



NextGrid Illinois

WORKING GROUP 1:

NEW TECHNOLOGY DEPLOYMENT AND GRID INTEGRATION

PROGRESS REPORT

JUNE 14, 2018

WG #1

NEW TECHNOLOGY DEPLOYMENT AND GRID INTEGRATION

Key Questions Addressed in Draft Report (page 1):

1. How Does the Grid Operate?
2. Does Illinois Need a Modern Grid?
3. What Are the Key Elements of a Modern Grid?
4. How Are Customer Needs Changing?
5. What Values Are Provided by DER to the Electric Service Network?
6. How Has Restructuring Affected the Electric Industry in Illinois?
7. How Has Oversight and Operation of the Electricity Supply Chain Evolved?
8. What Are the Emerging Technologies Affecting the Distribution System?

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Key Questions Addressed in Draft Report (page 2):

9. What Are the Opportunities and Challenges of DER Integration?
10. What Are the Opportunities and Challenges of Microgrids?
11. What is a Smart City?
12. How Will Transportation Electrification Affect the Grid and Its Users?
13. How is Distribution System Planning Affected by Growth of DER?
14. What Are the Determinants of DER Value to the Distribution System?
15. What Is the Distribution Platform Concept and How Might It Be Valuable?

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Key Opportunities Identified:

- More efficient asset utilization
- Improved reliability, resilience, and power quality
- Flatter load shape
- Better integration of DER
- Downward pressure on per-unit energy costs (fr: beneficial electrification)
- Prosumer facilitation through transactive network
- Enhanced customer experience and value
- Environmental and social benefits
- Others as further identified by WG members

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Key Challenges Identified:

- System planning in the face of uncertainty
- More complex operations due to shifting two-way power flows
- Need for visibility (and some control) of behind-the-meter DER
- Siting DER where most needed
- Unknown costs of full grid modernization
- Potentially uneven distribution of benefits
- Limited access to and understanding of DER technology/opportunities
- Fair and accurate allocation and recovery of system costs
- Others as identified by WG members

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NEW TECHNOLOGY DEPLOYMENT AND GRID INTEGRATION

- **Process:**

- Six meetings
- 21 presentations
- Initial Draft Report based on presentations and discussion
- Input/Comments/Editorial suggestions from WG members to ensure all viewpoints and relevant topics included
- Final Draft to be submitted soon

6/14/2018