

Urgent Needs to Reliably Facilitate the Energy Transition

Smart Grid Subcommittee

Background

Recognition that there is expanding fragility of our modern infrastructures, essential resources and supply chains that is challenged as the electric sector transforms.

Virtually all economic activity spans across interdependent infrastructure sectors; the interdependency is growing in complexity, unprecedented, and anchored upon having a reliable electric infrastructure.

Vulnerability for societal sustainment is at play if any of the tightly interconnected infrastructure segments are disrupted; due to the dependancy on electric, vulnerability sensitivity is compounded by electric system susceptibilities exposed through infrastructure transformation.

Urgency to act has been highlighted by recent disruptions and near misses creating an EAC recommendation for DOE to prioritize related short / long term, action-oriented efforts

Timeline

Discussions occurred in the:

EAC Reliability Working Group – met every 2-3 weeks beginning in June

Smart Grid Subcommittee meetings: monthly May - October

EAC Leadership team discussions: monthly June-October

EAC meeting: June, October

Draft distributed for comment:

Smart Grid Subcommittee –several rounds in August and September

Full EAC – twice in September (9th and 20th)

Final draft distributed to full EAC in October with meeting materials

Summary Issues – Immediate Needs

1. Certain reliability attributes of retiring resources are lost and can contribute to reliability challenges if not adequately replaced.
2. Retiring resources are outpacing new resources which could lead to a deficiency when balancing capacity and energy load needs.
3. Planning processes at the local, regional and inter-regional levels are not adequately coordinated to efficiently process and in some cases, accelerate needed new transmission and interconnection projects.
4. The lack of tight collaboration and communication across federal and state agencies and regulators fails to create an atmosphere necessary to vet solutions to grid reliability issues rapidly.
5. The industry lacks communication standards and technology to meet today's need for global secure data access and sharing needed for real-time situational awareness.

Recommendations – Issue 1

Leverage existing tools, and develop additional tools and scenario analysis beyond what is used today.

Possible DOE Role: DOE can assist in activities such as identifying the differing assets that provide reliability attributes, the cost of those technologies, and methods for facilitating their timely development and deployment.

Recommended Action: Leverage existing tools, and develop additional tools and scenario analysis beyond what is used today. This would include developing a common set of tools, terms, methodologies, and studies that should be considered given the energy transition, to better assess reliability in lieu of new changing technologies, demand requirements, and emerging threats such as extreme weather. This might include how resource adequacy risk is assessed, and a standard set of reliability studies and reports, so that industry decision makers have common information when making decisions.

Recommendations – Issue 2

Retiring resources are outpacing new resources which could lead to a deficiency when balancing capacity and energy load needs.

Possible DOE Role: DOE can help to develop differing accreditation models as well as tools for evaluating resource-specific accreditations.

Recommendations – Issue 3

Planning processes at the local, regional and inter-regional levels are not adequately coordinated to efficiently process and in some cases, accelerate needed new transmission and interconnection projects.

Possible DOE Role: Help to coordinate local, regional and inter-regional planning processes related to new transmission and interconnection processes.

Recommended Action: To address the need for expediency in infrastructure planning and implementation, offer infrastructure planning assistance more broadly and at the highest levels to support needed legislative and other conversations and propose and define roles and responsibilities including a “fast path” for transmission planners.

Recommendations – Issue 4

The lack of tight collaboration and communication across federal and state agencies and regulators fails to create an atmosphere necessary to vet solutions to grid reliability issues rapidly.

Possible DOE Role: DOE could pay for the meeting of state regulators – who have jurisdiction over the generators in their states – and the appropriate grid planners. They could facilitate the discussions with the goal of identifying legitimate, material reliability concerns associated with the energy transition, and proposing appropriate, cost-effective solutions.

Recommended Actions: Host communication workshops – at least quarterly – on communication paths. Workshops would emphasize closing the gap with the needed information exchanges necessary to cost-effectively facilitate the energy transition while remaining reliable as defined by NERC.

Recommendations – Issue 5

The industry lacks communication standards and technology to meet today's need for global secure data access and sharing needed for real-time situational awareness.

Possible DOE Role: Initially determine what information is needed by whom, and for what purpose, and then determine the secure data access requirements.

Recommended Actions: Develop and propose mandatory interoperability and performance standards of new technologies.

Next Steps

EAC Vote to approve sending the issue statement and recommendations to the EAC.