



Serving the Valley to Make Life Better

Bob Dalrymple
SVP Transmission & Power Supply
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TVA Mission to Serve

Energy



Provide affordable power throughout the Valley region

Environment



Act as a steward of the Valley's natural resources

Economic Development



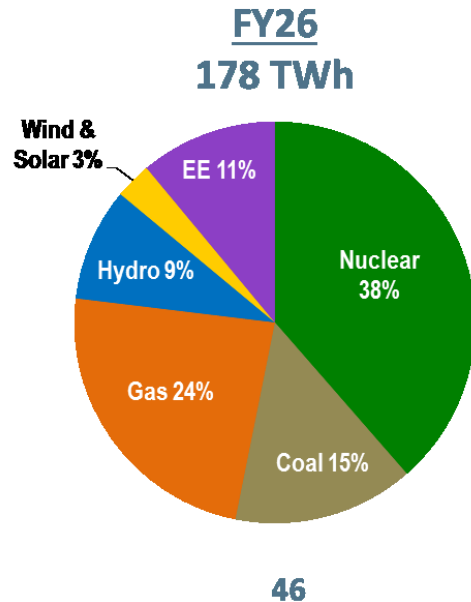
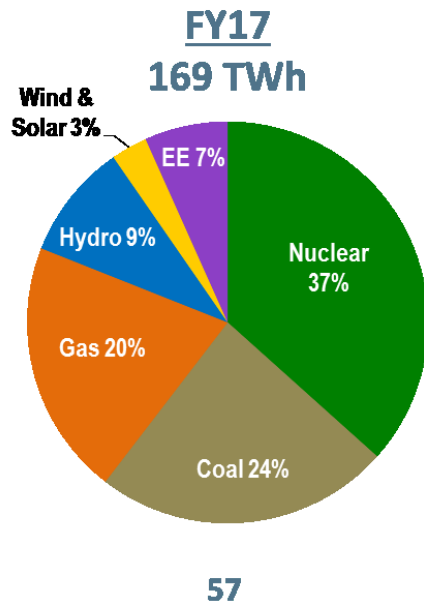
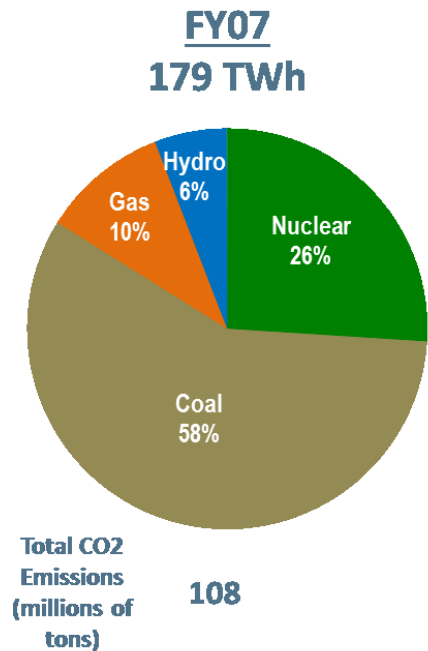
Serve as a catalyst for sustainable economic development

Safety is our Fundamental Value

Target ZERO is a thoughtful approach to how we safely do our work – one task, one shift, and one day at a time. Target ZERO is a culture that strives for zero unsafe behaviors, ensures proper barriers are in place and adhered to, and promotes and reinforces individual accountability through positive recognition.

The logo for Target ZERO. The word "TARGET" is in a light blue, italicized, sans-serif font. Below it, the word "ZERO" is in a bold, dark blue, sans-serif font with a slight 3D effect and a shadow.

Energy Portfolio



Watts Bar Unit 2

- Additional 1,150 MWs
- Nation's first nuclear power in the 21st Century
- First to meet post-Fukushima standards
- A cleaner, more diverse and cost-effective portfolio
- Project being completed safely with superior quality



Transmission Opportunities and Challenges

Reliability

Infrastructure Preservation

- Equipment replacement based on exposure/health
- Increased funding to all-time high

Changing Resource Mix

- Owning both Generation & Transmission allows for joint decisions & efficient planning
- Final 3 projects progressing from initial coal-plant decisions

Declining Load & Increasing Regulation

- More stringent regulation driving significant spend
- New minimum loads creating high voltage conditions

Flexibility

Promote Economic Development

- Increase capacity at key industrial parks to unlock ED potential

Operational Flexibility

- Market encroachment degrading ability to import power for system needs
- Limited ability to sustain outages to perform required equipment maintenance

Distributed Generation

- Interconnection requirements for DER impact reliability
- Proactively identifying desirable locations to guide siting of DG installations

Resiliency

Storm/Workforce Support

- Emergency preparedness
- Strategic Inventory
- Mutual assistance agreements in place

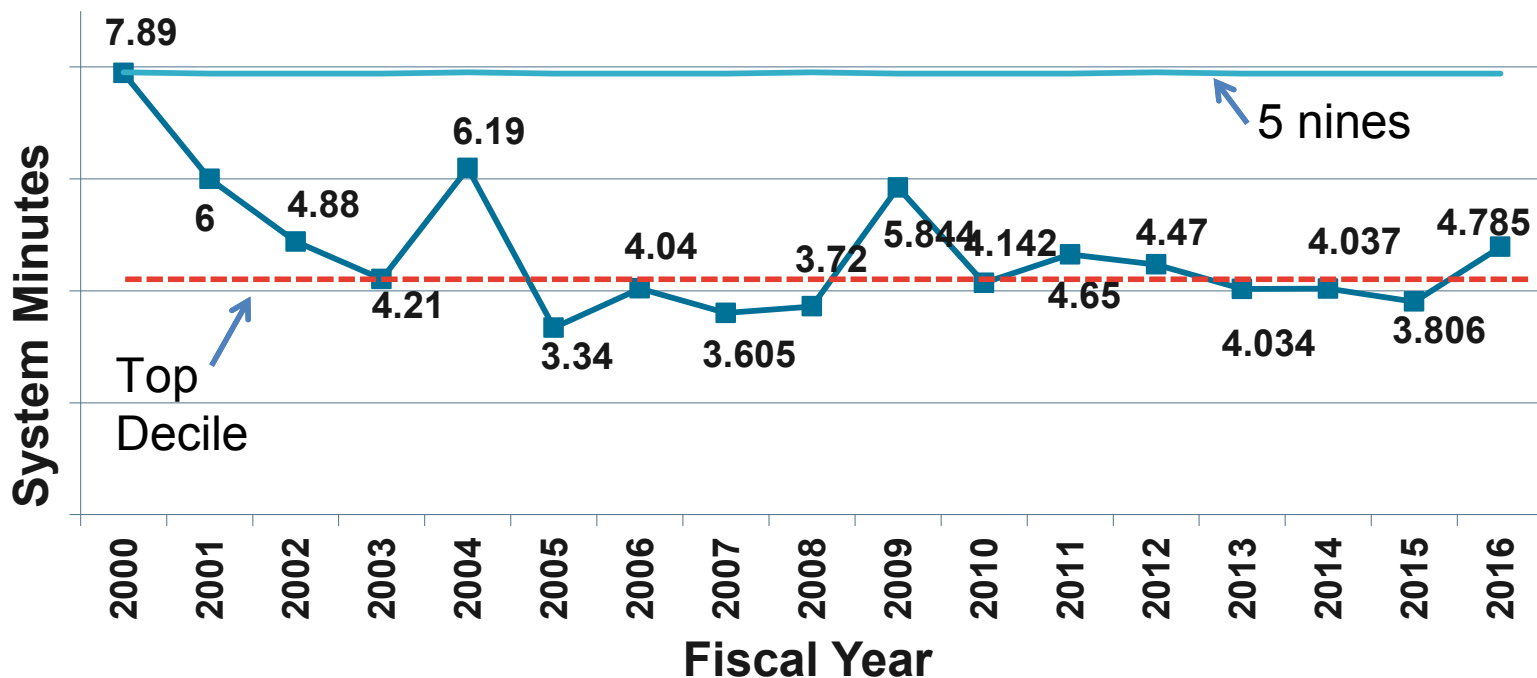
Grid Security

- Gaps threaten entire Eastern Interconnection
- Completed initial cyber security upgrades
- Station upgrades to mitigate physical threats

Earthquake/GMD/Gas-Electric

- Switch house reinforcements
- Compliant with new GMD standard (TPL 007)
- Pumping stations impacting gas plants identified in restoration plans

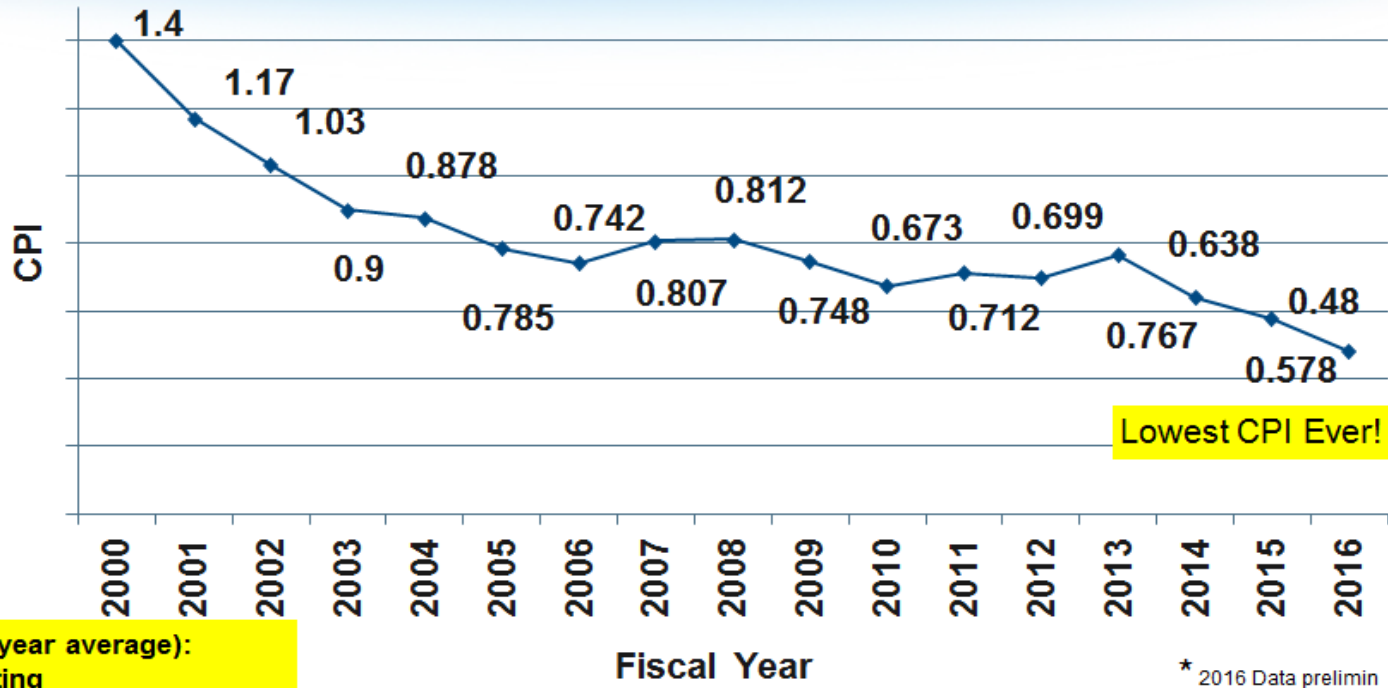
Load Not Served



LNS (5 year average):

- TVA Equipment Trouble
- Protection System
- Customer Equipment
- Wind/Tornado

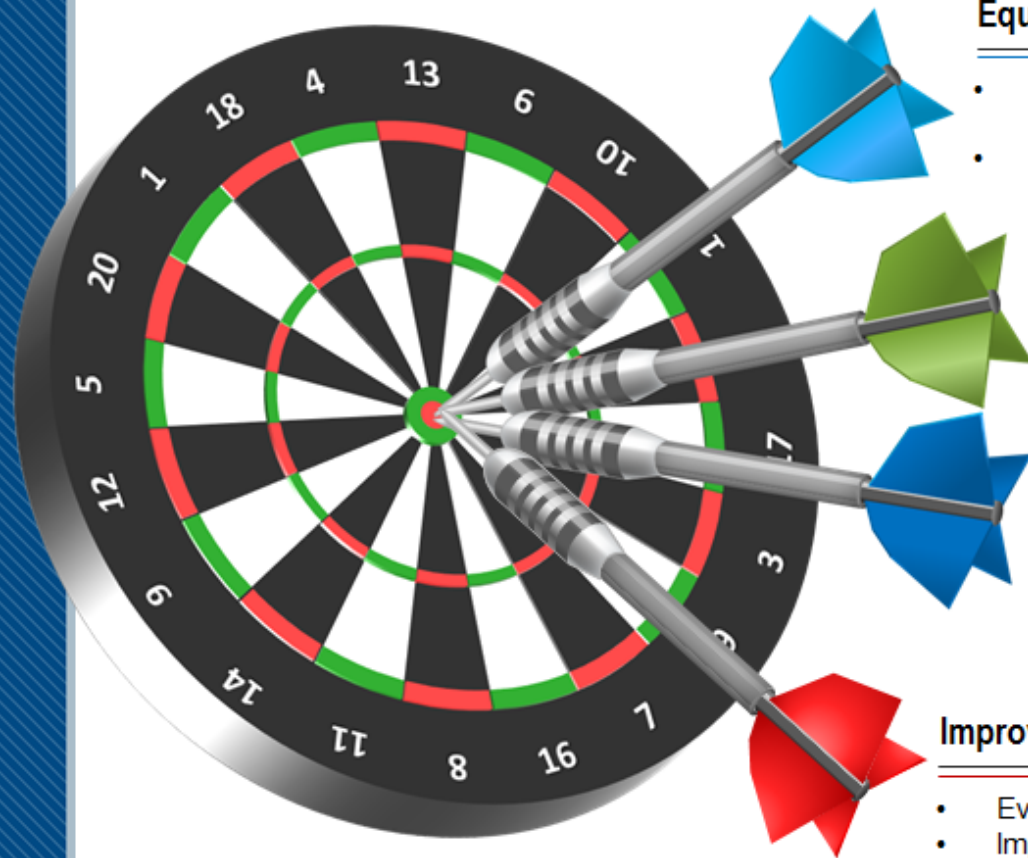
Connection Point Interruptions



CPI (5 year average):

- Lighting
- Unknown
- TVA Equipment Trouble
- Foreign Object

High Impact Activities to Improve Reliability



Equipment Replacement

- Continue programmatic replacement of aging assets based on condition and criticality
- Consider increasing replacement pace for high-bar asset classes

Planning Improvements

- Add breakers at substations for long heavily-loaded lines to reduce customer interruptions
- Consider installing dispatcher-controlled switches at new looped delivery points
- Critical radial lines have been identified and plans are being considered to reduce the radial exposure

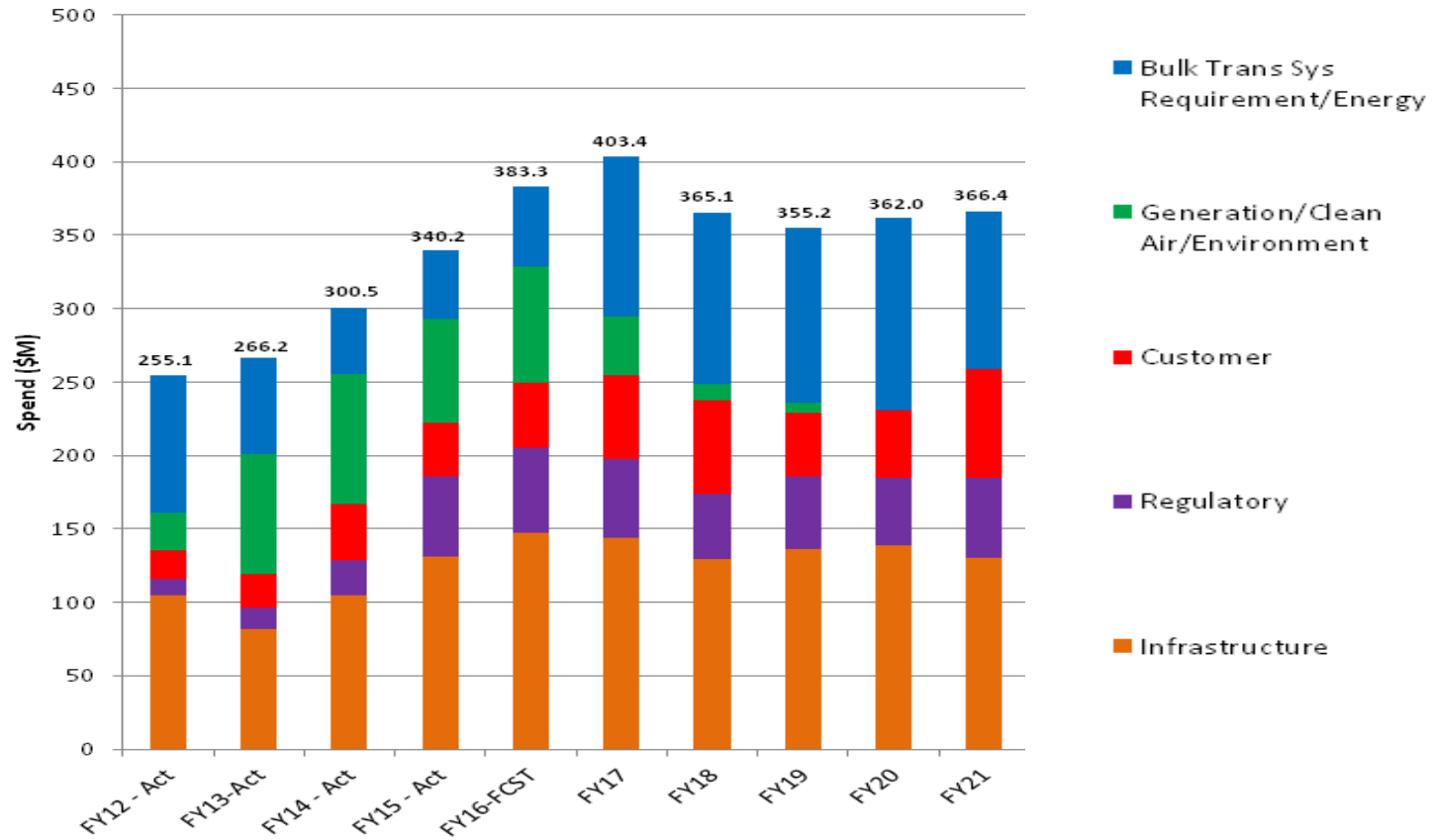
Improved Execution

- Improve HU performance to reduce all events – including those that cause load not served

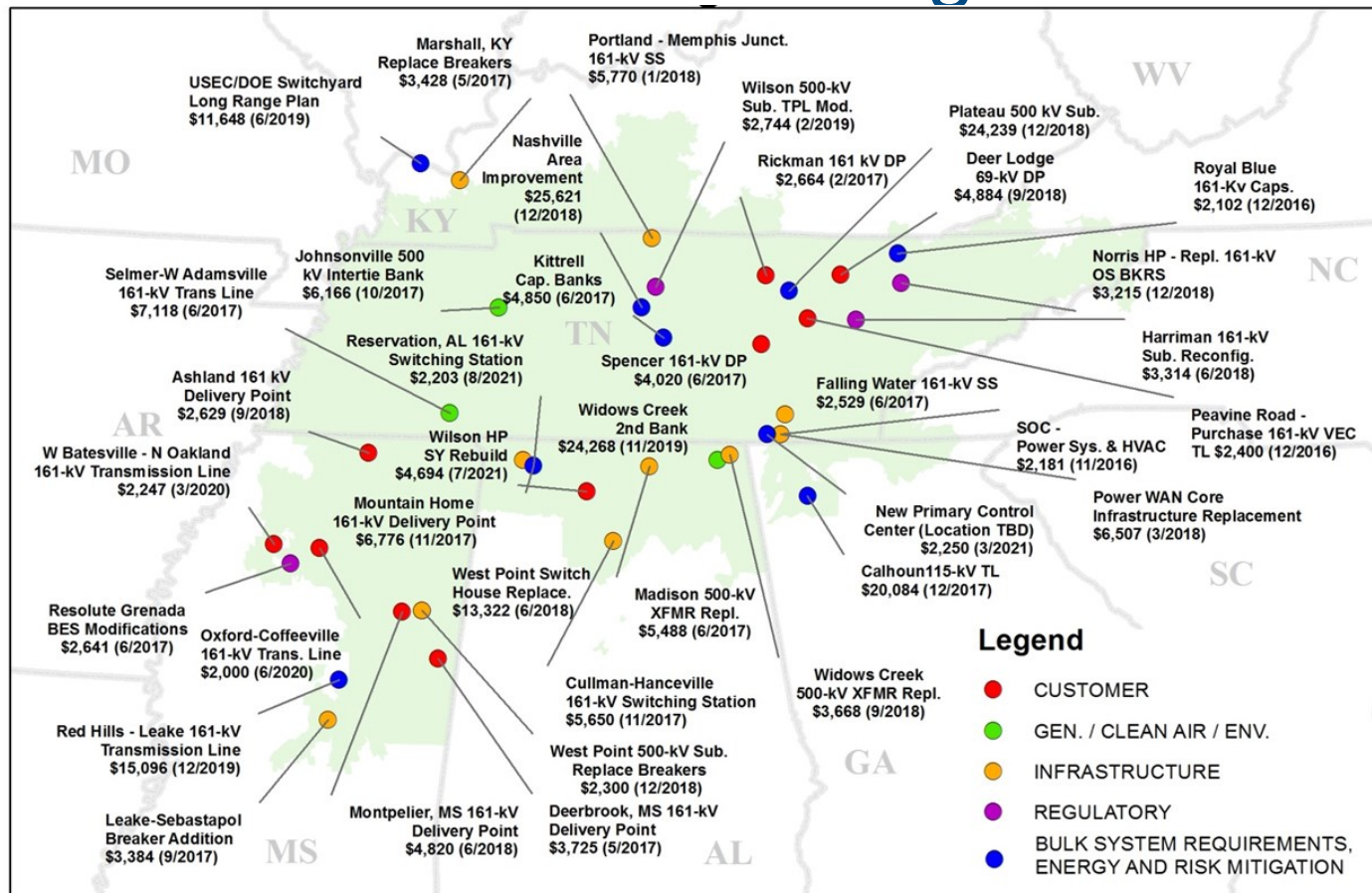
Improved Response

- Evaluating TCM vehicle plans underway
- Improving interruption response plans

Transmission Capital Investment Trend

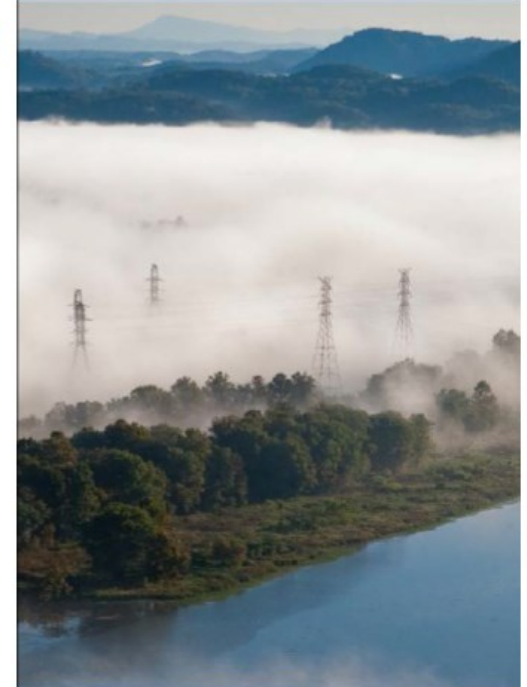


FY17 Transmission Big Hitters

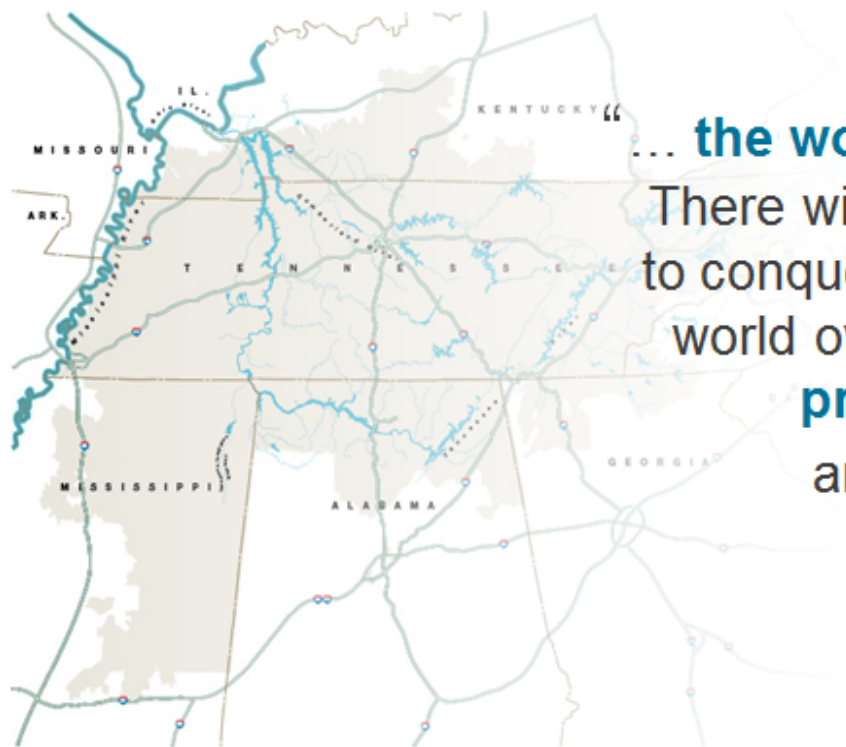


Serving the People of the Valley, Now...

- Integrating **Safety** into every decision we make
- Improving **Reliability** of our assets for the short-term and the long term
- Maintaining **Compliance** with ever increasing regulatory requirements
- Reducing **Costs** to ensure our rates stay competitive
- Investing in our **People** to maintain a high caliber workforce for the future



And Serving the Valley in the Future



... **the work of TVA will never be over.** There will always be new frontiers for it to conquer. For in the minds of men the world over, **the initials TVA stand for progress**, and the people of this area are not afraid of progress.”

John F. Kennedy
May 18, 1963

