



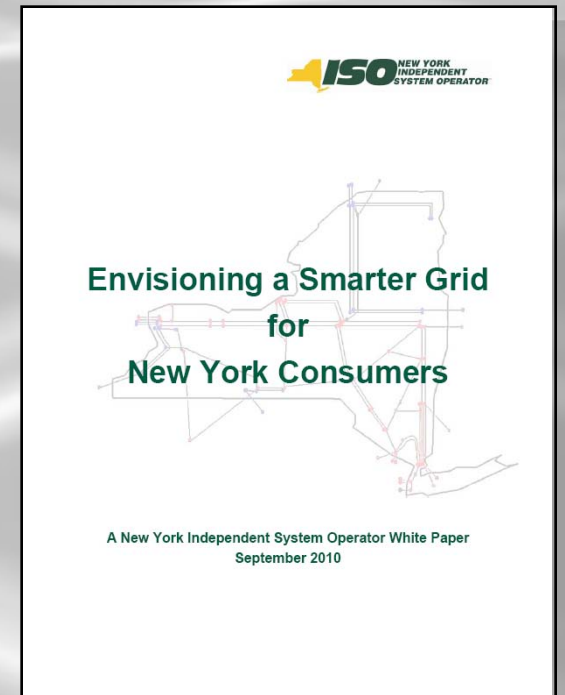
True Grid

Stephen G. Whitley
President & Chief Executive Officer
New York Independent System Operator

Advanced Energy Conference
New York, NY
November 9, 2010

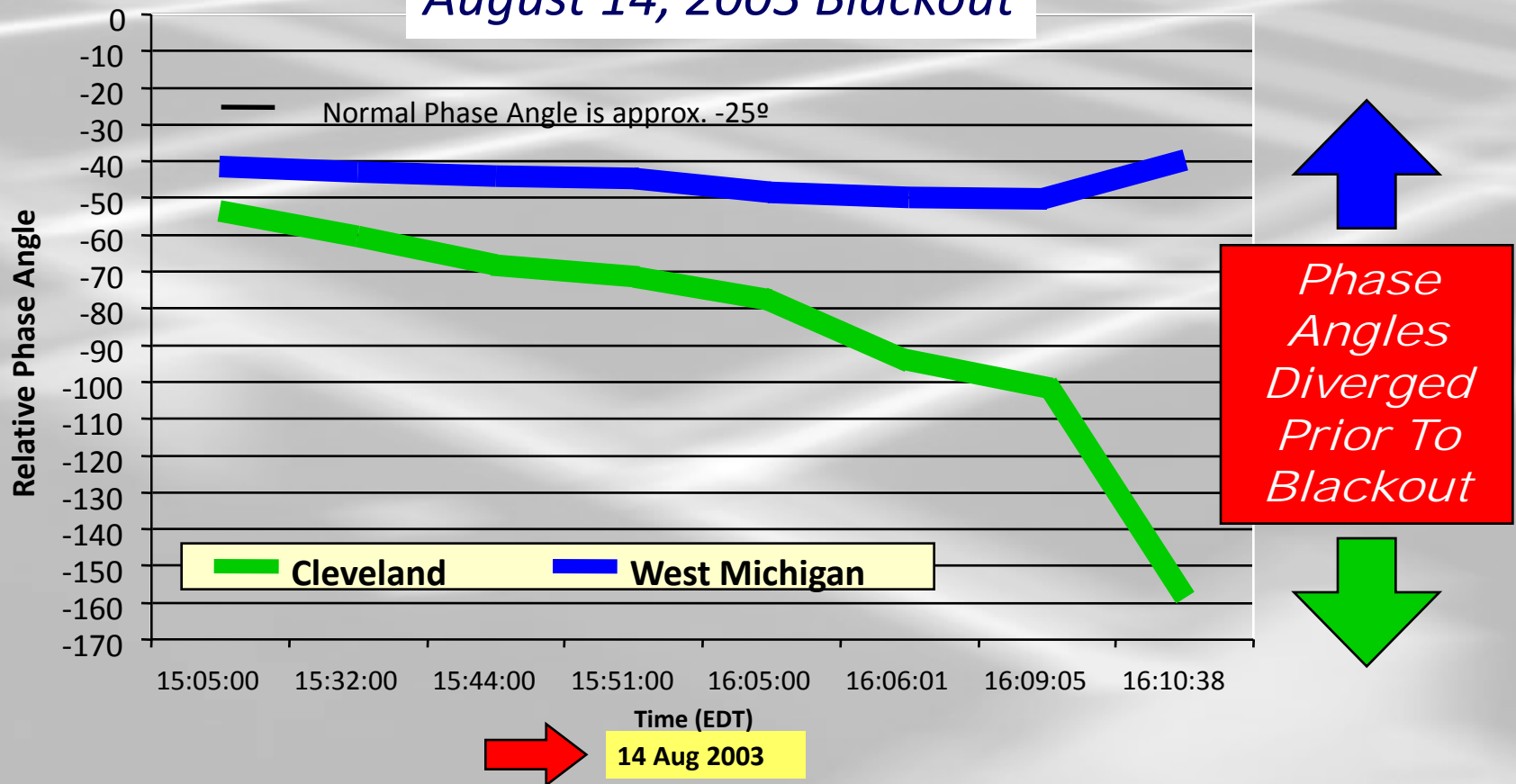
NYISO Smart Grid Vision

- *Lower costs and expand consumers' understanding and control of their electricity use*
- *Enhance the reliability and efficiency of the power system by improving grid operators' situational awareness and control*
- *Assist the growth of renewable resources and complementary energy storage resources*



When Visibility is Lacking

August 14, 2003 Blackout



Notes:

Angles are based on data from blackout investigation.
Angles are calculated from a Powerflow Simulation.
Angle reference is Browns Ferry.

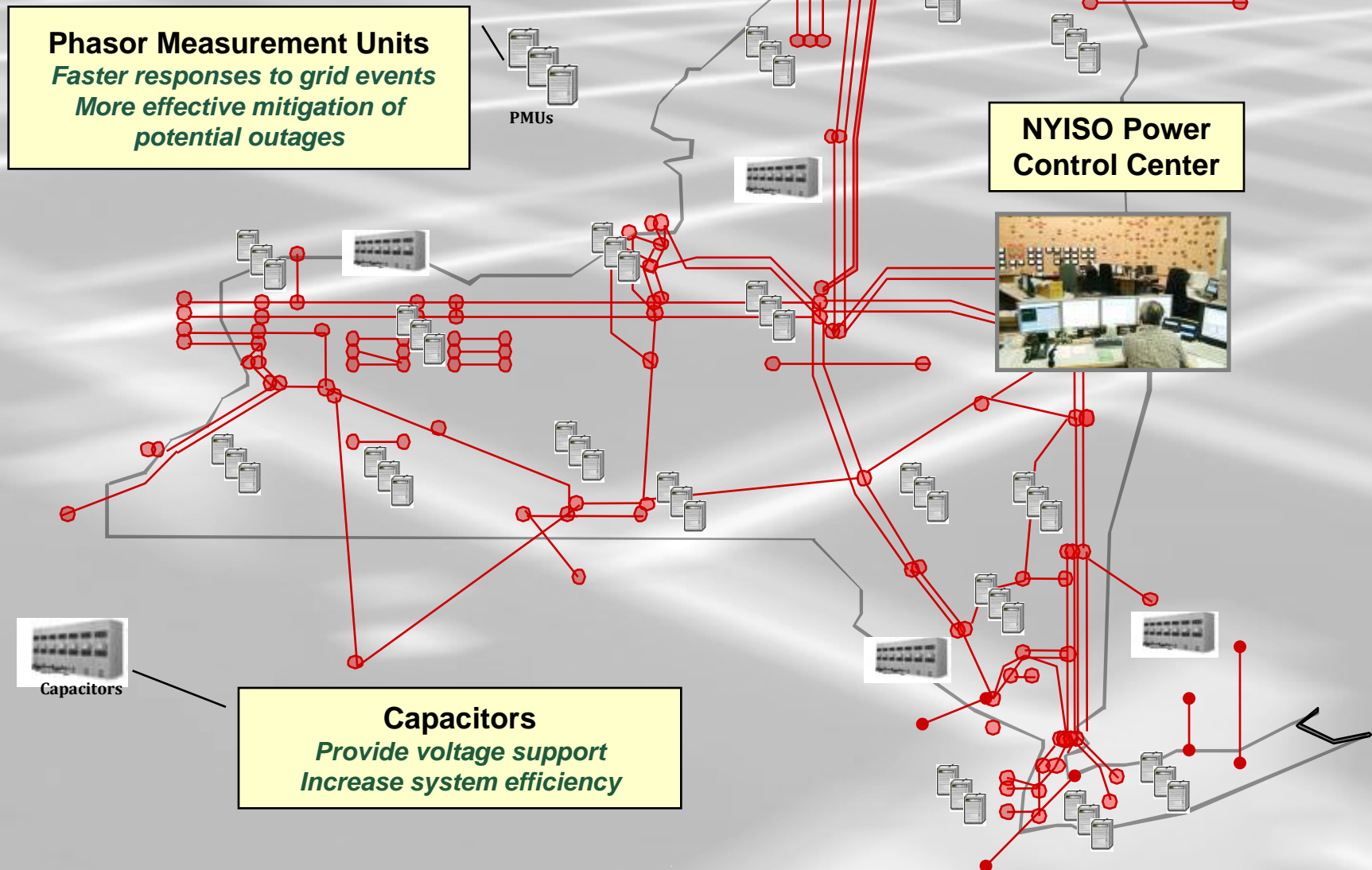
NYISO SGIG Project

- **Smart Grid Investment Grant (SGIG)**
 - *Three-Year project -- \$75.7 Million (DOE funding -- \$37.4 Million to cover 50% of project cost)*
- **Project components**
 - *Creation of a statewide Phasor Measurement Network*
 - *Installation of Capacitor Banks throughout the state*
- **Enhanced reliability**
 - *PMU Installation one of key DOE recommendations from 2003 blackout study endorsed by FERC and NERC*

Synchrophasor Projects Applications

- **Wide-Area Visualization and Monitoring**
- **Angle and Frequency Monitoring**
- **Inter-area Oscillation Detection & Analysis**
- **Proximity to Voltage Collapse**
- **State Estimation**
- **Dynamic Model Validation**
- **Fast Frequency Regulation**

NYISO SGIG Project



Graphic illustration only. Symbols are not intended to depict actual sites.

NYISO Focus

**Sustaining and enhancing
reliability**

**Bolstering open and
competitive markets**

**Planning a
smarter, greener, and more
efficient grid**



NEW YORK INDEPENDENT SYSTEM OPERATOR

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.

www.nyiso.com