



# Develop PJM Criteria/Guidelines for Assessing End of Life Transmission Facilities

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AMP, ODEC, DVP, PJM ICC, PJM PPC,  
LS Power, ITC Mid-Atlantic Development

February 25, 2016

# Changes from First Read

## Problem Statement:

- Corrected typo: “aging infrastructure” to “end of life”

# Changes from First Read

## Issue Charge:

- Assigned to End of Life Task Force Reporting to the MRC
- ✓ Accepted TOs' Amendment on Education:
  - “Review the provisions of the Consolidated Transmission Owners Agreement and the Operating Agreement regarding the legal, contractual rights and obligations of the PJM Transmission Owners.”
- ✓ Accepted Merchant Amendment on Cost Allocation:
  - “Transmission cost allocation is the purview of the PJM Transmission Owners in accordance with the Consolidated Transmission Owner's Agreement and the PJM Tariff. Any discussion of Transmission Cost Allocation should take place at the Transmission Owner's Advisory Committee.”

# Additional Proposed Changes Received

## Problem Statement

### From TOs:

- Develop ***Voluntary*** Guidelines
- “***Voluntary*** End of Life guidelines that TO’s ***may chose to*** apply to their facilities ***might*** improve the...planning processes... by providing transparency on the assumptions and models...”

### As Opposed to:

- ***PJM Criteria***/Guidelines
- “***Uniform PJM wide*** End of Life ***Criteria and*** guidelines that TOs ***could*** apply to their facilities ***would*** improve the ... planning processes... by providing transparency on the ***criteria***, assumptions and models...”

# Additional Proposed Changes Received Issue Charge

## From TOs:

- Develop ***Voluntary*** Guidelines
- Assignment:
  - Aging Infrastructure TF to PC
- 4. Brainstorm and develop ***alternatives for providing more transparency and consistency in the review of End of Life projects, including the development of voluntary End of Life Guidelines.***

## As Opposed to:

- ***PJM Criteria***/Guidelines
- Assignment:
  - End of Life TF to MRC
- 4. Brainstorm and develop ***PJM End of Life Criteria***

# Additional Changes *Accepted* Issue Charge

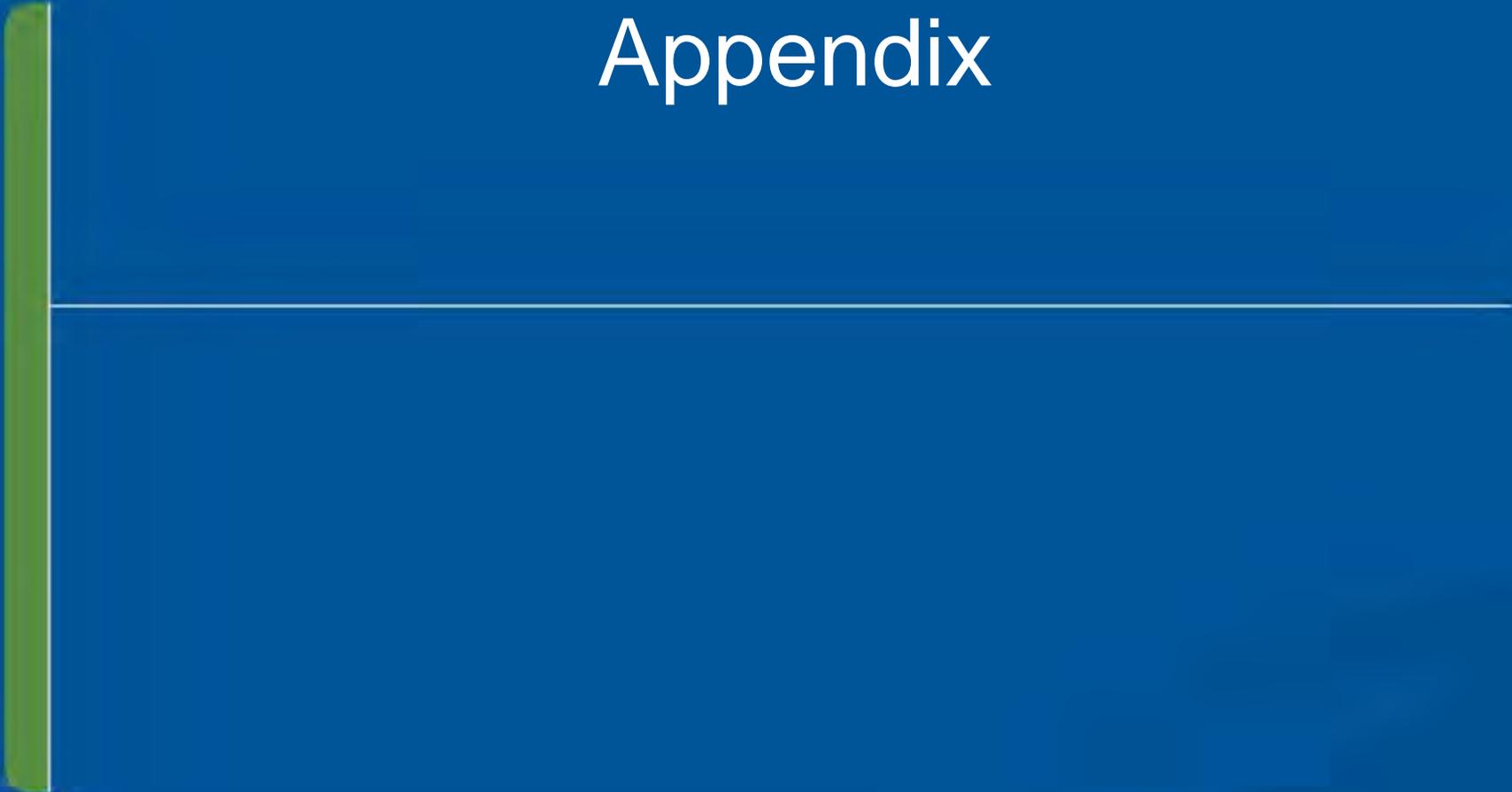
## From TOs:

- Develop *Voluntary* Guidelines
- Assignment:
  - Aging Infrastructure TF to PC
- 4. Brainstorm and develop *alternatives for providing more transparency and consistency in the review of End of Life projects, including the development of voluntary End of Life Guidelines.*

## As Opposed to:

- *PJM Criteria*/Guidelines
- Assignment:
  - End of Life TF to MRC
- ✓ 4. Brainstorm and develop *alternatives for providing more transparency and consistency in the review of End of Life projects, including the development of PJM End of Life Criteria*

# Appendix





# Develop PJM Criteria/Guidelines for Assessing End of Life Transmission Facilities

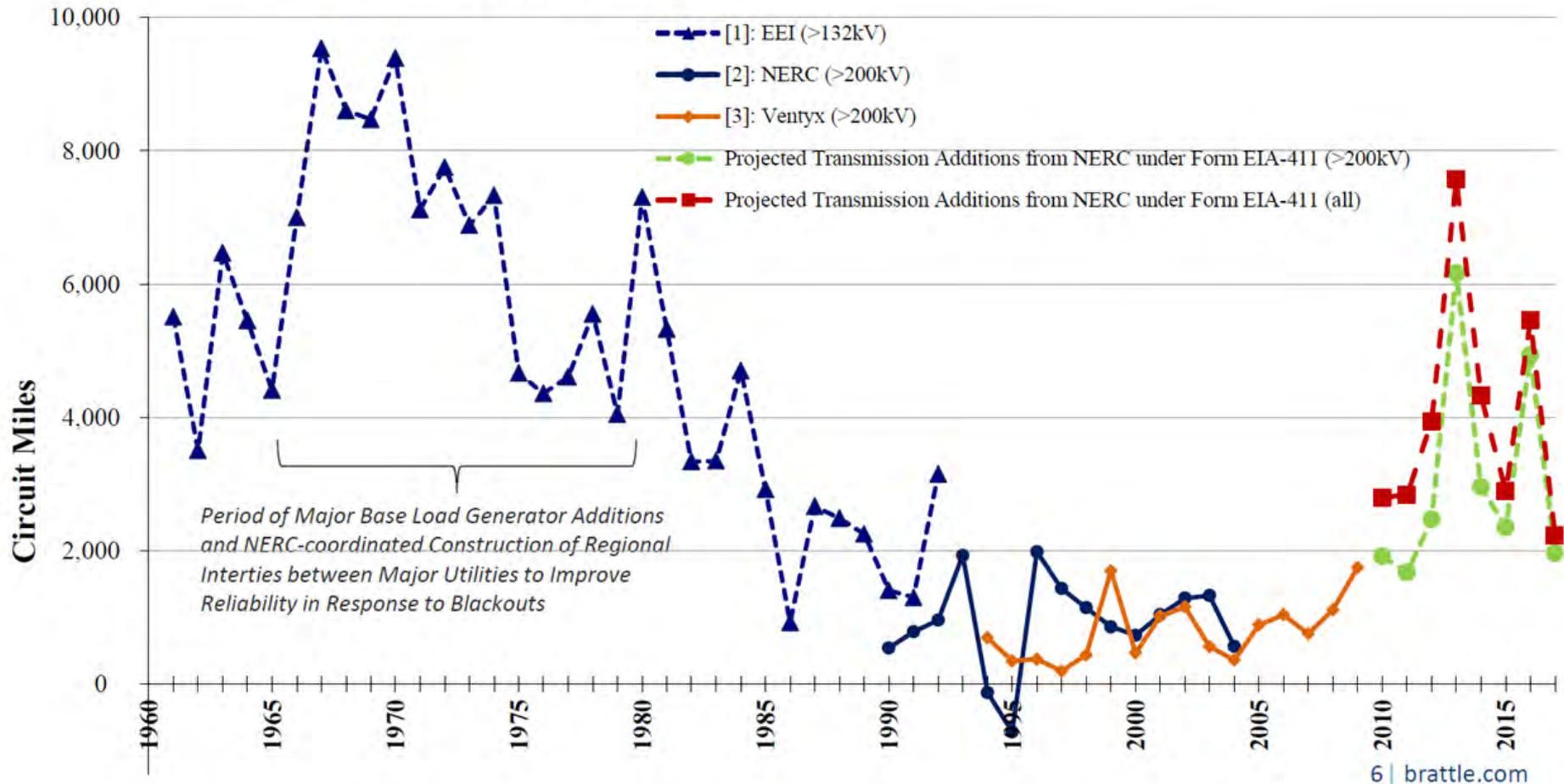
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# Historical Circuit-Mile Additions Document Aging Grid

- Most of the existing grid was built 30-50+ years ago
- Even relatively high recent and projected circuit miles additions are below levels of additions in 1960s and 1970s

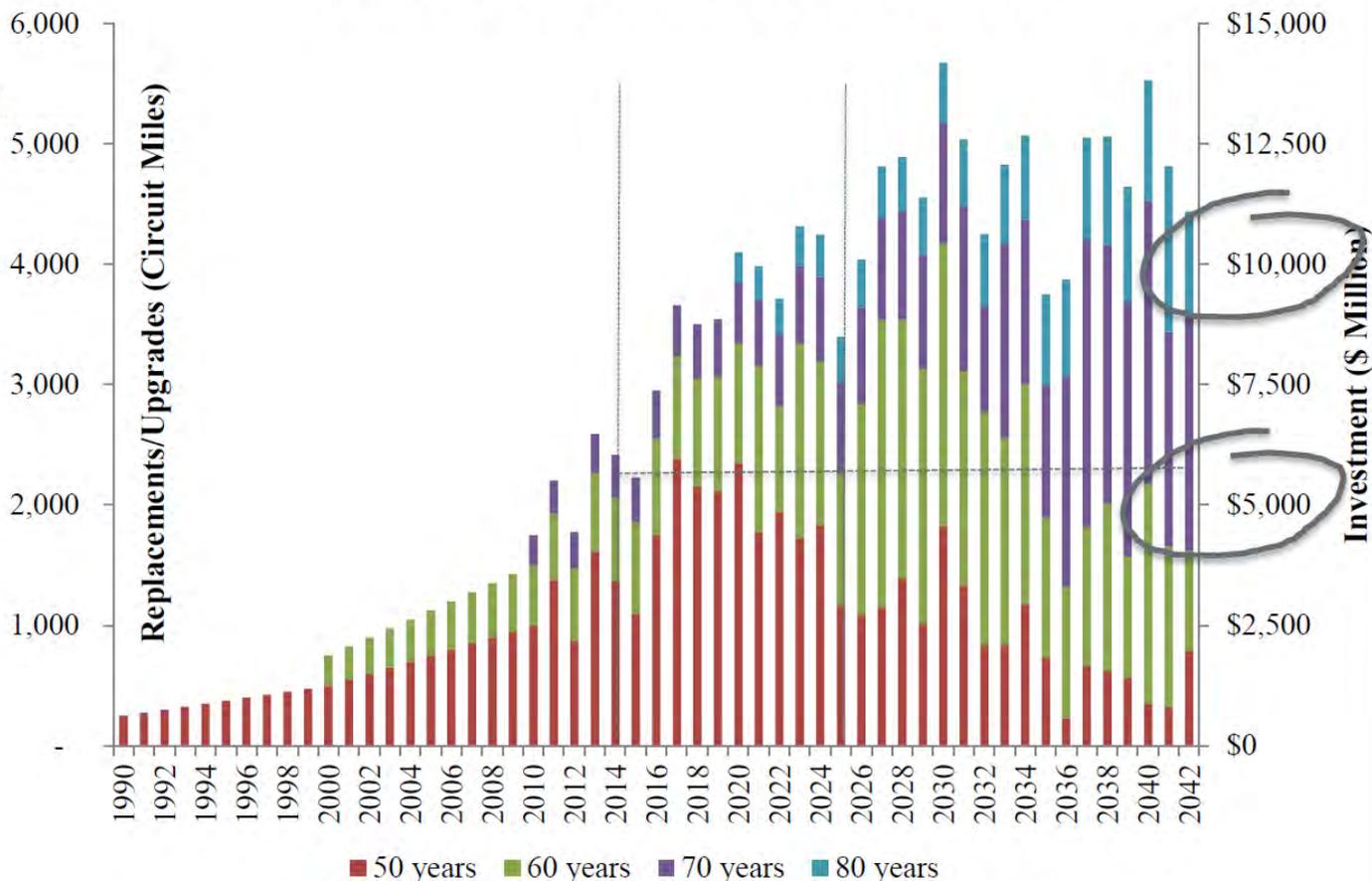


\*Investment Trends and Fundamentals in US Transmission and Electricity Infrastructure; July 17, 2015 Brattle Presentation to JP Morgan Investor Conference

# Replacing and Upgrading Aging Transmission Will Require Significant Investments

- If all facilities had to be replaced after 50 to 80 years, investment need could increase by \$5 billion/yr over next decade
- Some of these replacements may become large upgrades open to non-incumbents

## Projected Circuit Miles Replaced/Upgraded and Total Projected Investment (\$m)

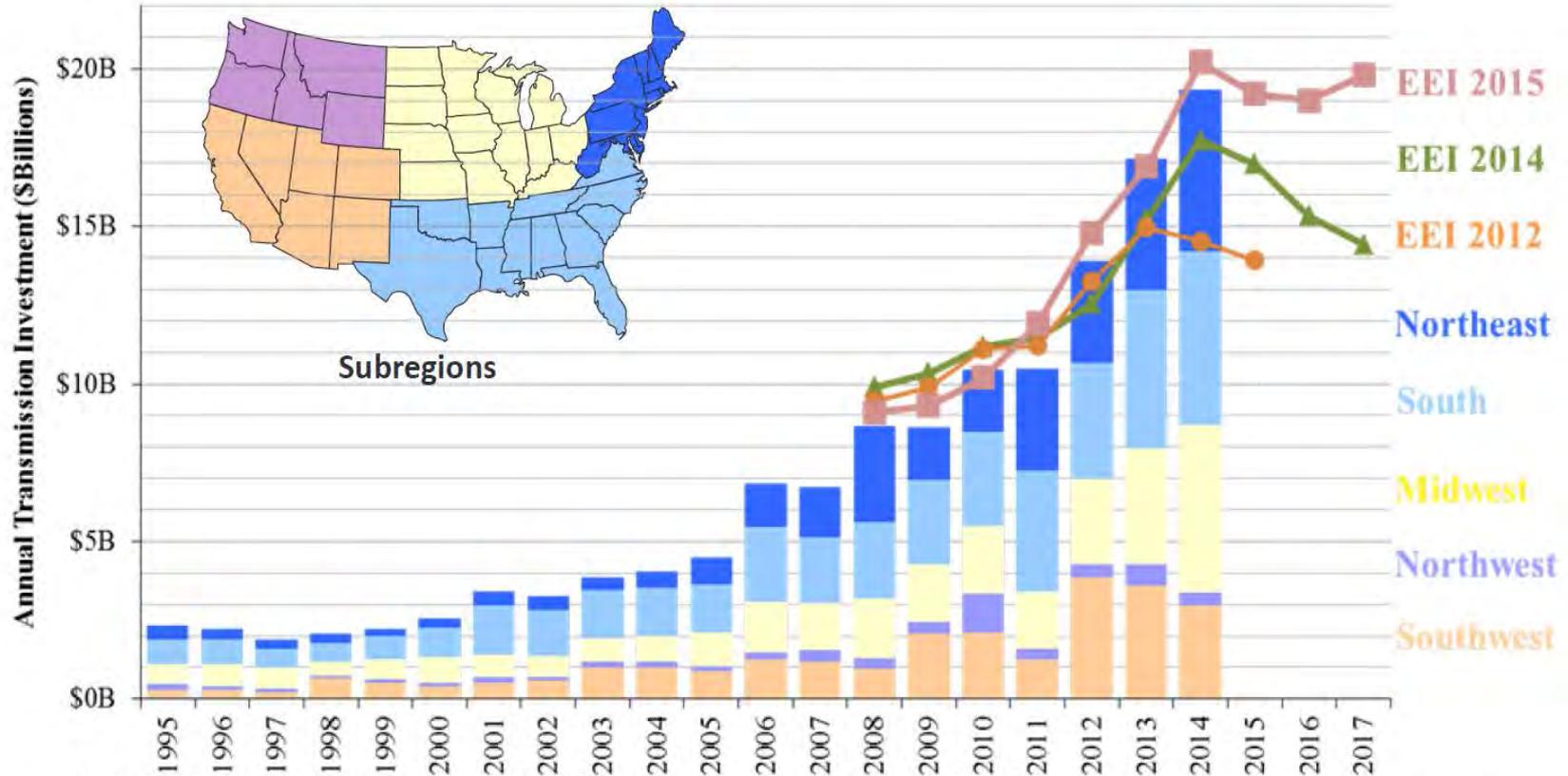


Assumes circuit mile costs equal to those of new lines

\*Investment Trends and Fundamentals in US Transmission and Electricity Infrastructure; July 17, 2015 Brattle Presentation to JP Morgan Investor Conference

# Historical and Projected Transmission Investments

## 1995-2017 Annual Transmission Investment of Investor-Owned Utilities by FERC Subregion



**Sources and Notes:** The Brattle Group's analysis of FERC Form 1 data compiled in Ventyx's Velocity Suite. Based on EIA data available through 2003, FERC-jurisdictional transmission owners estimated to account for 80% of transmission assets in the Eastern Interconnection, and 60% in WECC and ERCOT. Facilities >300kV estimated to account for 60-80% of shown investments. EEI annual transmission expenditures updated June 2015 shown (2008-2017) based on prior year's actual investment through 2013 and planned investment thereafter.

# Problem Statement

- Aging infrastructure one of the primary drivers for transmission investment
  - Approximately \$5.5 Billion so far
- PJM Local and Regional Planning Processes
  - Some TOs with established criteria via FERC 715
  - Others Supplemental
  - 69 kV to 500 kV
- Concern over increasing costs
- Concern over long-term planning process
- Concern over competitive windows

# Benefits

- Uniform criteria and guidelines PJM TOs could apply
- Transparency on criteria, assumptions and models
- Provide stakeholders a meaningful opportunity to review and provide written comments
  - Prior to finalization of the Local or Regional Plan
- Provide PJM planning with improved certainty on the projects to be included in base case build outs
- Assure a level playing field in competitive windows resulting in less retools and a more clear and orderly planning process

# Issue Charge

## Key Work Activities

1. Review existing TO End of Life Criteria
2. Identify and Review any additional relevant industry information on this issue
3. Brainstorm and Develop PJM End of Life Criteria
4. Develop guidelines for establishing, communicating, and reviewing End of Life Criteria projects in the PJM RTEP Planning Process

***This activity is not intended to address any Transmission Cost Allocation issues.***

# Issue Charge

- Need to assign to high level task force
- Deliverables: Changes to PJM Manual(s)
  - No Tariff, Operating Agreement or other documentation changes are expected
- Completed by the end of the third quarter of 2016
- Seek Tier 1 Consensus (Unanimity)