



Life After CREZ

September 12, 2013

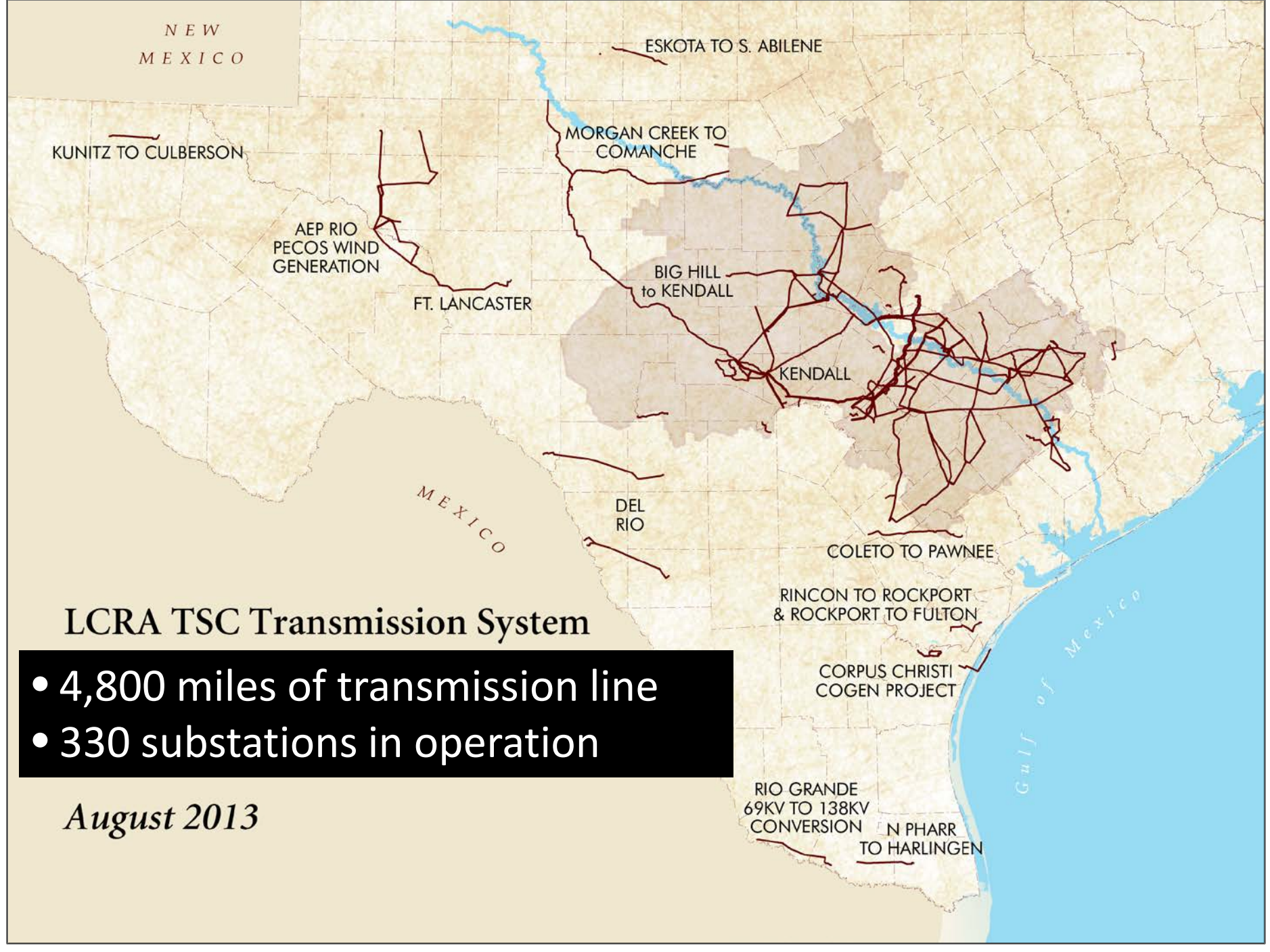
Stuart Nelson

LCRA TSC



- Regulated Transmission Provider in Texas
- Created in 2002
- Headquartered in Austin, Texas
- Transmission Assets - \$2.05 billion
- Annual Revenues - \$308 million
- Taxable Entity - \$130 million since 2002



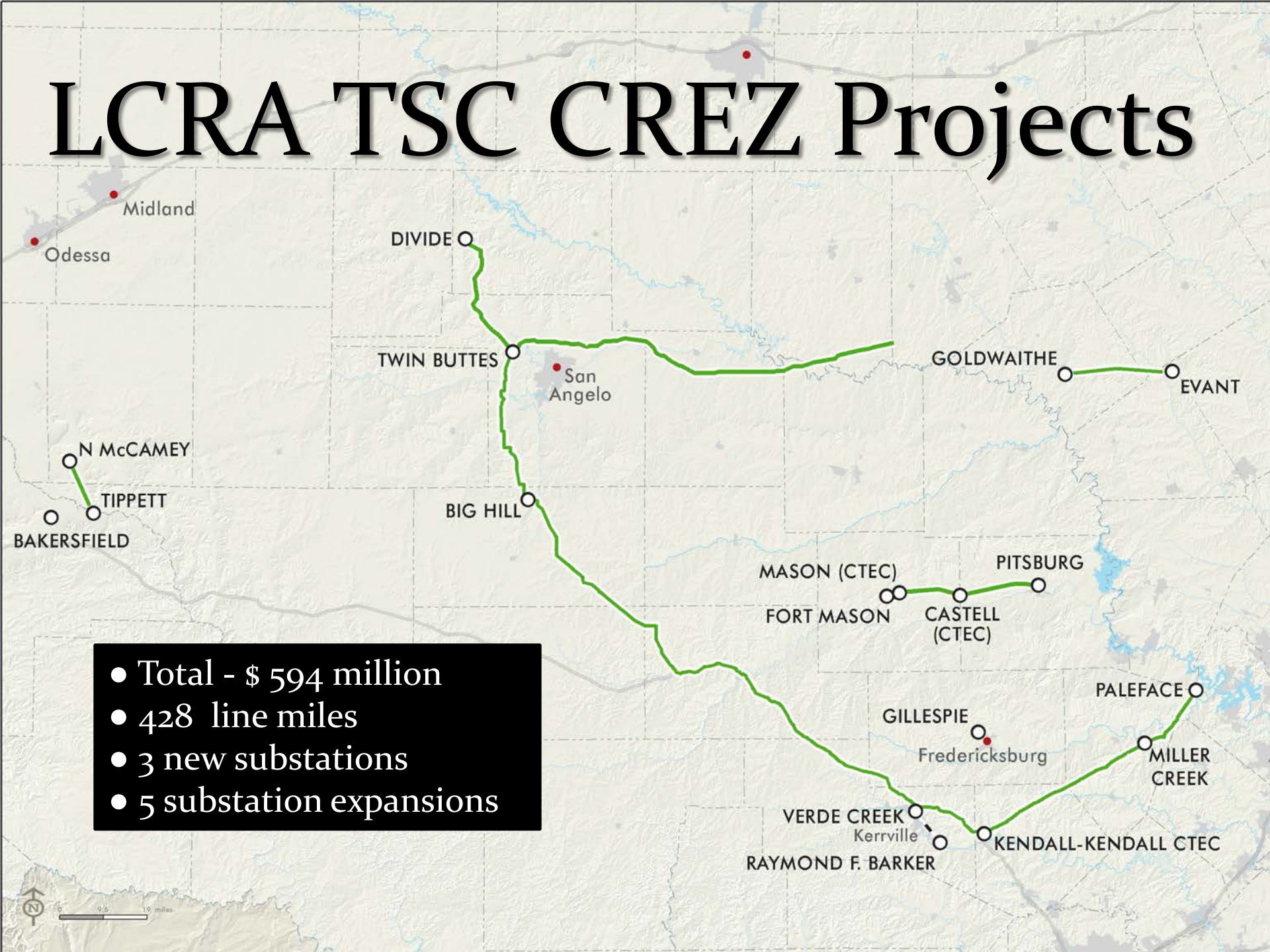


LCRA TSC Transmission System

- 4,800 miles of transmission line
- 330 substations in operation

August 2013

LCRA TSC CREZ Projects



1984

- Hurricane Alicia
- PUC CCN Routing Process
- FERC Regulation
- DC Ties
- PCBs
- EMF



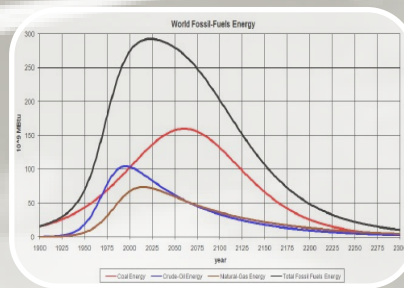
1993



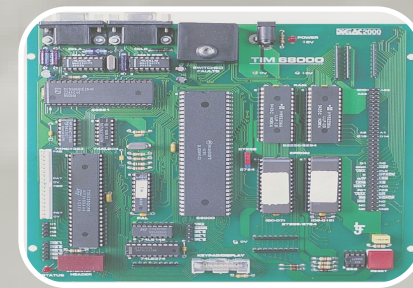
Aesthetics



Emergency Preparedness



Emergency Loading Criteria



Micro-Processor Relays



Wheeling



Distributed Resources



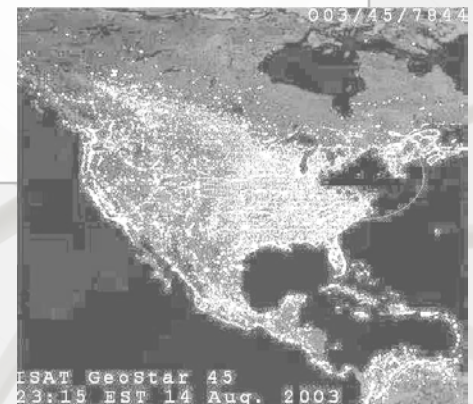
Renewable Power



Extending Maintenance

2003

- Deregulation
- Open Access Transmission
- Transmission Cost of Service
- Single Control Area in ERCOT
- Wind Power Transmission Construction
- Dynamic Equipment Ratings
- 2003 Northeast Black Out



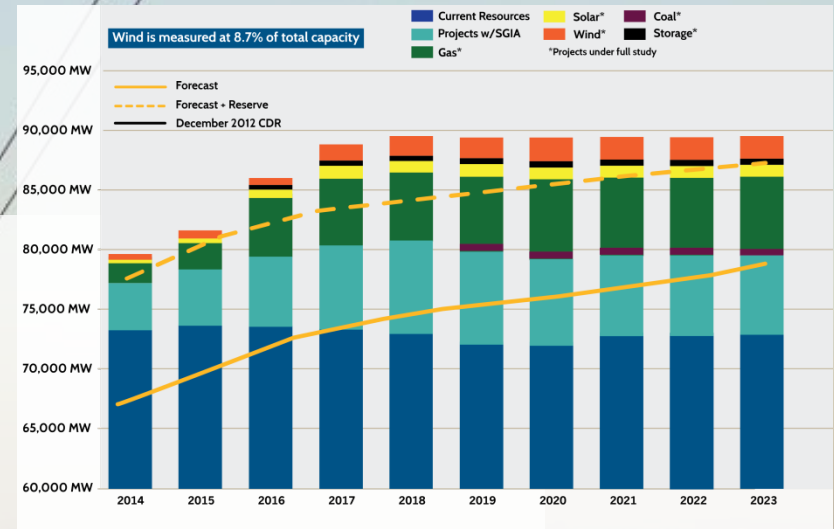
2013

- CREZ
- Series Compensation
- Smart Grid
- NERC Standards and TRE
- Low Generation Reserves
- New Transmission Providers
- Nodal Market
- Asset Management
- Material Improvements
- Shale Oil



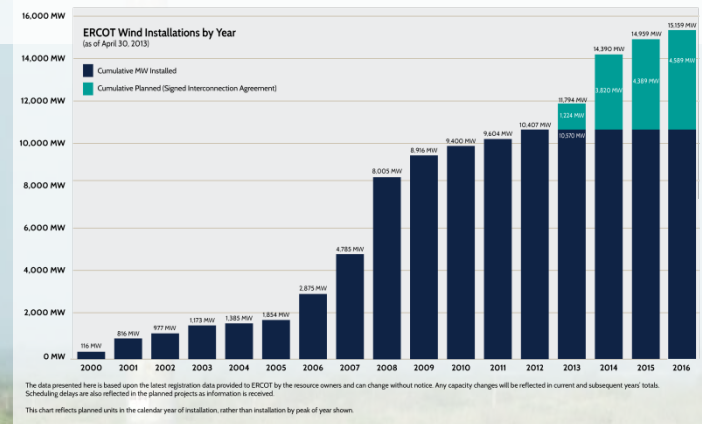
ERCOT Load Growth

- 1983 - 34,726 MW
- 1993 - 43,766 MW
- 2003 - 60,037 MW
- 2013 projection - 68,383 MW



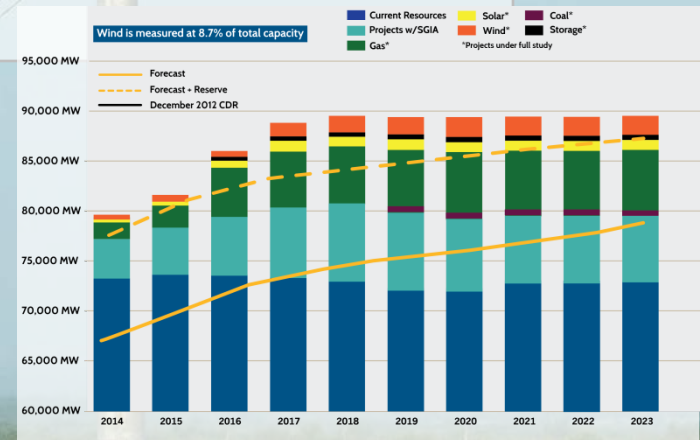
Looking Ahead

- Load Growth Continues in ERCOT
- New Generation Built to Meet Demand
- Continued Opposition to Transmission Projects
- Demand for Higher Reliability
- Increased Regulation With Cyber Focus



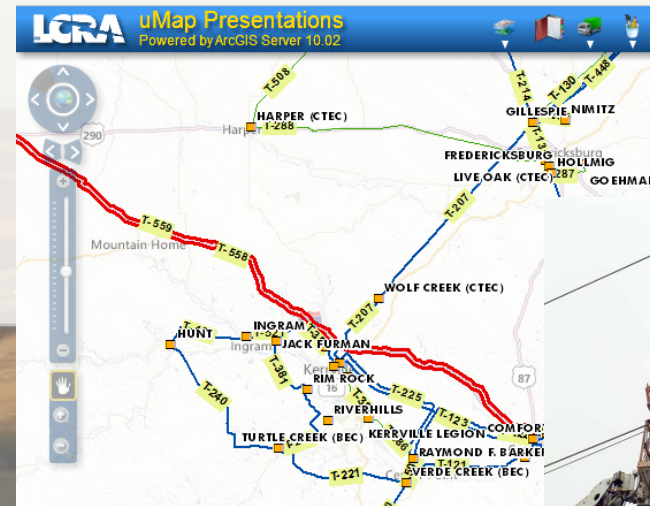
Looking Ahead

- Increased Reliance on Technology
- Extend Equipment Life
- Financial Pressure
- Improved System Control
- Increased Capacity of Existing Infrastructure



2013 and Beyond

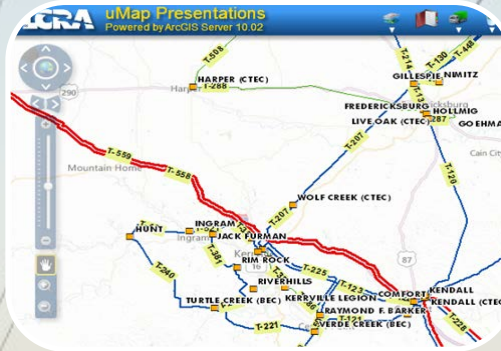
- Faster Communication
- Data Integration and Management
- Improved Equipment Design
- New Materials
- 3D Design
- GIS



TSDOS 2023



**Emergency
Response**



Plan



Design



Build



Operate



Maintain



A sunset scene with a white rectangular box in the center. The sun is on the right horizon, and there are faint lines in the sky. The text 'Questions?' is centered in the box.

Questions?