

## Engagement Subcommittee Report Out

Chair: Heather Donaldson

Members: James Fine, Michael Holland, Audrey Lee, Paul Centolella, Jason Handley, Lynne Kiesling

- The goal of the engagement subcommittee was to review and provide feedback to NIST on its engagement strategy for updating the NIST Framework and Roadmap for Smart Grid Interoperability Standards, version 4.
- The subcommittee had one teleconference in May 2018.
- During the May 2018 teleconference, the subcommittee reviewed and discussed the workshop descriptions, intended participants/groups, and value propositions for the framework and the individual workshops.
- The discussion from the subcommittee were focused on:
  - The workshops' structure and contents
  - Any missing intended participants/groups
  - Other value proposition for the overall framework and the workshops
  - Additional stakeholder and point of contact
- Subcommittee members also submitted written comments after the May 2018 teleconference.
- Subcommittee members agreed with the workshops' structure and contents.
  - A workshop on Testing and Certification
  - A workshop on Communications Pathway Scenarios
  - Regional Workshops
- Subcommittee members suggested additional stakeholders for the outreach including:
  - Manufacturers
    - Electrical equipment
    - Storage
    - Inverter
  - Research institution

- Energy policy
- Solution provider (especially data analytic)
- Electricity users (aka citizens) including citizens who are (a) vulnerable to the risks of smart grid cost pressures and consequent increased health risks, and (b) potential “prosumers.”
- Subcommittee members provided additional value proposition for the framework and workshops.
  - General Framework
    - What:
      - Electricity system interoperability framework
      - Technological and economic change are creating grid management tensions and new opportunities
      - Interoperability is an essential element of a flexible, resilient, secure, valuable electricity system
      - This framework embodies research and practice to inform forward-looking decisions
      - Reference cases to apply the framework to different cases at a general enough level to be relevant, but a specific enough level to illuminate forward-looking practices and decisions
    - Who: all of those diverse parties listed on the outreach slide
    - Why should they care/participate:
      - The world is changing: technological and economic dynamism are putting pressure on traditional grid management methods
      - Standing still is falling behind: changes that are occurring create new value propositions in electricity, and interoperability is a building block for not missing those opportunities
      - Standing still is falling behind 2: change is going to continue to happen, and maintaining the status quo risks making the electric system less valuable and less relevant in a modern, digital economy (in the limit this is grid defection)

- Legacy investments and assets have value, and interoperability investments can enable unleashing that value rather than having them become “stranded assets” as the world becomes more digital, diverse, and decentralized.
  - Interoperability enables interconnection of distributed resources.
  - Interoperability enables a layered approach to cybersecurity.
  - Interoperability enables decentralized markets that can create and unleash new value creation.
  - If policymakers are unaware of interoperability’s issues and impacts and don’t reflect them in their policymaking, the policies they create will have unintended and probably negative consequences.
- Testing and certification workshop
    - What:
      - Turning interoperability from concept into reality requires testing, validation, and certification of devices and standards
      - This process is more complicated, and all the more important, as grid resources become more diverse in functionality, scale, and timing
      - Developing a common testing and certification program reduces costs and makes it easier for relevant parties to implement interoperable smart grid architectures
    - Who: engineers and architects
    - Why should they care/participate:
      - These are challenging and important problems that are often underappreciated but are crucial to enabling the 21st century smart grid
      - They are an important part of getting this right for the future
  - Communications Pathway Scenarios
    - What:
      - Review and refine reference scenarios

- Make sure reference scenarios capture relevant aspects of operational, security, behavioral, and market elements of the system
- Who: everyone who has a role in designing, testing, operating, and regulating in the electric power system
- Why should they care/participate:
  - These reference scenarios encapsulate the Interoperability Framework and the design principles used to evaluate interoperability and its foundational value in creating a 21st century smart grid. Diverse input is essential to getting them right.
  - This is a cyber-physical system, and it's also a human system that includes people who design, operate, use, and threaten it. Input from those who bring expertise beyond the traditional engineering input is essential for incorporating the human aspects of the system into the reference scenarios.
- Regional workshops
  - What:
    - Focus on local and regional diversity
    - Introduce interoperability as a building block of the 21st century smart grid to a broader set of audiences
  - Who: everyone in the region who has a role in designing, testing, operating, and regulating in the electric power system
  - Why should they care/participate:
    - Learn about interoperability and why it's such an important building block for the 21st century smart grid
    - Learn about interoperability's potential value creation – economic and environmental implications of interoperability in their region
    - Participate in a broad, yet deep, discussion of interoperability's implications for grid architecture, and those implications for regulation and public policy in the region