

Research Initiatives Task Team

NASPI Working Group Meeting

March 7, 2008

New Orleans, Louisiana

Research Initiatives Task Team

“To facilitate and promote the advancement of wide-area, synchronized measurement and control applications and technologies”

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Key Deliverables

- High-level research roadmap for Synchronized Phasor Measurement System (SPMS) technologies – Complete
- Develop inventory of SPMS research activities – RFI to be sent in mid-April 2008
- Develop Information repository/website to distribute papers, presentations, and other – PNNL agreed to fund the website *Pasma Apehaya (PJM), Jay Giri (Areva), and Yuri Makarov (PNNL) are working on automation and I.T. capabilities*
- Establish a “disclosure” agreement that provides for the release of historical PMU test cases to research community – Moved to NERC and the Leadership Team to resolve

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Goals 2008

- Deploy Research Repository – Yuri Makarov (PNNL)
- Education and Outreach – Stephen Lee (EPRI)
- Research Coordination
 - Identify research needs of other task teams
 - Determine high priority research projects/areas
 - Publicize current research development and deployment activities
 - Promote advancements, opportunities and efforts
 - Test data sets for non-utility researchers – PNNL Team
- ESG Action Item: Determine what data/information researchers need – Lisa Beard (TVA)

Data Gathering Tool for Determining NASPI Researcher Data Needs (Example)

Draft

<i>Application</i>	<i>Time Window/sample rate</i>	<i>Data Requirements</i>	<i>Format /Protocols</i>	<i>Comments</i>
Performance Monitoring • State Estimation, Inter-area Power Flow Analysis, Real-Time Security Management, Static Security Management, Dynamic Security Management, Voltage and Reactive Power Management, Look-ahead Functions, Detection of abnormal conditions				
Class A - Small Signal Stability				
Small-Signal Stability Monitoring	10-15 Minutes(10 /sec)	Phasor, FNET	PDCStream, IEEE C37.118	Tools/Algorithms for small-signal monitoring are specific to the nature of the data: i.e. ambient data, post-event ringdown data, probing data.
Voltage Stability Monitoring/ Assessment	~ 1 hour (30 /sec)	Phasor	PDCStream, IEEE 1344, IEEE C37.118, OPC	<ul style="list-style-type: none"> - Departure from the P-V curve or voltage below limit - Estimation of the vinin equivalent parameters to approximate margins
Thermal Monitoring (Overload)	~ 1 hour (30 /sec)	Phasor, Line Parameters	IEEE 1344, IEEE C37.118	Current applications require phasor measurements from both ends on the monitored line