	Challenges
Development Guide	Accelerate DER deployment	Focus development capital in potentially lower cost areas	Regularly updated analysis of the full system Data visualization to facilitate external use
Technical Screen	Facilitate timely, more robust interconnection screening process	Hosting capacity replaces less accurate rules of thumb in the interconnection technical screens	High granularity, required, model validation, benchmarking to detailed studies
Distribution Planning Tool	Reduce future barriers to DER integration	Proactive identification of system upgrades to increase hosting capacity	Higher input data requirements

Sample of Comments on Hosting Capacity

- Use cases help define the value that hosting capacity provides so that they aren't understated or overstated
- As utilities contemplate stakeholder use cases, the first consideration that needs to be addressed is often the publication of utility asset data.
- Understanding long term use cases will inform decisions that impact near-term investments in system visibility and control.
- The use cases conversation must be iterative and expansive to capture dependencies and prerequisites (e.g. data needs)
- The value of hosting capacity use cases can depend on policy and DER penetration
- In some cases, hosting capacity can provide part of a use case, but needs to be viewed in a broader context

Use Cases for Locational Value Assessment

Locational Value Assessment in the context of:

1. Non-Wires Alternatives procurement
2. Retail rate design
3. Program design

	Objective	Method	Challenges
Non-Wires Solutions	Reflect the impact of DER on long-term system needs	Procurement of non-wires solutions that can defer the need for traditional investments	Mapping quantifiable DER and DER aggregation performance to utility planning criteria
Retail Rate Design	Enable the provision of DER products and services via price signals	Establish mechanisms for price formation based on local distribution requirements	The development of short-term and long-term prices that accurately and transparently reflect the value of distribution services
Program Design	Maximize the system value that utility programs provide	Target program incentives and/or customer acquisition to direct the deployment of DER in beneficial locations	Guarantee the paid incentive will provide value over the assumed lifetime of the DER

Sample Comments on Locational Value

- The ability of DER to address planning needs in the context of non-wires alternatives procurement depends critically on well-designed performance obligations
- Utilities' current non-wires alternatives efforts will provide valuable input on the ability of DER to address system needs
- The use case of locational value assessment to inform pricing via retail tariffs are in early stages and addressing many threshold issues
- A key challenge with respect to implementing a pricing use case for locational value assessment is the binary nature of many distribution system needs
- The ability to target programs to deliver locational system value often provides a good starting place both in the context of non-wires alternatives procurement as well as in the context of DSM program innovation

Acknowledgements, Next Steps

- Team and contributors

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- Schedule

- Interviews continue through mid-December
- Final product anticipated mid-January

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