Xcel Energy Service Area

- 4 operating companies spanning 8 states
- 3 time zones
- 8 Public Utility Commissions
- Diverse population densities
- Dramatically different geography and weather conditions
- 3.5M Electric customers
- 2,900 Feeders
Utility Industry Perspective

• Competitive landscape
• Increasing customer expectations
• Advanced Grid
• Aging infrastructure
• Changing rules & regulations
Energy Industry Perspective

• 80% Decrease in solar price from 2008 to 2015
• 85% Increase in energy-related competition by 2030
• Decreasing electricity demand (per customer)
• Distributed Energy Resources (DER), emerging technologies

• Solar
• Wind
• Utility-scale renewables
• Energy storage

• Microgrids
• Energy efficiency
• Business technology mgmt
• Electric Vehicles (EV)
Advanced Grid Intelligence and Security

Strengthen the grid as our competitive advantage such that our customers view Xcel Energy as their long-term energy solutions provider

Advanced Distribution Management System (ADMS)
Fault Location, Isolation, and Service Restoration
Integrated Volt-VAR Optimization (IVVO)
Field Area Network (FAN)
Advanced Meter Infrastructure
Emerging Technologies

Technology Suite – Enabling Customer Experience, Choice, Control & Enhancing Grid Operability

Security and Data Solutions
Process Integrations, Change Management, Talent Strategies, Communications, Governance
Xcel Energy’s Advanced Grid provides value...

**Cleaner, More Reliable Energy**
- Integrates more renewable, carbon-free energy sources
- Improves reliability with fewer, shorter outages due to better system monitoring and more automation that will prevent outages and enable us to restore power quickly

**A Better Customer Experience**
- Provides timely, relevant information such as high bill alerts
- Makes it easy to integrate new technology such as electric vehicles
- Saves you time with more self-serve options

**More Ways to Save Money**
- Helps customers track energy use in near real-time and make adjustments to keep energy costs low
- Enables new pricing plans that provide opportunities to save money

**Customer Value**
- Provides interactive controls to enable system operators to respond more quickly to outages
- Provides the ability to remotely configure system to isolate outages
- Improves situational awareness and improve efficiency with monitor and control capability

**Operations Value**
- Provides instantaneous alarming of outages for proactive communications to customer
- Improves access to customer usage data for better customer service
- Enables remote connect and disconnect service for faster customer intervention

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**Operations Value**
- Provides additional interval attribute data to support complex billing
- Improves outage duration by identifying outage location through technology
- Increases operational efficiencies through remote sensing, voltage control of system