

Envisioning a Smarter Grid

Stephen G. Whitley

President & CEO

New York Independent System Operator

NASPI Work Group Meeting

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San Francisco, CA

**People notice
electricity only
in its absence.**

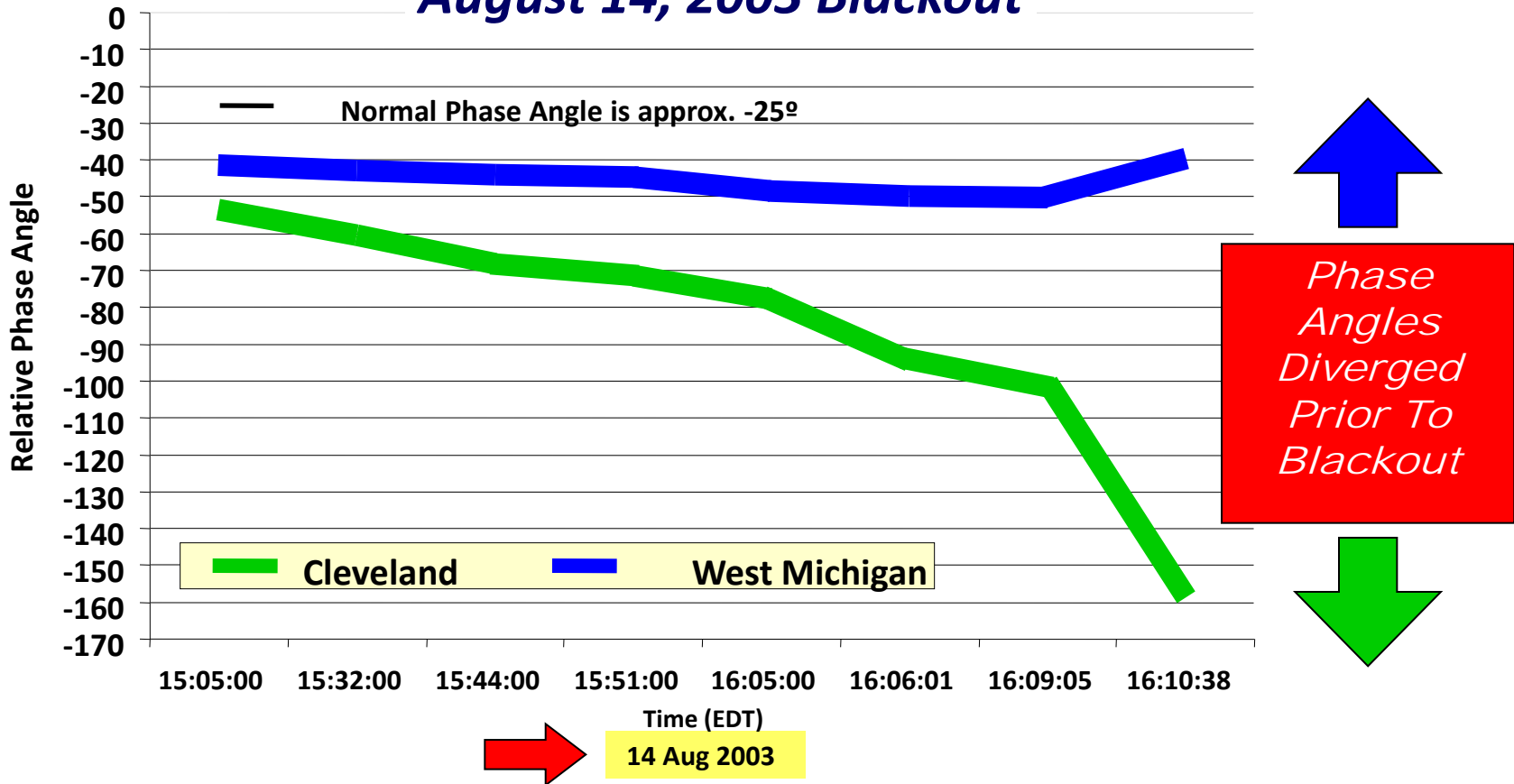
*David E. Nye – When the Lights Went Out:
A History of Blackouts in America*





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 -- \$74 Million (DOE SGIG funding of \$37 Million to cover 50% of project cost)*

- ◆ **Project components**

- *Creation of a statewide Phasor Measurement Network*
- *Installation of Capacitor Banks throughout the state*

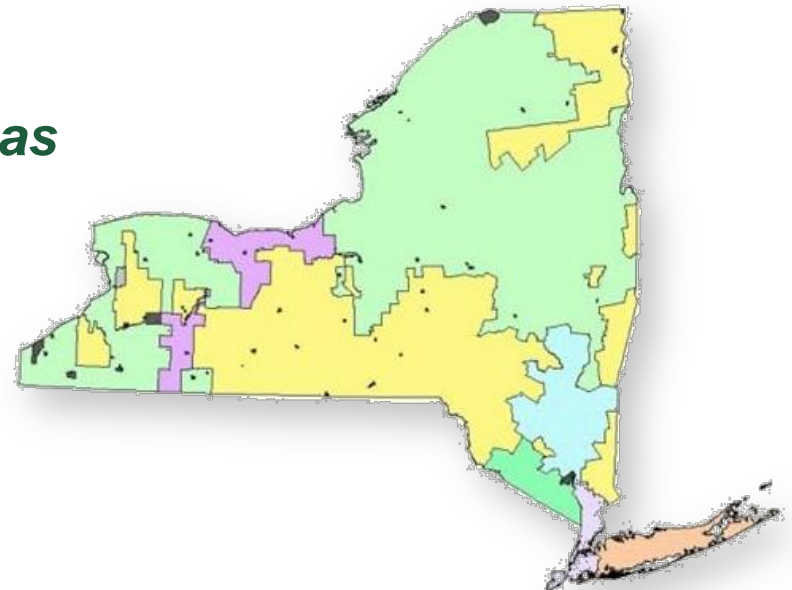
- ◆ **Enhanced reliability**

- *PMU Installation one of key DOE recommendations from 2003 blackout study endorsed by FERC and NERC*

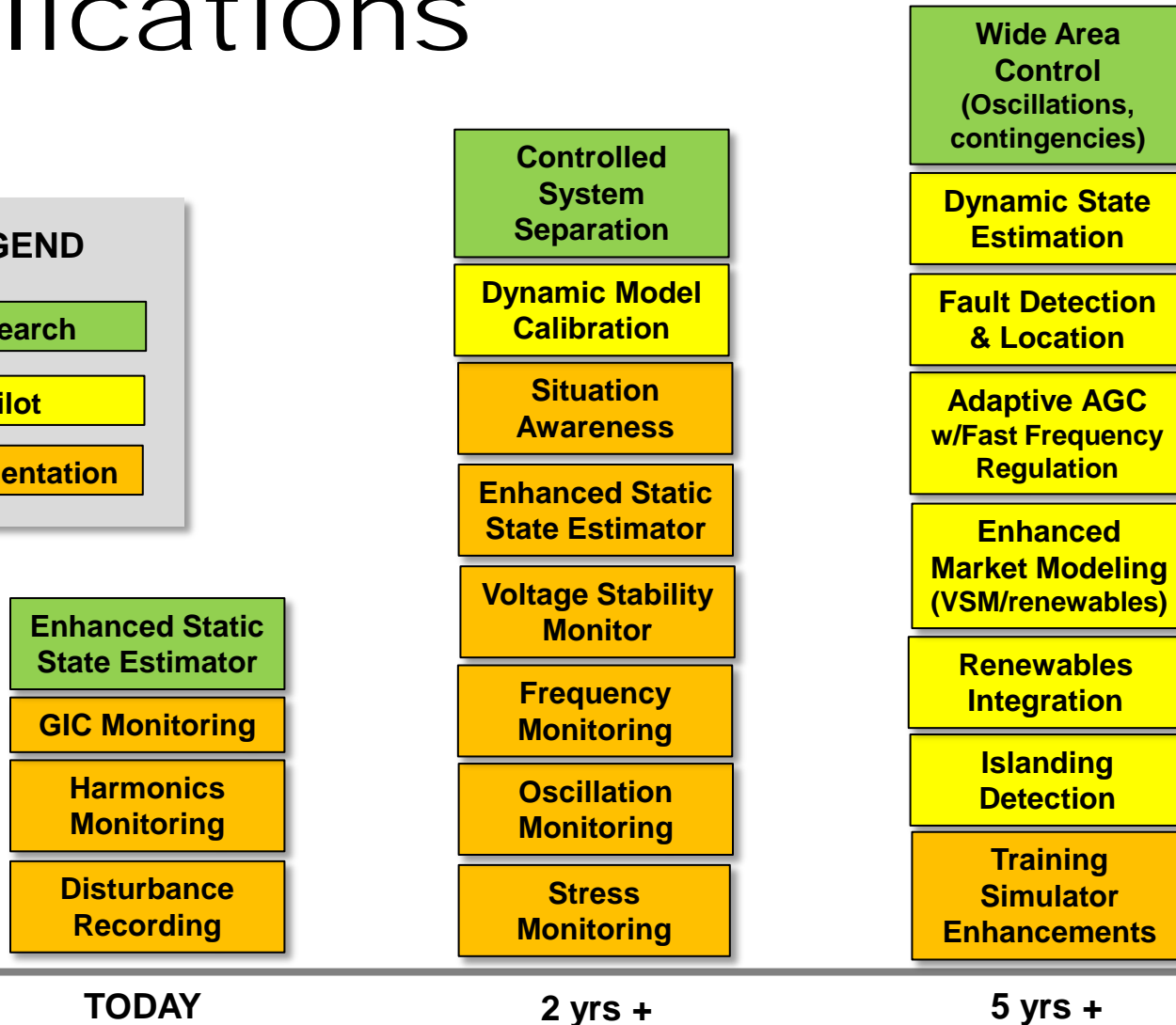
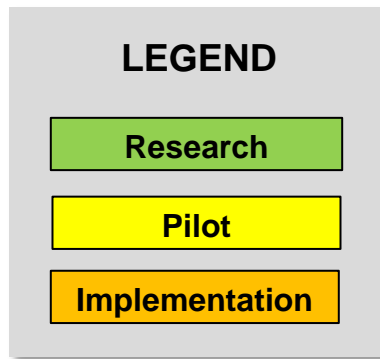
SGIG Project Partners

◆ New York Transmission Owners

- *Central Hudson Electric & Gas*
- *Consolidated Edison*
- *Long Island Power Authority*
- *National Grid*
- *New York Power Authority*
- *New York State Electric & Gas*
- *Rochester Gas & Electric*



NYISO/TO Synchrophasor Applications



NYISO Infrastructure

- ◆ **New state-of-the-art primary control center in a facility adjacent to existing corporate center**
- ◆ **Renovation of 42-year-old power control facility to serve as alternate control center**

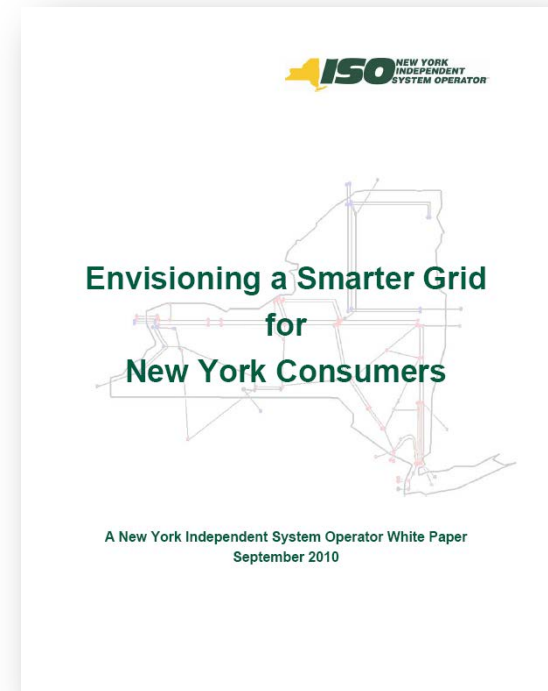


**Existing Corporate
Center**

**New Primary Power
Control Center**

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*



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.



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