

Power System Planning - Future of Electricity Generation & Utilities

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UT Energy Week
Austin, TX

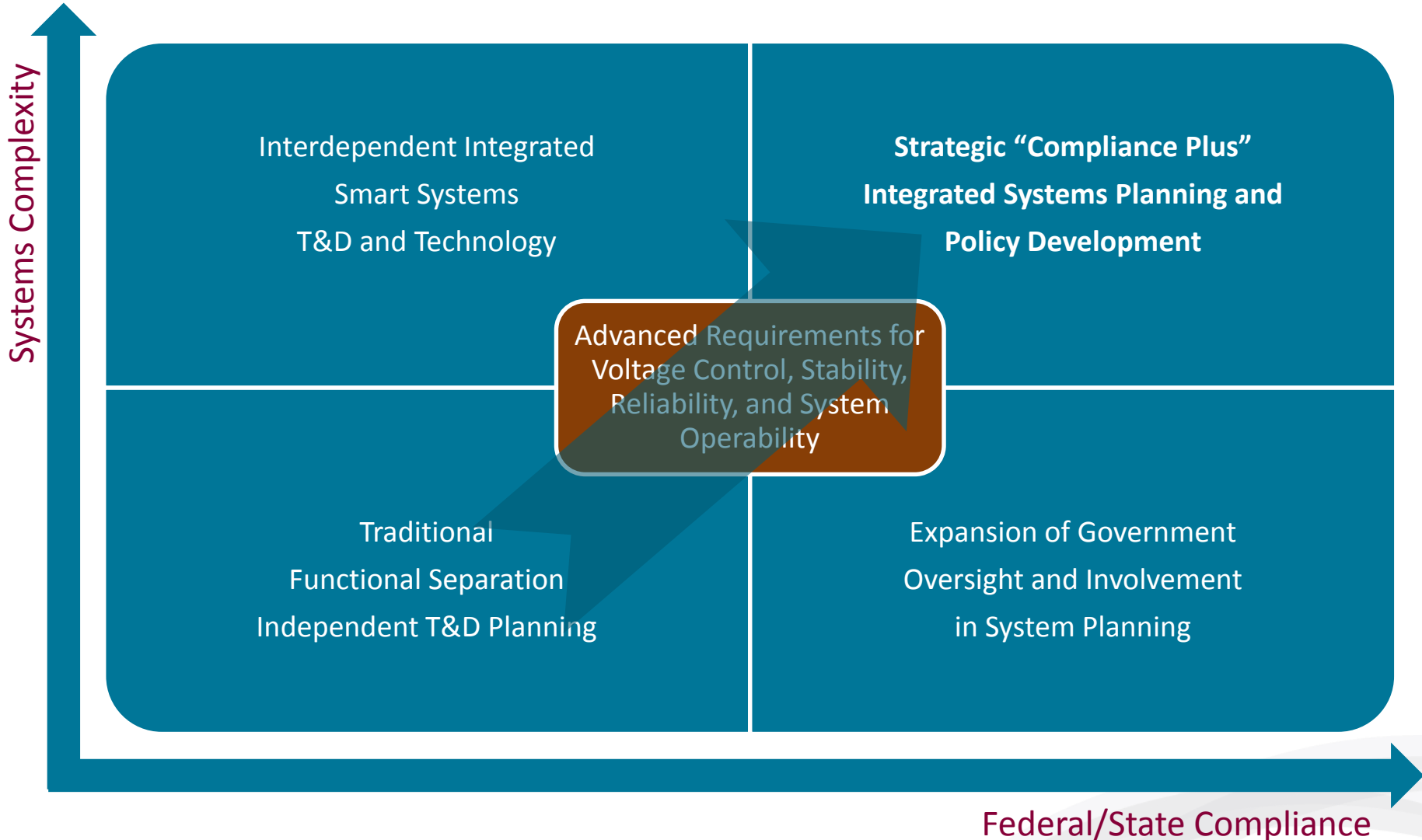
Kenneth A. Donohoo, PE
Director, System Planning
Distribution and Transmission

Assets Planning
Business and Operations Support
Oncor Electric Delivery Co LLC
kenneth.donohoo@oncor.com

WE DELIVER.



PLANNING ORGANIZATIONAL DRIVERS



PLANNING CONCEPTS

- Customer Expectations/Interest/Communications Increasing
- Compliance and Oversight Increasing
- Generation Locating Away from Load Centers
- Renewable, Distributed Generation and Demand/Load Response Increasing
- System Inertia (Large Units) Lower (frequency control)
- System Strength Weaker (fault duty, short circuit ratio)
- Dynamic and Transient Stability Limiting Transfer Capability More Than Static Limits
- Oscillations and Control Interactions Increasing Concern
- Load and Peak Demand Projections Highly Variable Based Upon Many Factors
- System Operational Control and Coordination Very Complex

PLANNING CONCEPTS

System Security and Flexibility Needed for Events Changing Conditions

HILF Events, CIP and Physical Security Concerns

Outages, Clearances and System Restoration Considered

Changing Load Types (Lighting - Incandescent to CFL to LED)

Models to Support Good Decisions

Power Electronics Enabling Transmission Control/Redispatch Increase
Utilization of Existing System

Possible Redevelopment of existing generation sites

