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STATE RENEWABLE ENERGY POLICY UPDATE : MICROGRIDS

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166-YEAR HISTORY

UNRIVALED EXPERIENCE

DIVERSIFIED SPECTRUM OF ENERGY SOLUTIONS

Washington Gas
A WGL Company

Washington Gas Light Company is a regulated natural gas utility serving approximately 1.1 million customers in the metropolitan Washington, D.C. area.

WGL Energy
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WGL Energy is a leader in efficient and environmentally friendly energy technology solutions that provide electricity, natural gas, renewable energy and green products to public and private sector customers across the United States.

WGL
ENERGY ANSWERS.
ASK US.

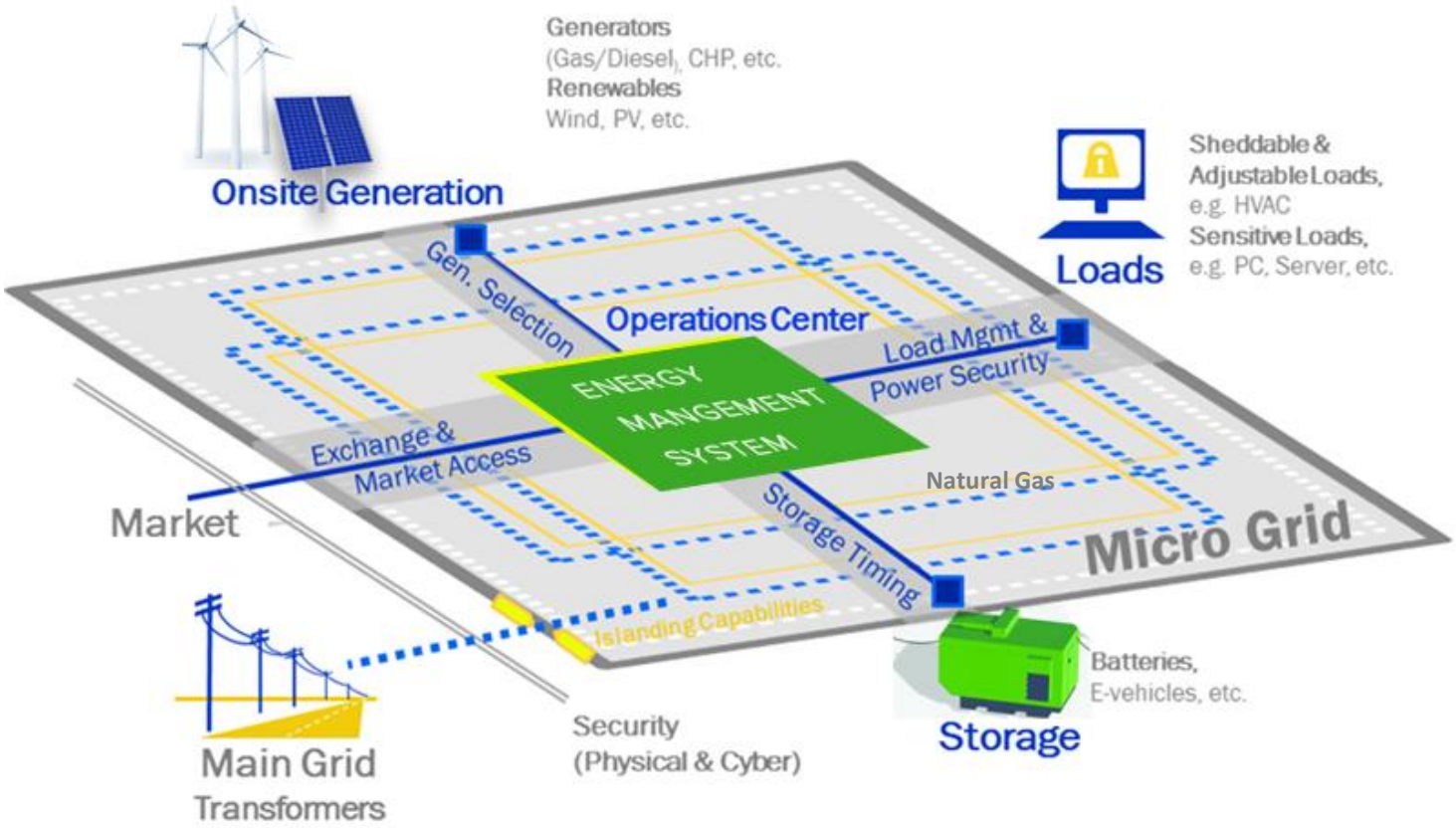
WGL Midstream
A WGL Company

WGL Midstream is a wholesale energy solutions business that invests in and optimizes natural gas pipelines and storage facilities in the Midwest and Eastern United States.

Hampshire Gas
A WGL Company

Hampshire Gas is a natural gas storage business which owns and operates facilities in and around Hampshire County, West Virginia.

WHAT IS A MICROGRID?



- Sensors & Controllers
- Natural Gas & Power & distribution
- Chilled/Hot water distribution
- IT

MICROGRID DEFINITION

RECOMMENDATION:

WGL offers the following definition designed to cover both **campus** and **area** microgrids**:**

THE TERM "MICROGRID" *shall mean a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that generates and supplies electricity and other related electricity services, and/or controls the supply of any liquid, steam, or air through pipes or tubing for use or for lighting, heating, or cooling purposes, that acts as a single controllable entity with respect to the regional electric grid and that connects and potentially disconnects from such grid to enable it to operate in both grid-connected or "island" mode. The electric generating capacity of a microgrid shall be no greater than 20 MW. A microgrid may either require no public rights-of-way or the microgrid Owner may acquire or have acquired such rights-of-way. In either case the microgrid must provide services to end-use consumers solely within a contiguous site on which the microgrid is located.*

REGULATORY REVIEW PROCESSES

REGULATIONS MAY VARY

For campus microgrids no change in regulation is necessary:

- No changes in existing regulation is needed except for strengthening of the interconnection rules

- No supplier license is necessary for distributed generation within a microgrid.

REGULATORY REVIEW PROCESSES

AREA MICROGRID GENERATION is like a localized central power plant that can operate independently of the grid

- An area microgrid may combine new and existing renewables, combined heat and power, back up generation and other similar resources
- A “smart” microgrid with advanced control systems, smart inverters and other communications technology can provide broader economic value and greater benefits than stand alone distributed generation. It can balance the grid through PJM and increase, rather than decrease, the reliability of the grid
- Area microgrids can provide resiliency and reliability benefits to those connected to them when islanded but they can also enhance the macrogrid when connected by helping balance the grid and provide demand response services into PJM
- Regulation for area microgrids should be streamlined to produce the benefits in the competitive market
- Macrogrid customers should not bear the costs of building, maintaining and operating the microgrid

OTHER DEFINITIONS OF MICROGRIDS

OTHER DEFINITIONS DISTINGUISH BETWEEN PUBLIC AND PRIVATE MICROGRIDS

- The distinction between “public” and “private” microgrids has been used to justify utility participation in the microgrid market and ratepayer funding of microgrids.

- All microgrids should make economic sense and where subsidy is needed for resiliency purposes or other societal benefits the subsidy should be either paid by the customer or through a broad based subsidy not a ratepayer subsidy. This is true because the services provided by microgrids are by definition localized.

- Regulators must think outside the traditional regulatory paradigm to design a new framework that allows new technologies like fuel cells and smart inverters to create new solutions to old problems

REGULATORY FRAMEWORK FOR MICROGRIDS

WGL ENERGY RESPONSE

Streamlined regulation that fosters competitive market while ensuring safe and reliable service

Interconnection policies that create a level playing field between macrogrid generation and the microgrid generation . . .

REGULATORY FRAMEWORK FOR MICROGRIDS

RECOMMENDATIONS

- Enforceable timelines for interconnection
- Microgrid technologies require next generation interconnection rules and procedures
- Standardized interconnection procedures that allow for smart inverter deployment or contain islanding standards for distributed generation
- Revisions of the IEEE 1547 standards may provide guidance
- Penalties must be in place to ensure timely interconnection to avoid competitive projects never coming into being due to unnecessary delays in obtaining interconnection

SHOULD NEW GENERATION RULES APPLY TO MICROGRIDS?

WGL ENERGY RESPONSE

Streamlined regulation should be used as with other forms of distributed generation, e.g. solar.

No economic regulation of microgrids when they are "customer generation"

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SHOULD MICROGRIDS BE EXEMPTED FROM RULES FOR NEW GENERATION?

RECOMMENDATIONS

- Commissions should revise the regulations to expand streamlined certification that governs solar generation facilities to include all microgrids that include combined heat and power plants up to 20 megawatts and fuel cell facilities
- Commission shouldn't allow electric utility ownership of generation including microgrids even as pilots. If an electric utility is allowed rate recovery:
  - competitive providers could not compete.
  - no public interest is served by preventing competition in this market
- Competitive microgrid providers should bear the economic risk of providing competitive microgrid services
- Commission should continued oversight of safety of microgrids

QUESTIONS?