The Microgrid Policy Agenda

IDEA
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Microgrid Defined

A microgrid is a local electric system (a local control area) or combined electric and thermal system:

• that includes retail load and the ability to provide energy and energy management services needed to meet a significant proportion of the included load on a non-emergency basis

• that is capable of operating either in parallel or in isolation from the electrical grid

• that, when operating in parallel, can provide energy, capacity or related services to the grid

Microgrid Resources Coalition (MRC)

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Grid Edge Resources

• This is not your father’s demand response
  • Smart, flexible, visible resources
• Customers and communities with support from technology vendors and private finance are remaking the grid locally to:
  • Achieve hybrid energy efficiency
  • Achieve local resilience
  • Provide competitive services to the grid
• We need a bill of rights for the grid edge

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Princeton Load Management

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Serving Included Load

• Is a Microgrid a utility? Is it franchised?
• Self Generation is usually permitted
  • Most states allow a third party supplier on site
• Hard to cross roads or property lines
  • New York Qualified Facility exemption
• Other regulatory options
  • Retail electric supplier, CCA
  • Co-op
  • Landlord, owners association
  • Utility/Private Partnership

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Resiliency

• DOE requested support for coal and nuclear units with fuel storage for “resiliency”
  • Fuel adequacy not the primary problem
• FERC rejected DOE rule, opened new docket
  • Asked RTOs about “bulk power system”
• MRC seeks coalition to support local focus
  • Need federal, state, local co-ordination
  • Customers and communities are the point not the enemy
• State support programs are for planning and financial support (NY, NJ, CN, CA)
  • Face regulatory issues for serving load

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The Utility of the Future

• A self-healing grid in emergencies
  • Can separate into self-supporting islands
  • Each is its own semiautonomous control area
  • Each supplied by Distributed Energy Resources (DER)
  • The islands can support one another
  • Intelligent load shedding

• Microgrids are the building blocks
• Utilities supply distributed control (DERMS)
• Smaller local resources and looped support arrangements reduce contingencies

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Sales to RTOs

• Federal Energy Regulatory Commission (FERC) is empowering grid-edge resources in RTOs
• EPSA v. FERC has given FERC clear authority
  • Wholesale market is not an intrusion on the retail price
• Hughes v. Talen Energy Marketing
  • States have broad power, but can’t interfere with wholesale market

• RTO pricing in crisis
  • RECs and ZECs – state subsidies for policy
  • PJM Capacity – two step auction v. MOPR change
  • Carbon Pricing in NY ISO, New England

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Sales to RTOs 2

- FERC has opened a new docket on aggregation of DERs
  - Storage NOPR called for “participation model”
  - Raises concerns about “penetration”
  - Doesn’t distinguish between visible/flexible and invisible/inflexible
  - Doesn’t distinguish between aggregation and hybrid resources with multiple capabilities
- CA ISO rule allows net aggregation
- Need ability to divide resources and bid into different markets


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State Action

• MRC has raised concerns about barriers
  • New York REV didn’t address microgrids
  • California “roadmap” is a work in progress
  • Other state proceedings - DC, MO

• State action on “non-wires solutions”
  • CA leads with pricing alternatives

• Utility demonstration projects
  • Testing distribution solutions - SDG&E
  • Evading restrictions on generation ownership

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State Action 2

- DERs provide distribution support services that avoid the need for “wires solutions”
  - Local Markets
  - Competitive procurement through RFPs
  - Direct proposals (e.g. VA P3 law)
  - Contract supports development

- Separately bid and metered
  - Avoid double counting

- Cost supported by customer driven investment

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PURPA

• Public Utility Regulatory Policies Act
  • Requires utilities to purchase energy from Qualified Facilities (CHP and renewables)
  • Exception for RTOs and other areas with markets
• HR 4476 allows utility to just say “no need” or say it runs a competitive energy market
• NARUC asks FERC to expand “competitive markets” by regulation
  • Need to have real markets
  • FERC could expand eligible facilities to all grid edge resources and expand beyond energy

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Bill of Rights

• Each customer may:
  • Generate and manage energy behind its meter with the assistance of third parties of its choice.
  • Purchase energy from local suppliers directly or through group or community arrangements.
  • Have access to information regarding its energy use and services it provides.

• Each community may:
  • Act as an aggregator to purchase energy for community members and sell energy services on their behalf.
  • Have access to information about energy use in its community.

• Consistent with energy access to all.

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Questions

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