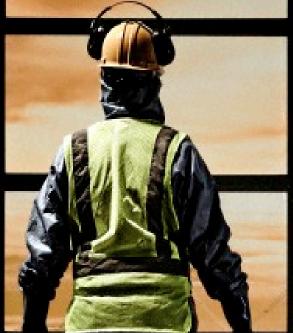
Entergy Phasor Project Update









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Project Specifics

- PMU installations Across Arkansas, Mississippi, Louisiana, and East Texas
 - 14 New PMU's installed in 2011
 - 21 New PMU's Installed by EOY 2012
 - 10 New PMU's installed by EOY 2013
 - 45 Total DOE Co-Funded PMUs
- 66 PMUs at Entergy by 2013 (with 21 Existing PMU's)
 28 PMU's ≥ 345 kV
 38 PMU's < 345 kV



Project Specifics(cont)

 Module One E-Learning Training completed by Over 600 Entergy staff and Project Members
 Training & Education Plan 2012/13

• Beta Applications:

- Phasor Gateway Testing & Evaluation
- WSU Oscillation Monitoring Testing & Evaluation
- EPRI Wide-Area Voltage Stability Monitoring Testing & Evaluation
- NEU Synchro-Phasor Assisted State Estimator (SPASE) Testing & Evaluation
- UNO Pattern Recognition CART installed, functional plans and processes have been completed and analysis begun
- WSU Local-Area Voltage Stability- Dec 2011 delivery
- Space Time Insight Preliminary Visualizations Applications
- OSIsoft Pi Historian installed 2007
- GPA openPDC installed June 2011, second 2012
- Deployment of DOE Approved Cyber Security Plan is in progress and on schedule







Challenges, Lessons Learned

& Everything Else

- Entergy and MISO will be testing the use of NERCnet for the exchange of Phasor data
 - Gateway to Gateway, PDC to PDC
 - Metrics for the tests will include data quality, data delivery, security of data exchange, etc.



Challenges, Lessons Learned

& Everything Else

 Things take longer than you think
 Guidelines for Visualization components and shared visualizations (colors, symbols, refresh rates, etc)
 Agree on Common Training & Education materials

 Talk Often, Meet Regularly, & Know Where You're Going

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