



REPORT ON
OFF-LINE APPLICATIONS TASK
TEAM (OLATT)

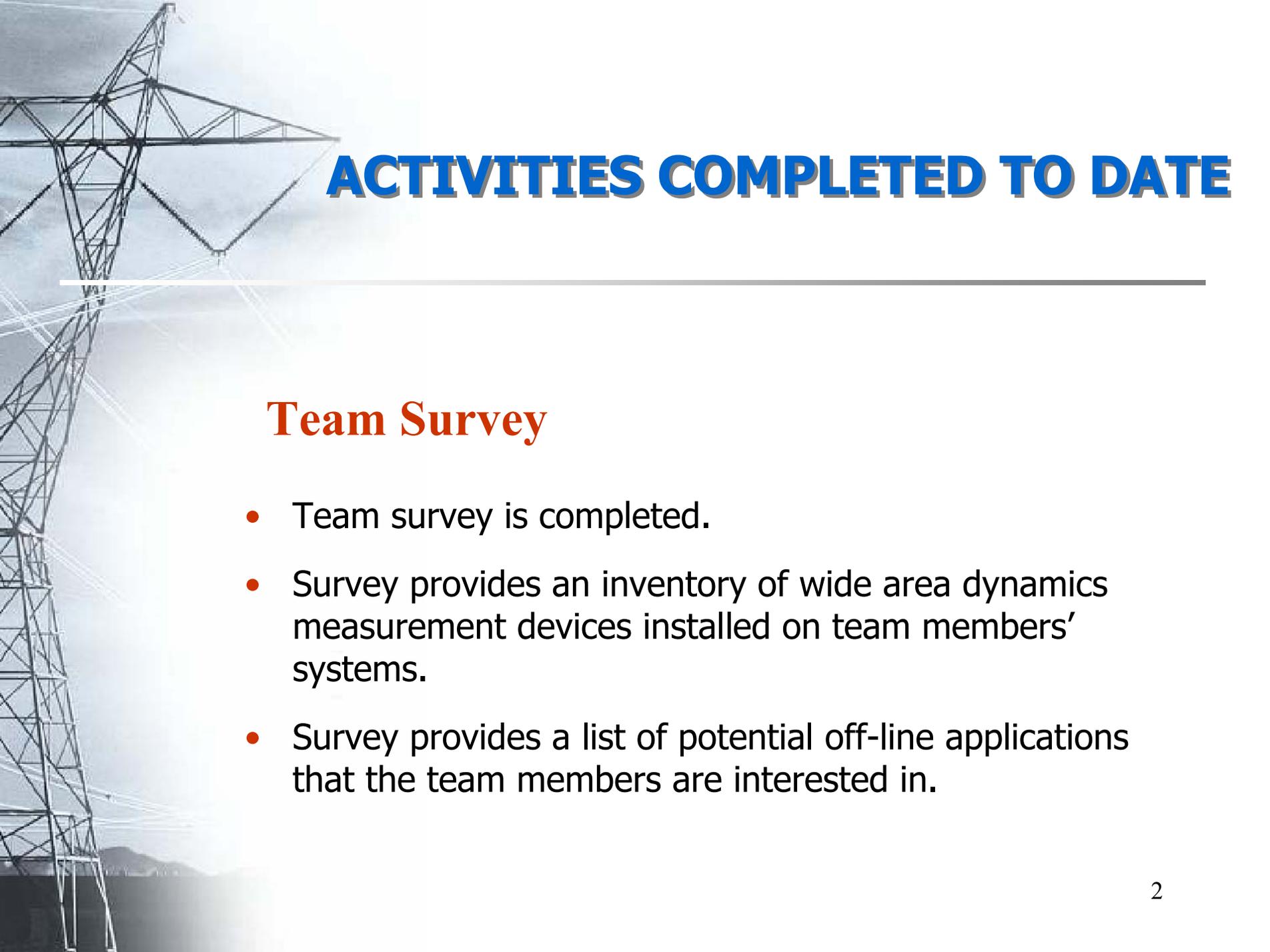
By

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American Electric Power (AEP)

**Eastern Interconnection Phasor Project
Working Group Meeting**

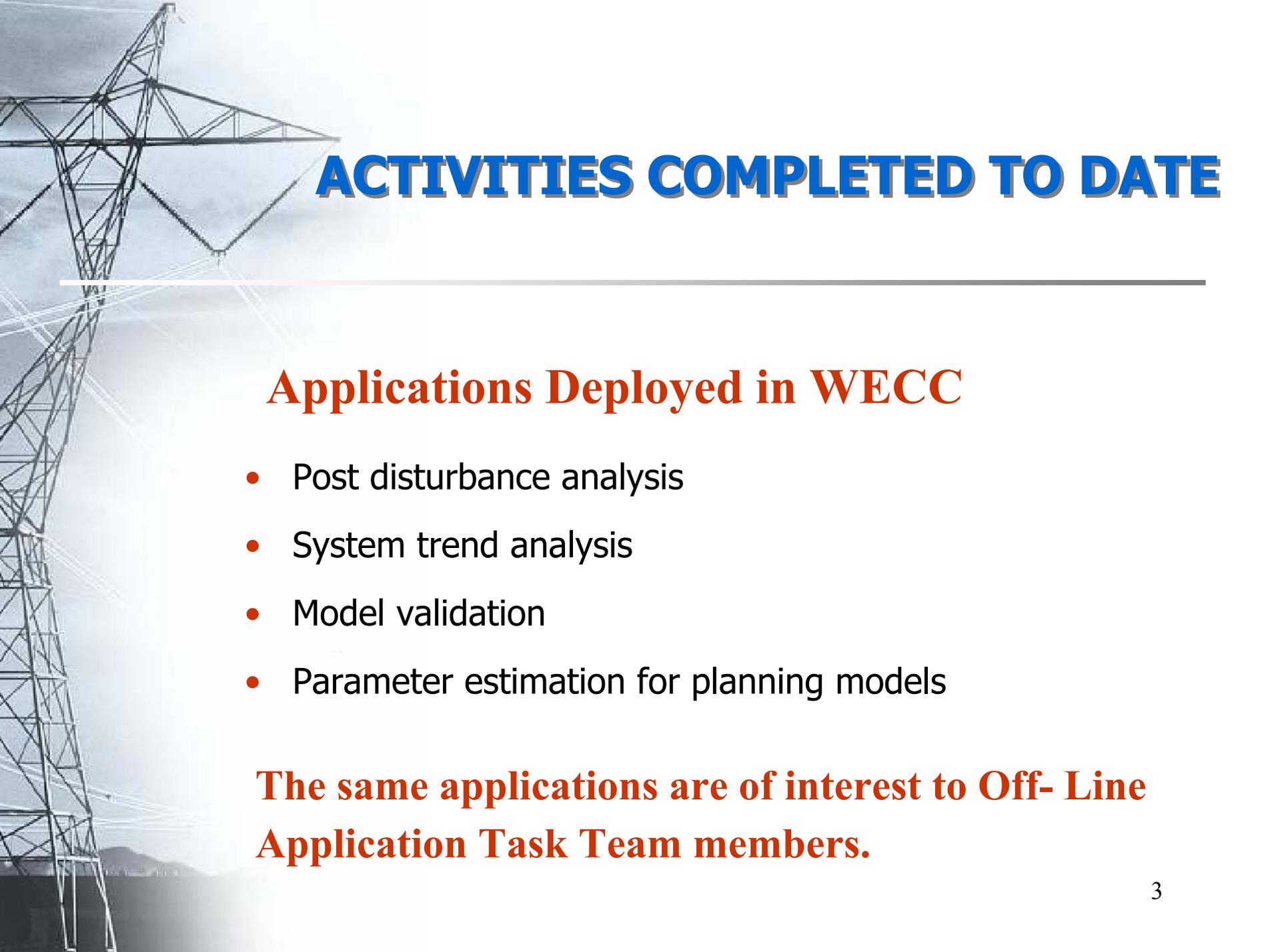
**March 29-30, 2004
New Orleans, Louisiana**



ACTIVITIES COMPLETED TO DATE

Team Survey

- Team survey is completed.
- Survey provides an inventory of wide area dynamics measurement devices installed on team members' systems.
- Survey provides a list of potential off-line applications that the team members are interested in.



ACTIVITIES COMPLETED TO DATE

Applications Deployed in WECC

- Post disturbance analysis
- System trend analysis
- Model validation
- Parameter estimation for planning models

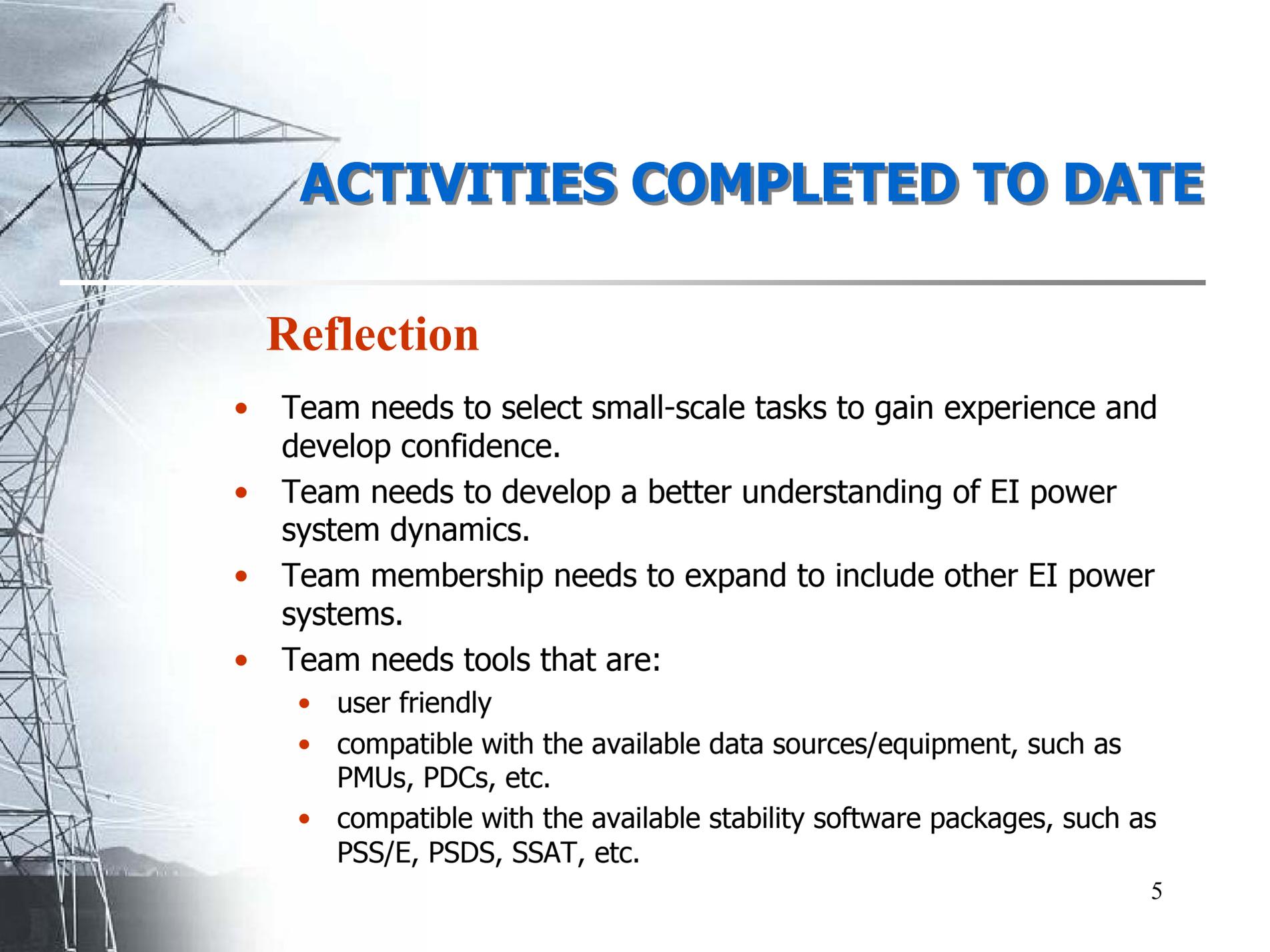
The same applications are of interest to Off- Line Application Task Team members.



ACTIVITIES COMPLETED TO DATE

Off-line Tools Being Deployed in WECC

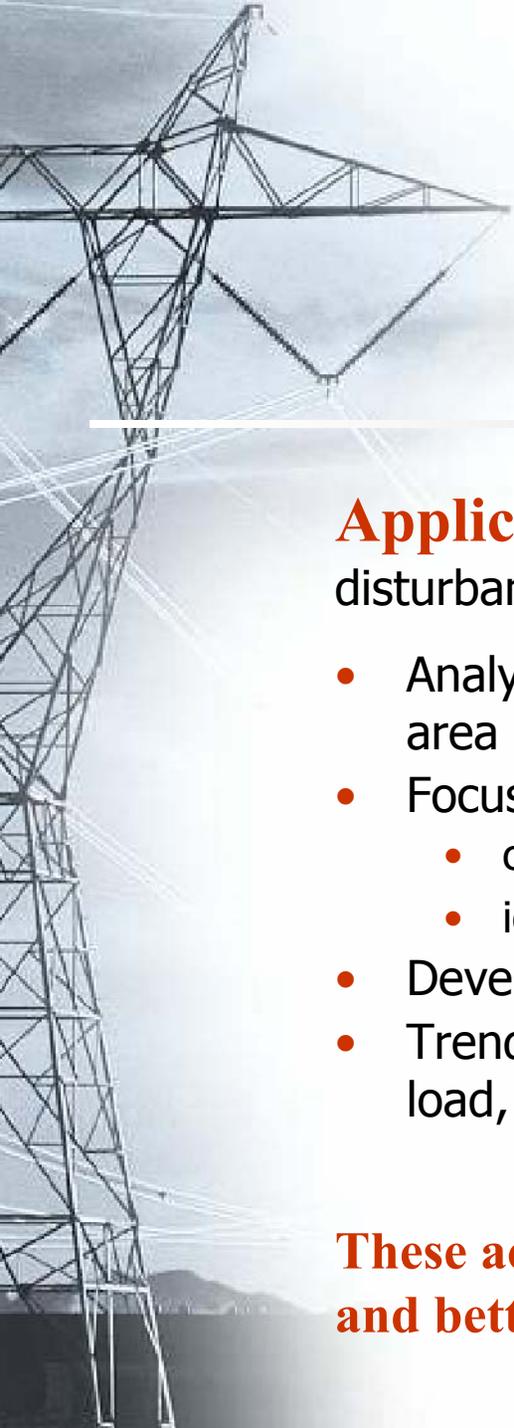
- DSI Toolbox (Note: This toolset includes spectral and Prony analyses.)



ACTIVITIES COMPLETED TO DATE

Reflection

- Team needs to select small-scale tasks to gain experience and develop confidence.
- Team needs to develop a better understanding of EI power system dynamics.
- Team membership needs to expand to include other EI power systems.
- Team needs tools that are:
 - user friendly
 - compatible with the available data sources/equipment, such as PMUs, PDCs, etc.
 - compatible with the available stability software packages, such as PSS/E, PSDS, SSAT, etc.



PLAN FOR REMAINING 2004 ACTIVITIES

Application: A combination of system trend analysis and post disturbance analysis. Specific activities will include:

- Analysis of major system events such as generator trip outs, wide area outages, etc.
- Focus on:
 - calculation of oscillatory modes - frequencies and associated damping
 - identification and analysis of interesting voltage swings
- Development of a database of analyzed events for analysis
- Trending analysis and correlation with time of day, season, peak load, major line outages, etc.

These activities will facilitate the development of experience and better understanding of EI power system dynamics.



PLAN FOR REMAINING 2004 ACTIVITIES

Peer Network

- Expand the team membership.
- Actively recruit engineers from other EI power systems.
 - Seek out those who have been involved in analysis of EI power system dynamics through wide area measurements and simulation studies.
 - Potential candidates include NERC Interconnection Dynamics Working Group (IDWG) members, NPCC SS-38, Jim Ingleson, Professor Joe Chow, members of MAPP Region, etc.



PLAN FOR REMAINING 2004 ACTIVITIES

Tools

- Investigate the use of the DSI Toolbox.
- Investigate other tools demonstrated at the EIPP 3/29-30/04 New Orleans vendors' fair.
- Identify the tools that would facilitate the OLATT 2004 action plan and the long term objectives.
- Tool certification?
- Request EIPP/DOE project management to provide funds for enhancing the identified tools for:
 - user friendliness, and
 - compatibility with the available data sources/equipment.
- Provide training for the identified tools.