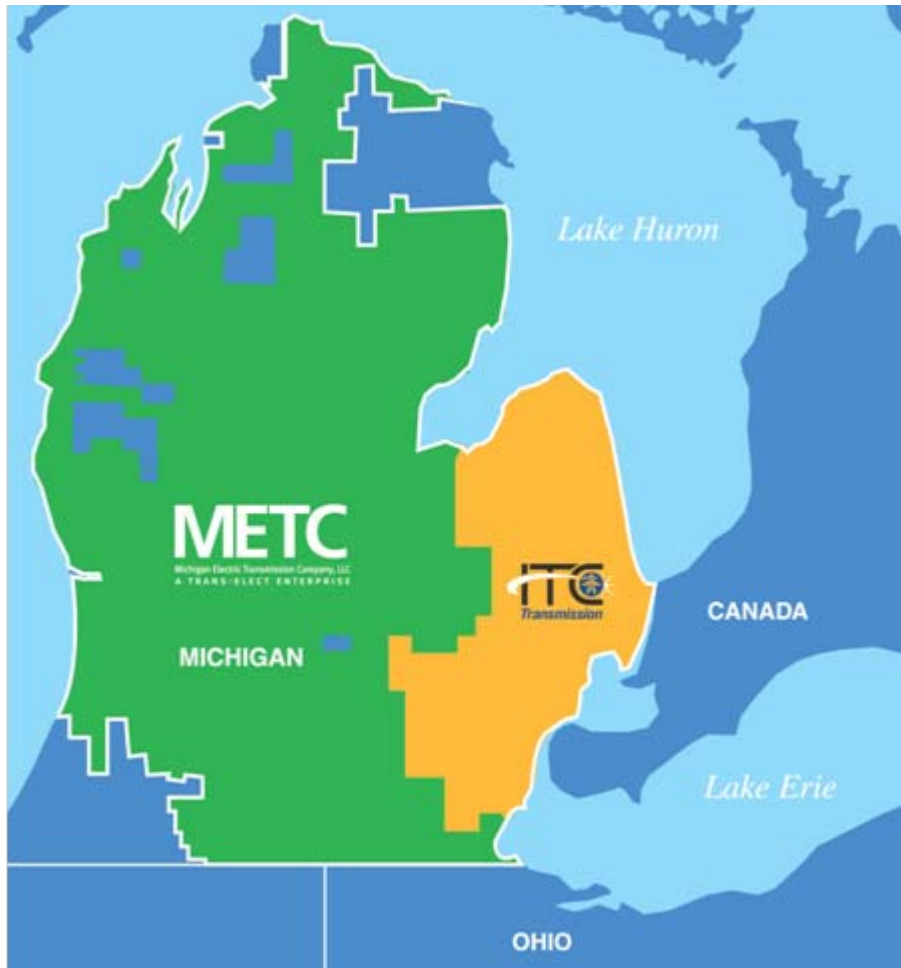




The Need for Robust Reliability Standards

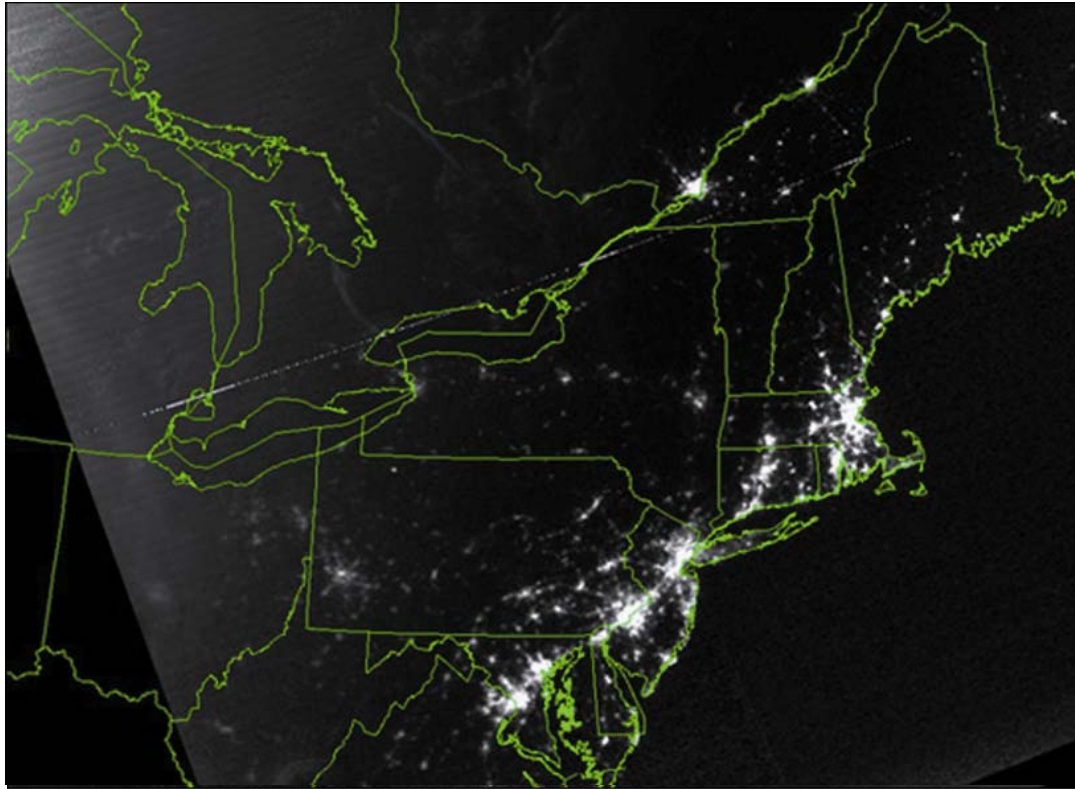
NARUC-San Francisco
August 1, 2006
Richard A. Schultz
Sr. Vice President, Planning
ITC Transmission

ITC Transmission



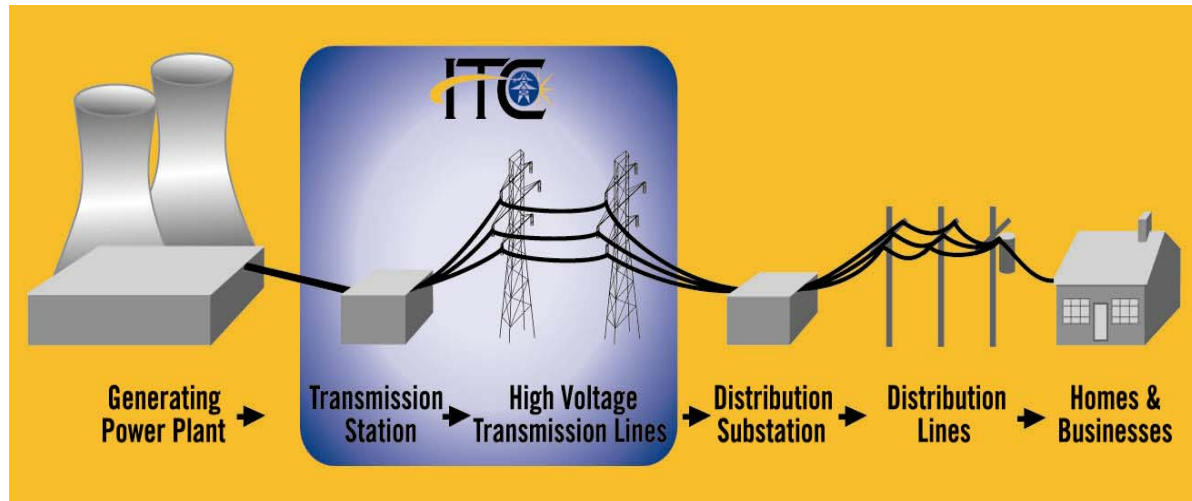
- Located in Michigan
- Independent from all market participants
- Focus is on the need for reliable and cost effective infrastructure for end use electrical customers
- Focus on bigger picture and the interactions between transmission and other power supply segments

Failure to Observe Reliability Standards



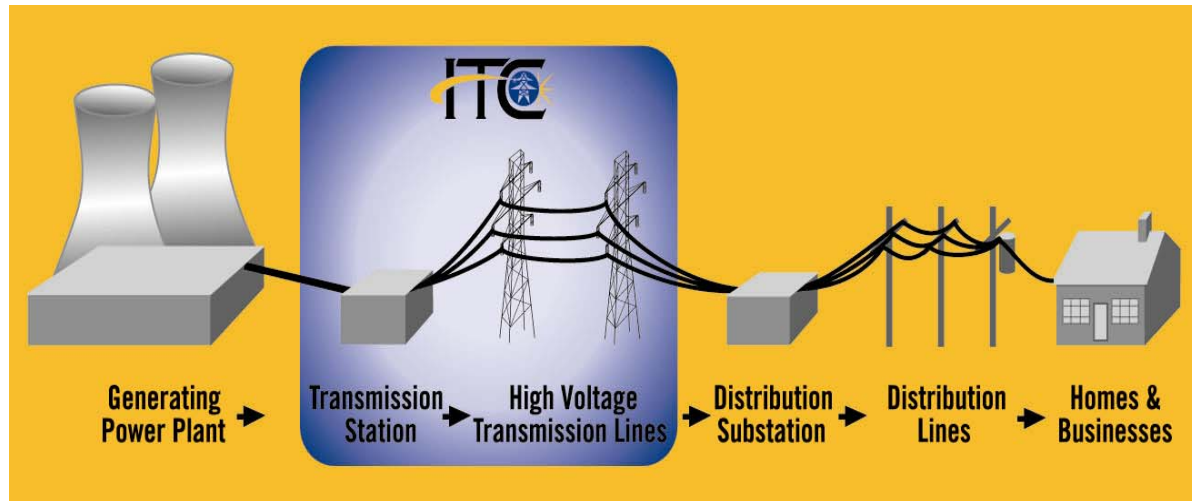
Blackout

Focus on Components - Distribution



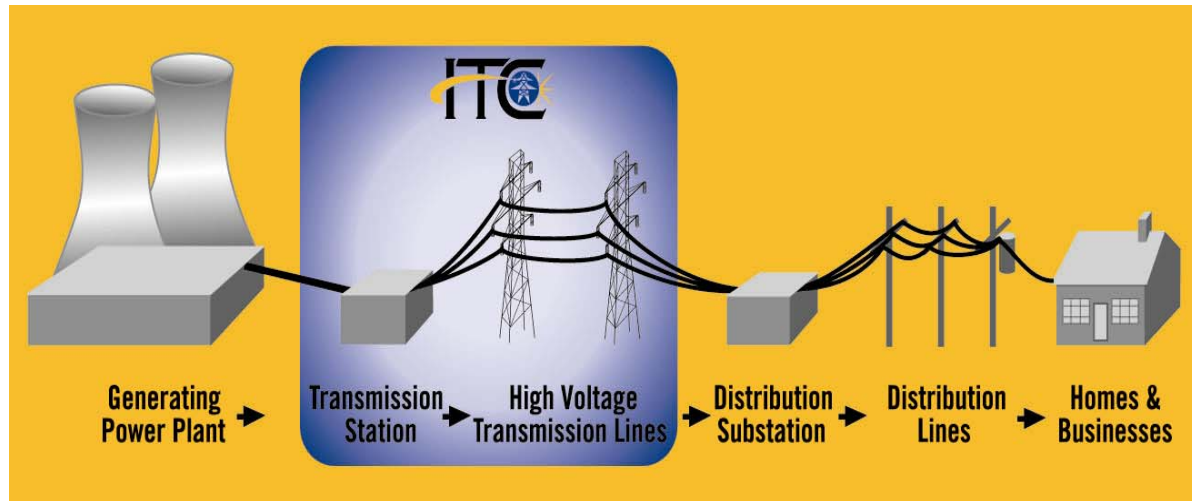
- Radial, so failures mainly impact small local area
- Reliability and costs are directly related
- No offsets to costs, i.e., reliable service requires investment and maintenance, but benefits are limited to reliability
- Directly addressed by state regulation
- Significant part of overall electric bill

Focus on Components - Generation



- Large part of overall electric bill; volatility due to fuel
- More complicated, must balance load and generation at all times, but is manageable
- Interactions between generations throughout the grid via the transmission system
- Main issue is balancing load and generation; consequences are mostly economic
- Inherent incentive to maintain equipment because economic consequences are large if not maintained, hence standards readily observed
- Within limits, all generators in the interconnected grid back up one another via the transmission system
- Compliance checking is straightforward

Focus on Components - Transmission



- Small part of overall electric bill (5-7%) but makes or breaks reliability
- Enables competition within the more costly segments, esp. generation
 - Competition can reduce costs on the supply side
- Congestion attributable to inadequate capacity can be very expensive and impact environment when efficient generation can't be used
- Failures, when local, affect much more load and/or industry
- Cascading failures are extremely costly

Transmission vs Distribution-Consequences of Ignoring Standards



If distribution circuit,
local load disrupted

If transmission circuit,
blackout of 8/14 stature

Local vs regional impact

Do Standards Really Matter?

- The US-Canadian Joint Task Force found 7 violations of NERC standards plus 4 failures to act were at the root of the 2003 blackout
- Standards were voluntary so they can be ignored
- The voluntary transmission standard model breaks down under current paradigm
- Epect 2005 fixed that problem by making the standards mandatory and putting FERC in charge of enforcement.
- ISN'T FIXED?
- With FERC overseeing reliability and the enforcement of standards, what's the problem anymore? There are several.

Remaining Challenges

- Standards are incomplete and are just now being written
- Pressure to go to the lowest common denominator
- Why?
 - Transmission investment has languished for years
 - Catch up is required
 - » Volume of investment needed is high
 - » Prices for equipment are higher now
 - Demands on grid exceed current capacity so more investment is needed to accommodate
 - All factors mean higher transmission rates, while other costs are escalating at the same time
- Lower Reliability Standards, especially when no longer voluntary, allow dodging the need for investments
 - 8/14/03 illustrates the consequences of doing so
 - Many other lesser outages are also very disruptive and costly
 - Transmission infrastructure inadequacies cause costly congestion
- Regulators are on front line to insist on high standards and to work with FERC to ensure they apply to all

Result of Underinvestment



Result of Underinvestment



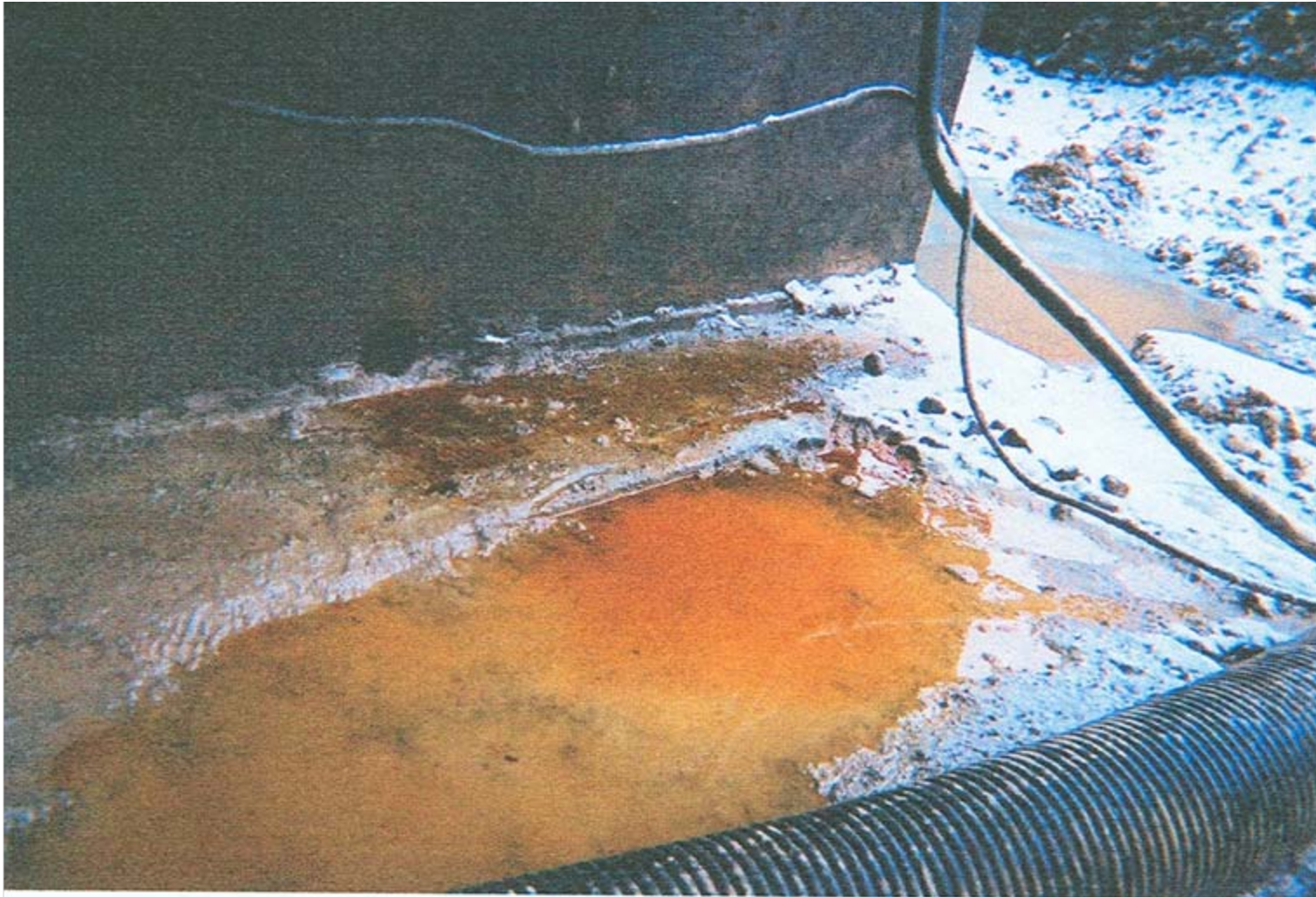
Before: Vegetation Management



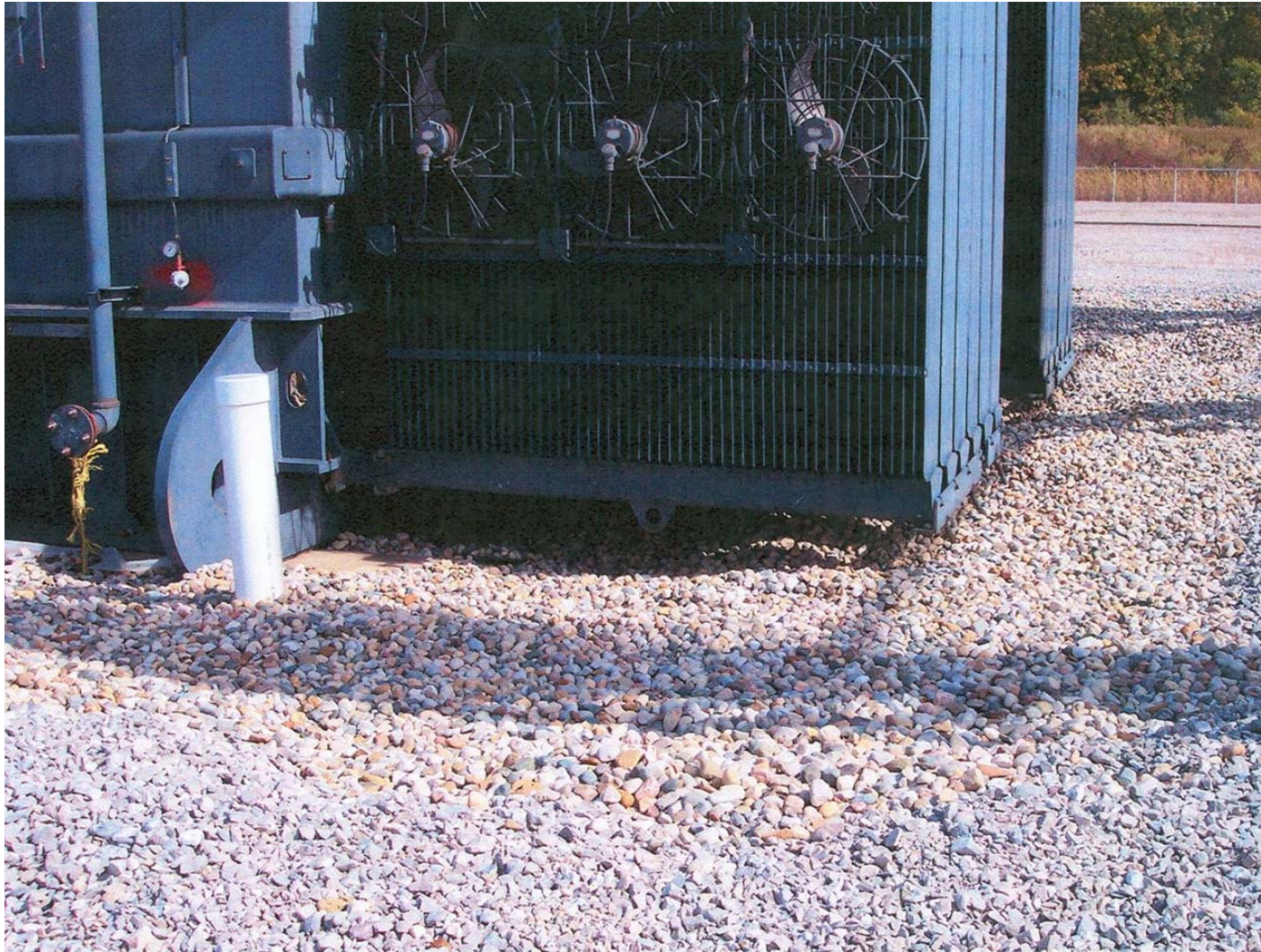
After: Vegetation Management



Before: Oil Spill

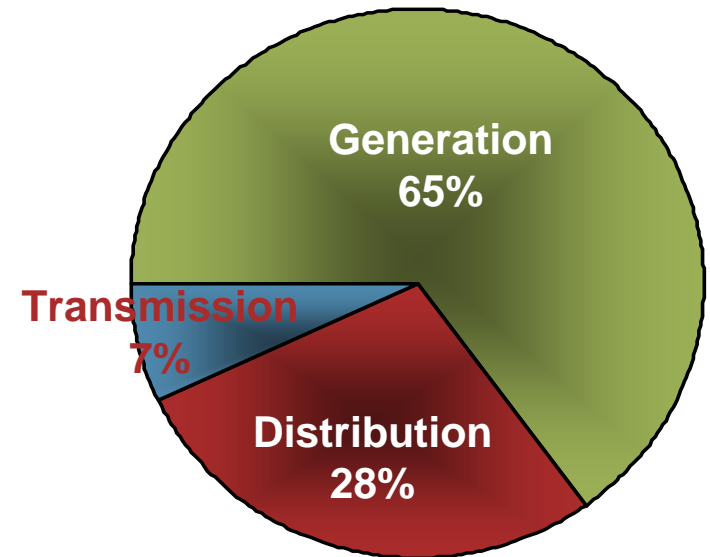


After: Oil Spill



The Bright Side

- As a result of national attention on impacts of hurricanes, New Orleans, 8/14/03, etc., customers are more aware of the impact of having no electricity
- Transmission is and historically has been a small component of total delivered energy cost so direct impact on final bill is minimal
- Even better, new transmission investment often **reduces** costs in other segments of the total bill
- Robust standards can be supported, knowing they can reduce total costs even while eliminating the costs attributable to low transmission reliability



Industry Average
Breakdown of
End Use Customer
Electricity Bill

Conclusion

- Transmission reliability is critical
- Mandatory, enforced standards help to ensure it is provided
- Standards need to be robust to be effective and to ensure the appropriate infrastructure is implemented
- Cost of reliability concerns must include consideration of the costs of failure to provide reliable service as well as the costs of the ultimate remediation needed anyway
- Transmission investments to ensure reliability also reduce, sometimes substantially, the costs in other parts of the final electric bill
 - Offsets come from reduced real and reactive power losses
 - Offsets come from reduced congestion (uneconomic dispatch) costs
 - Offsets also come from avoidance of the costs of outages to customers
- FERC needs your help and support to be successful in EPA2005's mandate to assure reliability