

THANK YOU for Joining Us Today!

AGENDA

- Ameren Missouri Overview
- **Missouri's Energy Future – Challenges**
 - EPA Clean Power Plan
 - Aging Infrastructure
- **What We Are Going to See Today:**
 - (10:30) Emergency Operations Center (EOC) – Dave Wakeman
 - (10:45) Trade Floor – Andrew Meyer
 - (11:10) Transmission & Dispatch – Jeff Hackman
- **Lunch** in Transmission & Dispatch Area
 - (12:10) Storm Response Mobile Command & Supply Trailers
 - (12:30) St. Louis Downtown Electric Infrastructure (Transmission & Distribution Overhead Equipment, Substations & Underground Network)

Ameren Missouri Overview

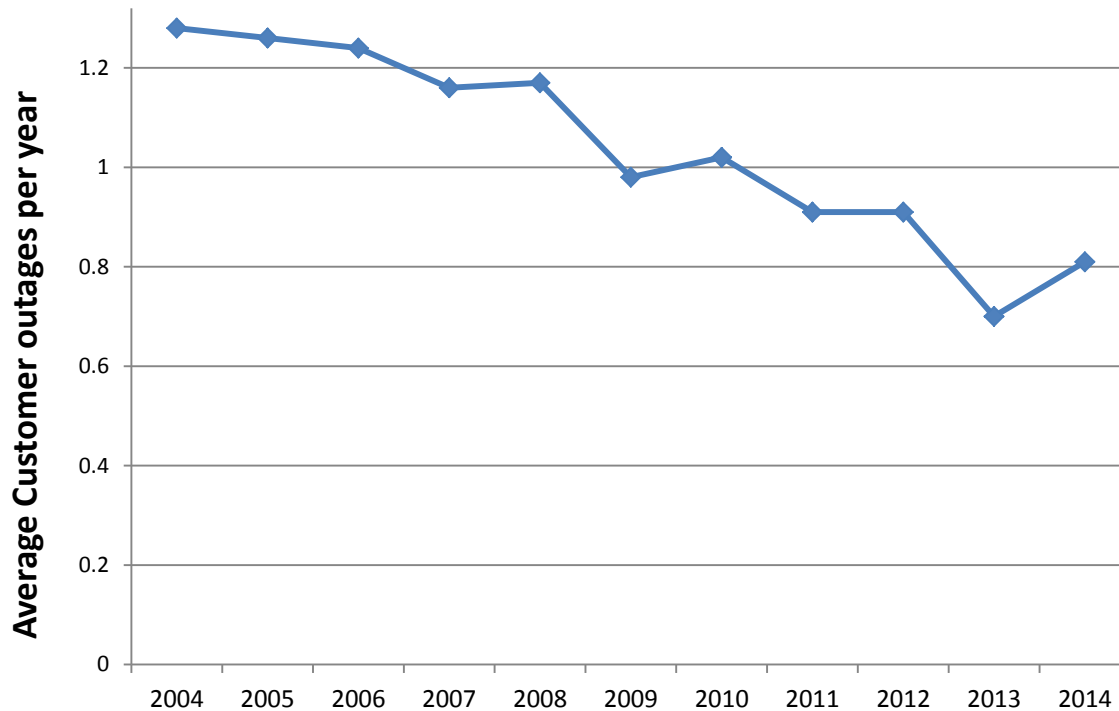
- Vertically integrated utility, with regulated electric generation, transmission and distribution; gas distribution
- Serves 1.2 million electric and 129,000 gas customers (3 million people)
- 10,200 MW generation
 - 6,500 MW low-cost, baseload coal-fired and nuclear resources
 - 830 MW of renewable resources (Solar, Hydro and Landfill Gas)
- 24,000 square mile service area
 - 500+ communities
 - 3,000 miles of electric transmission lines
 - 33,000 miles of electric distribution lines
 - 900 Substations
- ~3,700 co-workers
- #1 Property tax payer in Missouri



O'Fallon Renewable Energy Center. Missouri's largest investor-owned utility solar facility, and contains over 19,000 solar panels.

DEPENDABLE ELECTRICITY

Our customers want energy they can count on. Smart technology and grid improvements have helped Ameren Missouri outsmart outages.



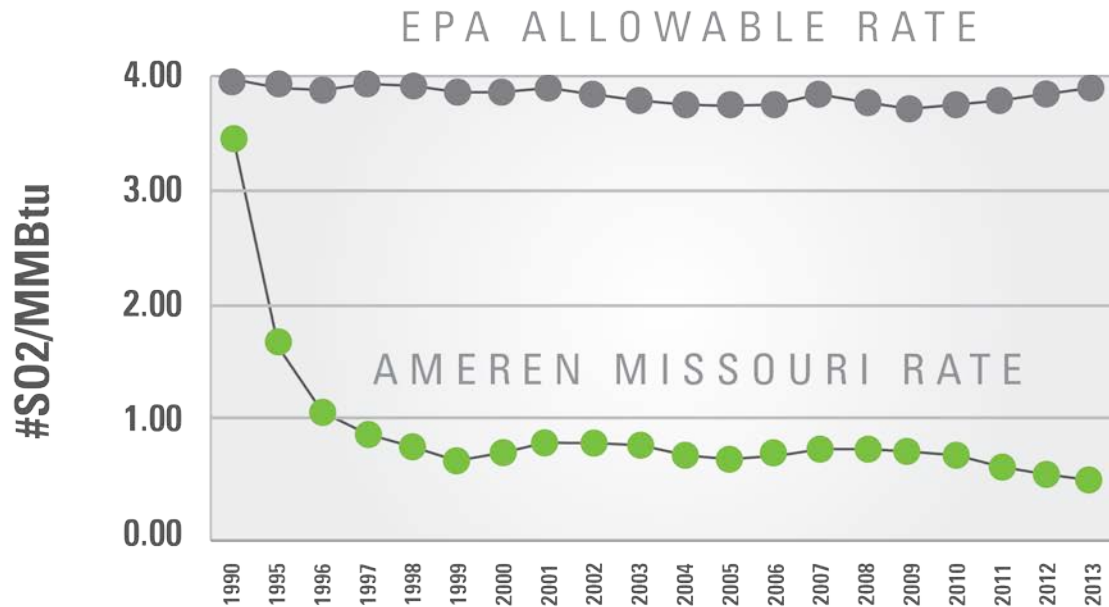
Top
25%

**MOST DEPENDABLE
ELECTRIC SERVICE
NATIONWIDE**



CLEANER AIR

Ameren Missouri is aggressively cutting emissions by improving equipment and transitioning to cleaner energy sources.



**EMISSIONS
REDUCED BY**
80%



Aging Electric Infrastructure...a National Issue

President Obama's and the DOE's first Quadrennial Energy Review, "cites a laundry list of current and future threats to the stability of the system, much of it related to aging infrastructure or infrastructure that was simply not designed to counter the threats now facing it." - *The Fiscal Times* - April 21, 2015

"The U.S. is more energy independent than it has been in four decades and is witnessing a boom in cheaper, clean energy sources, particularly wind and solar. However, the infrastructure used to transport both electric power and fossil fuels is a weak link that presents serious challenges for the country."

"Changes in the geography of domestic energy production stress the ability of existing infrastructures to move both liquid fuels and electricity from supply regions to demand centers."

"...addressing them will necessarily create a lot of jobs – up to 1.5 million of them, according to the report." (Pres. Obama directed the DOE to produce the report)

"Unfortunately, experts and advocates have been urging lawmakers to invest in upgrading the U.S. infrastructure for the better part of a decade to little to no avail."

Quadrennial Energy Review
U.S. Dept. of Energy

(quoted in the April 21, 2015 - *The Fiscal Times*)

FOCUSED ENERGY. For life.



Today is the most significant demand for utility grid investments since the 1970s

“No matter which scenario is implemented, total utility industry investment needs will range from approximately

\$1.5 trillion to \$2.0 trillion by 2030.”



Edison Electric Institute,
*Transforming America's Power Industry:
The Investment Challenge 2010-2030*



Missouri's Energy Infrastructure Receives a Low Grade

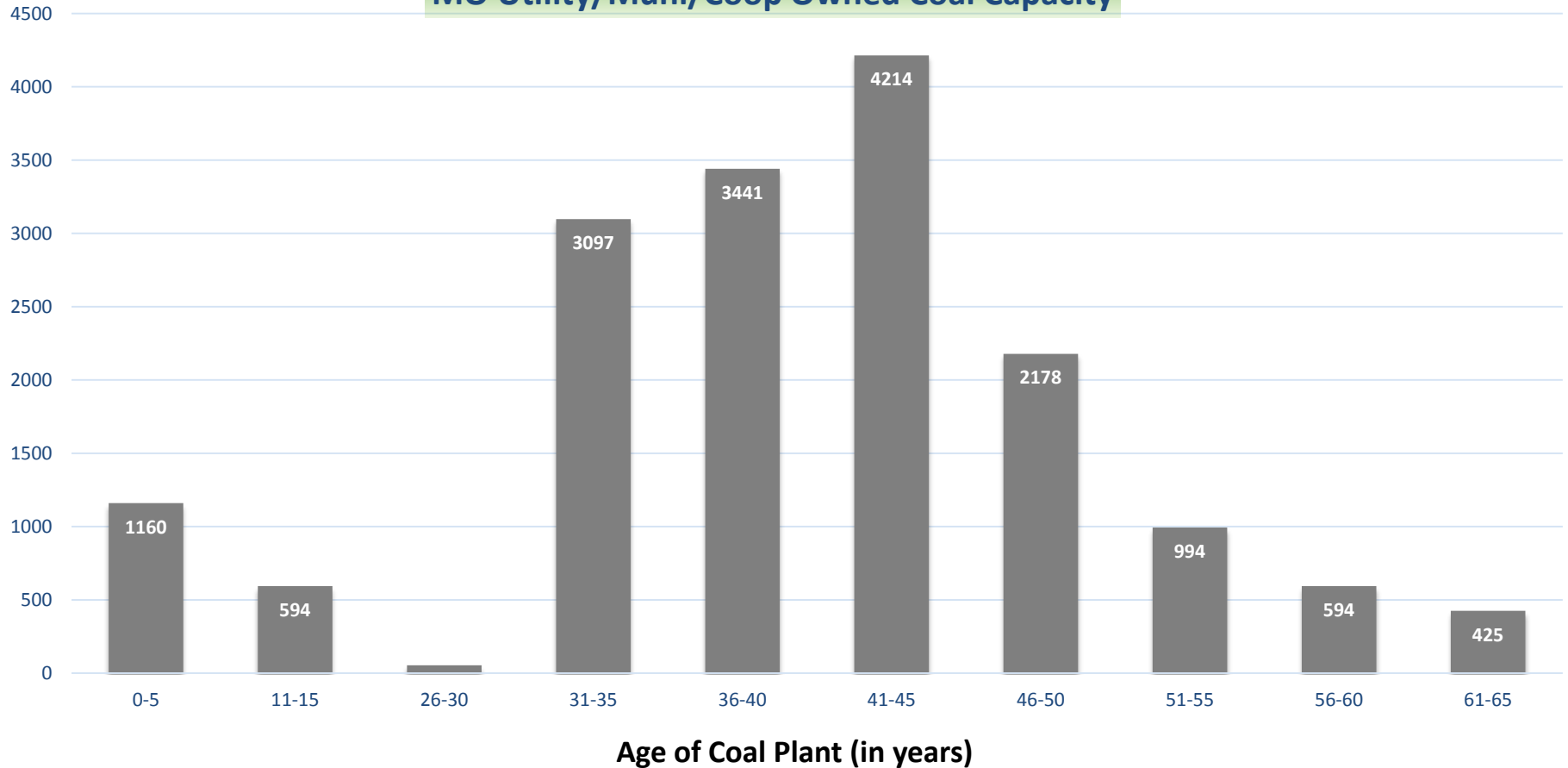
Infrastructure Category	Grade
Aviation	C
Bridges	C-
Dams	D-
Drinking Water	C-
Energy	D+
Inland Waterways	D
Levees	C-
Railroads	C
Roads	C
Schools	C
Wastewater	C-
OVERALL MO INFRASTRUCTURE	C-

- The American Society of Civil Engineers (ASCE) gives Missouri low grades for its infrastructure, with an overall grade of C-.
- Roads, bridges and energy infrastructure have a lot of similarities.



Missouri's Aging Generation Fleet

MO Utility/Muni/Coop Owned Coal Capacity



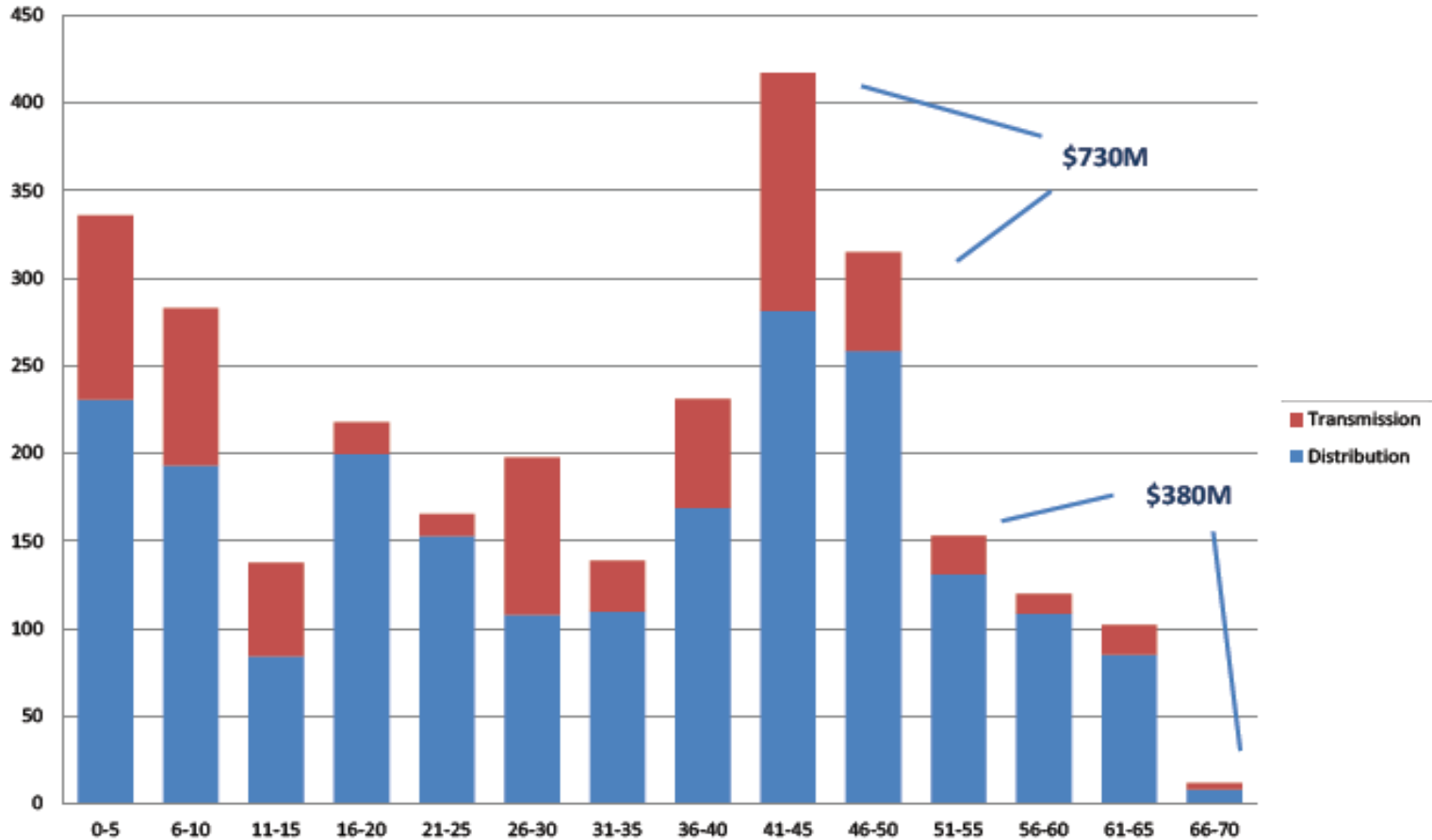
Meramec Energy Center – 62 years
Sioux Energy Center – 48 years

Labadie Energy Center – 45 years
Rush Island Energy Center – 39 years



Missouri's Aging Distribution System

Replacement Value of Substation Assets by Age



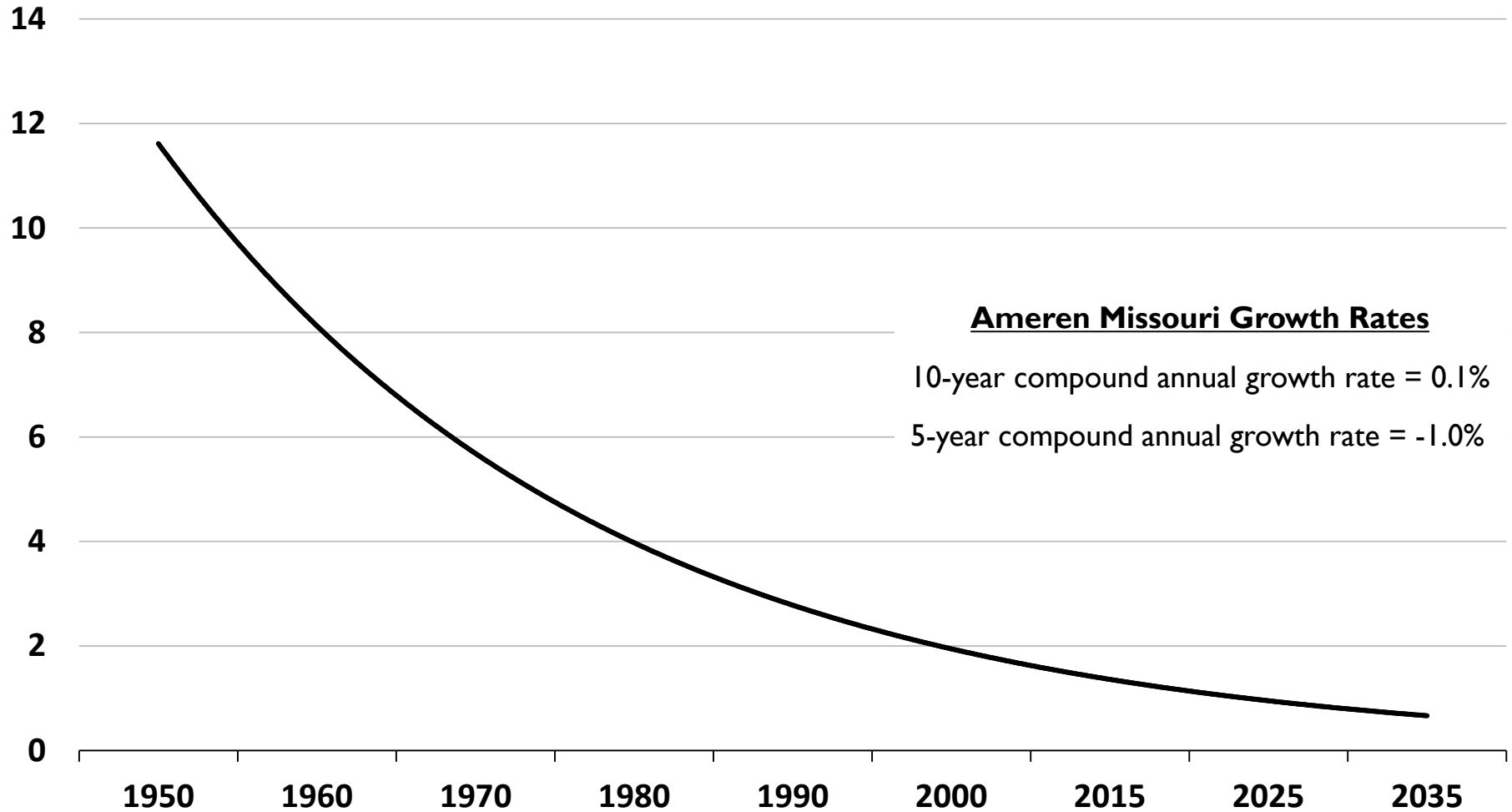


DANGER
HIGH VOLTAGE
KEEP OUT

*So, why is it
different
today?*



Electric Demand Growth Trend



Source: Energy Information Administration (EIA)



Rising Cost

- The EPA has implemented several regulations that are driving up costs (and several more regulations are proposed)
- NRC
- NERC
- FERC
- MISO
- Cybersecurity
- Other

