Discussion Topics to Guide the Transition from R&D to Commercial Operation

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NERC and DOE Funding for NASPI

- NERC funding of ~$1M/year (through 2013) supports:
  - NASPI project manager
  - O&M for TVA Super PDC
  - R&D for phasor infrastructure (openPDC, phasor gateway)
- DOE funding of ~$4M/year supports:
  - Logistic support and targeted R&D for NASPI task teams
  - O&M for TVA RTDMS
  - Advanced synchrophasor demonstrations
  - Basic R&D for advanced applications

What's the future path?

Issues that must be addressed:

1. How does synchrophasor technology get mainstreamed?
2. How do the current NASPI task teams and functions evolve into self-sustaining activities?
3. How do we maintain the momentum of the synchrophasor community?
4. How should NERC and DOE prioritize their efforts to support the above?

We have perspectives on #1 that inform the plans we are developing for #2-4, but important questions remain…

Observations on How Synchrophasor Technology Will Be Mainstreamed

DOE-funded ARRA Smart Grid awardees are leading the way

Awardees are standing up fully supported installations and secure networks for internal data exchange

Planning and forensic applications are leading operational applications, with the exception of wide-area situational awareness

Research continues to pursue a “killer app” – one that will alert and enable operators to take evasive actions to avoid a cascading blackout – work on real-time detection of poor oscillation damping shows great promise in the West

Over the past year and a half, the orientation of NASPI has shifted to one of full alignment with the goals of and coordination of technical support for the success of the awardees

Today, the focus of NASPI meetings is on information sharing and lessons learned by the awardees

This focus is expected to continue through 2013

NERC has committed to supporting NASPI past 2013 in order to grow and continue the momentum of the NASPI community

The frequency of larger group meetings may be reduced (from three times to twice per year)

The meetings will continue to focus on information sharing, best practices, lessons learned – community building

These meetings are distinct from regular meetings of the JSIS (to be discussed next)

A project manager will continue to organize these meetings

Some NASPI Task Team Functions Are Slated to Transition to Standing Industry-led Activities

- NERC Staff have proposed creation of a Joint Synchrophasor Information Subcommittee (JSIS) that would report to both the OC and PC
- JSIS would serve as the staging ground for eventual transition of NASPI activities into standing OC and PC activities, once they become fully mature (i.e., mission critical)
- JSIS would supplement, not co-opt, existing OC and PC membership and resources
- WECC has already embraced this approach
- Members of the present NASPI leadership, with some tweaks is proposed to migrate into JSIS
- First step will be to create a task force to put together a transition plan leading to formation of JSIS (summer 2012)

Different paths and decisions must be assessed for the activities involving TVA-GPA-EPG

NERC supports GPA to

1) conduct R&D (open PDC; phasor gateways), and

2) maintain the super-PDC for the east, in partnership with TVA and EPG

DOE supports EPG to provide visibility to eastern participants via RTDMS through TVA-GPA

GPA's NERC-funded R&D will end with current contract (2013)

The principal beneficiaries of the visibility provided are entities who have not yet made significant investments in synchrophasor technologies

The principal beneficiaries of the data currently archived include both these entities and the early adopting ARRA awardees

NERC, DOE, and TVA must discuss and agree on the role and support for the TVA super-PDC after 2013

The Elephant in the Room

The East has not determine how it can or would share real-time synchrophasor data with each other for operational purposes

The ORD has not been accepted universally as covering exchange of real-time synchrophasor data. A separate data exchange agreement has been struck in WECC for WISP

A organizational construct for the East and funding mechanism has not been established

NERCnet must be augmented or a parallel system put in place capable of supporting the expected level of synchrophasor data traffic. Current NERCnet management and funding methods may be a good model for the communications system, with the WECC WISP as a technical model.

Some of the ISO/RTOs are developing requirements that might be supported by a separate vendor

Governance issues (registry, naming) must be addressed regardless of which organizational construct emerges

With current time constraints, we may need an interim plan for transitioning from the TVA super PDC to the new construct in order to maintain continuity for use of phasor data in the East

Whether and how to share operating information with NERC is closely related but somewhat separable issue

The Issues That Must Be Addressed in The East

How many parties will be involved in exchanging synchrophasor data?

How much data will they want to exchange?

Through what institutional construct will the exchange take place (and how will it be paid for)?

How will the network scale in order to incorporate new-comers?

ESG Discussion Topics – 18 April 2012

- How best to continue awareness and acceptance of using phasor applications?
  - NASPI task teams and workshops
  - TVA's plans post 2013
  - NERC technical committees
  - Other approaches
- As we expand the use of phasor data, what are the operational requirements
  - Critical Infrastructure Protection
  - Access to data (NERC, researchers, others?)
  - Other issues?
- How to address the need for an organizational construct and funding mechanism to sustain the infrastructure needed in the Eastern Interconnection for data exchange among RCs?
  - Role that $NERC_{Net}$ could or should play (it must be enhanced) or creation of a parallel system capable of supporting expected level of data traffic