Reliability Analysis Update

Transmission Expansion Advisory Committee

April 7, 2016

2016 RTEP Timeline

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- Cases
  - 2016 RTEP summer case finalized (quality control check in-progress)
  - 2016 RTEP winter case sent to TO for modeling updates
  - 2016 RTEP light load case sent to TO for modeling updates

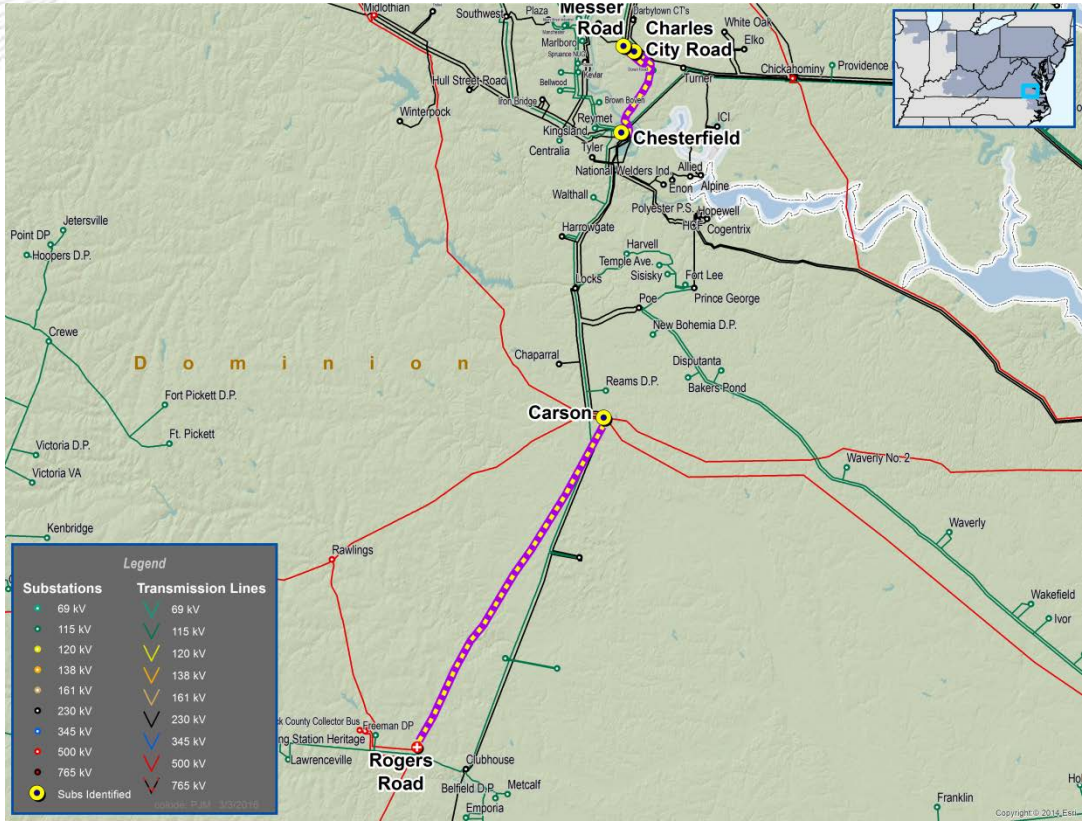
- Analysis
  - Performed preliminary N-1 and generation deliverability analysis; currently in the process of the quality control check
  - Finalize the N-1 and generation deliverability analysis
  - Perform load deliverability and N-1-1 analysis

- Windows
  - Post the preliminary N-1 thermal and Generation deliverability results by mid April 2016

2016 RTEP Proposal Window #1

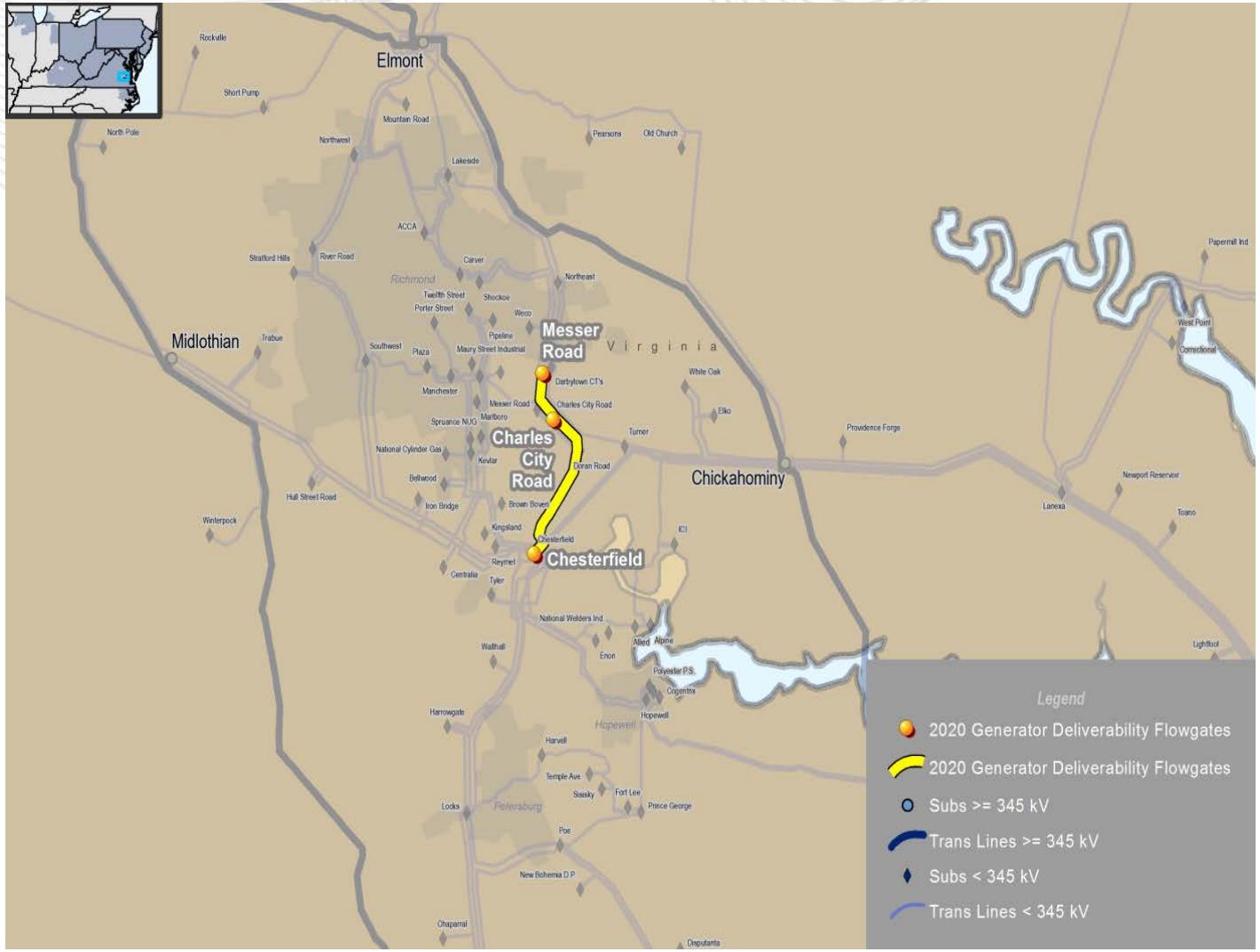
2016 RTEP Proposal Window #1

- Scope
  - Generator Deliverability and Common Mode Outage Violations
  - End of life facilities
- Preliminary Files Released: 2/5/2016
- Window Opened: 2/16/2016
- Window Closes: 3/17/2016 – Proposal definitions, simulation data and planning cost estimate due
- Detailed Cost due: 4/1/2016 – Additional 15 days to develop and provide detailed cost data – See the window documentation for additional information



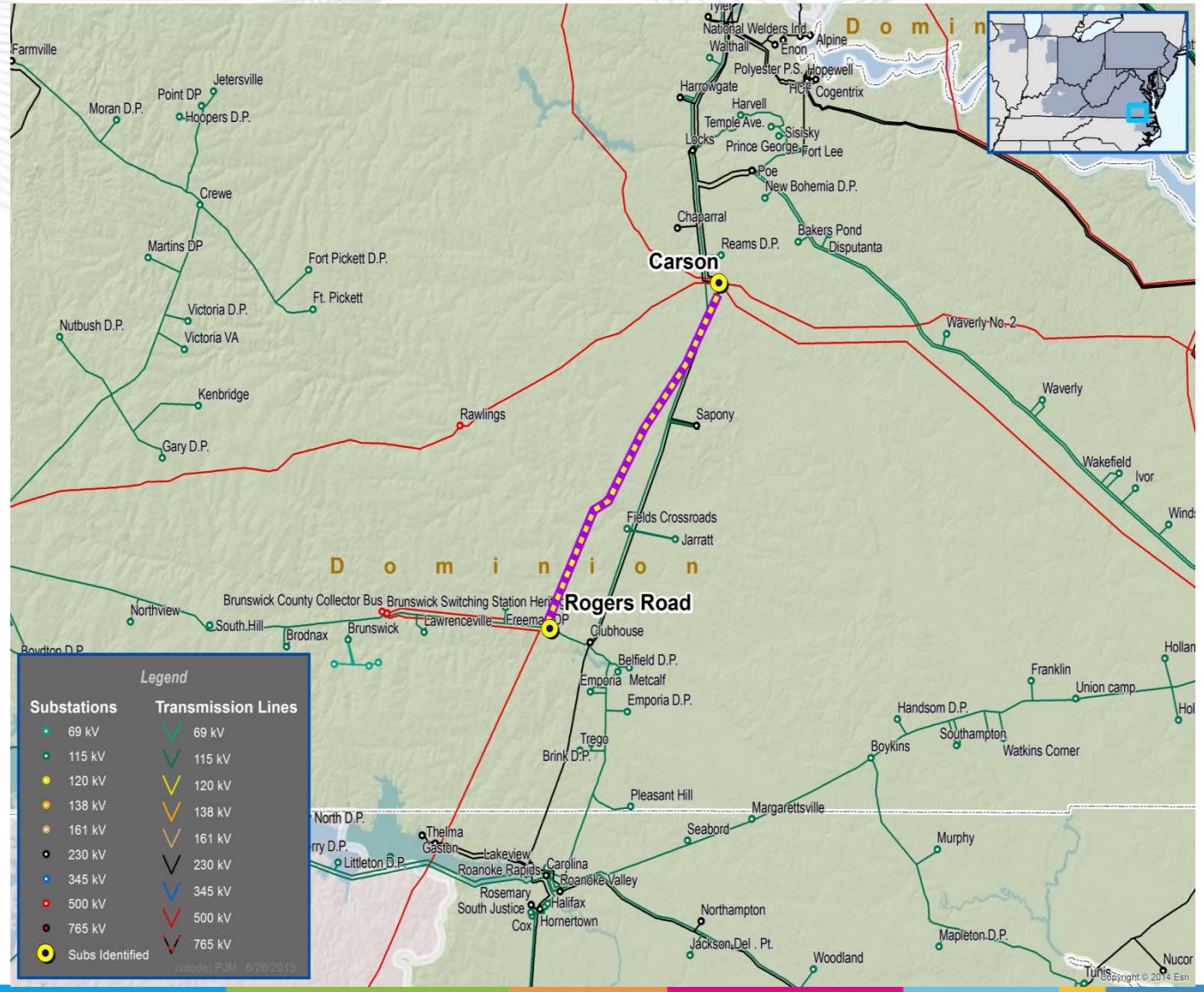
2016 RTEP Proposal Window #1

- **Generation Deliverability and Common Mode Outage (FG# 60, 61, 62, 66, 68, 70, 71, 72, 76, 78, 248, 249)**
- The Chesterfield – Messer Road – Charles City Road 230kV circuit is overloaded for several contingencies



2016 RTEP Proposal Window #1

- **Generation Deliverability and Common Mode Outage (FG# 102)**
- The Carson – Rogers Rd 500 kV circuit is overloaded for single contingency loss of the Carson – Rawlings 500 kV circuit.

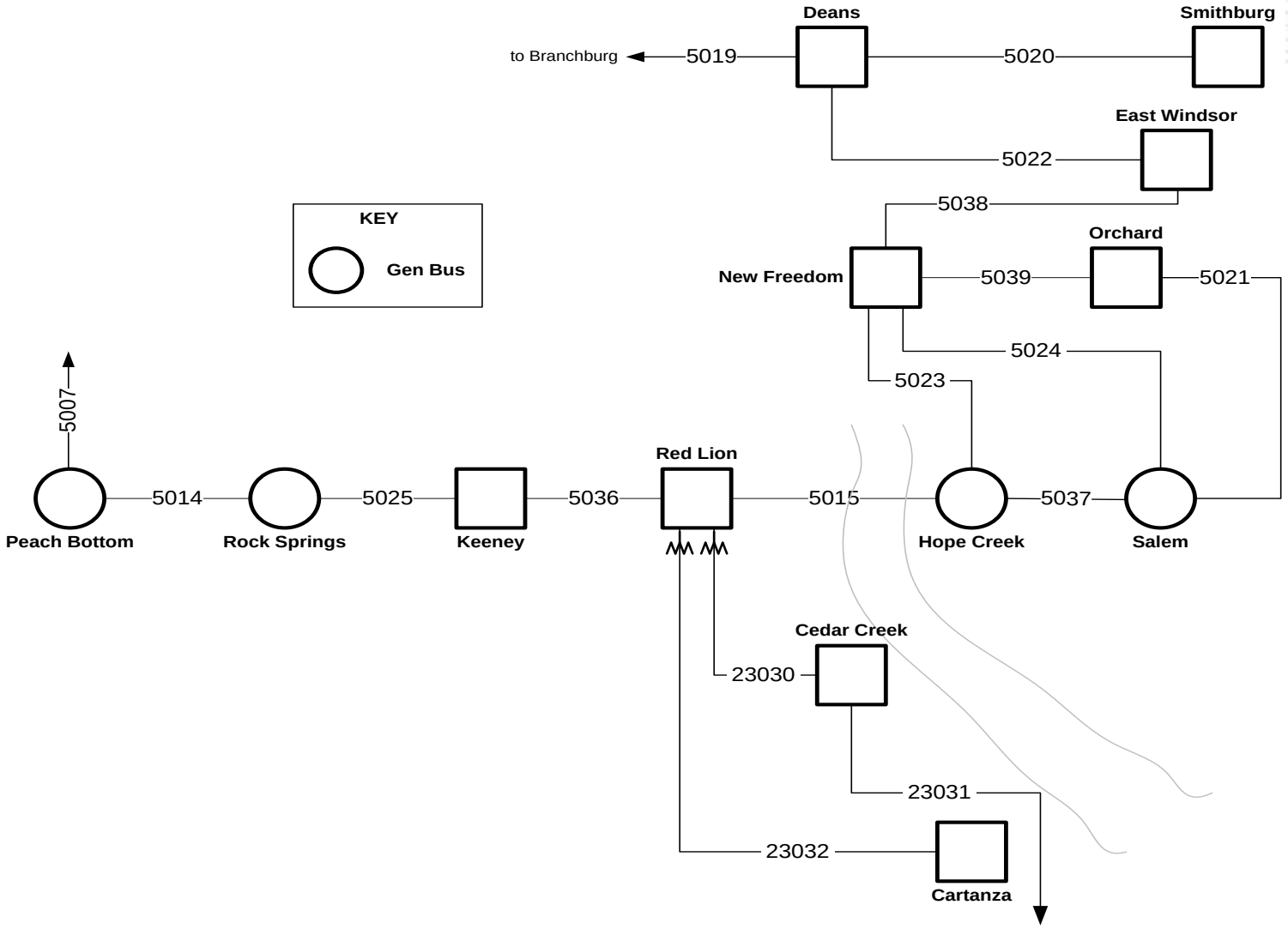


2016 RTEP Proposal Window #1 Statistics

- 26 Proposals from 7 entities
  - 3 Transmission Owner Upgrades
    - Cost range of $7.7M to $48.5M
  - 23 Greenfield Projects
    - Cost range of $15.6M to $111.5M
- Proposal Fee
- Next Steps
  - Proposal evaluations
  - More Detailed overview of proposals received to be presented at a future TEAC

Artificial Island Update

Artificial Island Area Network



Artificial Island Update

- New Freedom SVC Technical Specifications
  - Development of a technical spec to provide engineering, procurement and construction of an SVC at New Freedom
  - Detailed PSCAD (transient study tool) Study
    - Confirmed previous PJM study results

Artificial Island Update

- Consideration of increased cost estimates for the current approved scope of work

- Examining configuration changes to terminate the planned Cedar Creek – Salem transmission facility at Hope Creek
  - Electrical performance
  - Cost estimates
  - Constructability
  - Consideration of process implications

RTEP Next Steps

Questions?

Email: RTEP@pjm.com

Revision History

- Revision History
  - V1 - Original version posted to PJM.com – 4/6/2016