



Ghent to East Bend 345kV
New Transmission Line
August 15, 2016

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Note: Supporting files (PSS/E IDEV, Case, and Contingency Files) were submitted electronically on July 29, 2016.

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1. Executive Summary

- The proposing entities are Public Service Electric and Gas Company (PSE&G) Vectren Utility Holdings, Inc. (Vectren).
- This proposal is submitted in response to PJM's 2016 RTEP Proposal Window 2.
- The violation was identified in the generation deliverability analysis.
- No additional violations are caused by the solution presented in this proposal. There are no nearby violations not addressed by this proposal.
- The proposed project is located within the Duke Energy and Ohio Valley Electric Corporation (OVEC) zones.
- PSE&G-Vectren seeks Designated Entity Status to construct, own, operate, and maintain the proposed project.
- The proposed project solves the generator deliverability analysis violation for Flowgates 897 and 1137.
- This project should be considered only as a whole.
- The proposed project cost is approximately _____ (without Risk & Contingency).
- The project duration is approximately 4 years.
- In addition to providing a solution, the Ghent to East Bend 345kV transmission line proposal will provide additional tie between PJM and SERC. It also eliminates the loss of East Bend Generation for N-1-1 events.
- This proposed project also resolves an overload on OVEC's Clifty Creek to Louisville Gas & Electric (LGE) Trimble 345kV line which was not included on the list of violations in 2016 RTEP Proposal Window 2.

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2. Company Evaluation

2.1. Contact Information

2.1.1. Primary Contact

2.1.2. Secondary Contact

2.1.3. Headquarters

PSEG

80 Park Plaza

Newark, New Jersey 07102

(973) 430-7000

2.2. Pre-Qualification

2.3. Company Information

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3. Constructability Information

3.1. Scope of Project

The proposal includes the installation of an approximately 17-mile 345kV overhead transmission line from the existing Ghent station to the existing East Bend station.

3.2. Cross-Border Issues

The following proposal is not a solution to Cross-Border issues.

3.3. Proposal Elements

3.3.1. General Description

The proposal includes the installation of an approximately 17-mile 345kV overhead transmission line from the existing Ghent station to the existing East Bend station.

3.3.2. Geographic Description

3.3.3. Route Description

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3.3.3.1. Environmental Impacts

3.3.3.2. Right-of-way and Land Acquisition Plan and Approach

3.3.3.3. Permitting Plan and Approach

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3.3.3.4. Potential Public Opposition

3.3.4. Physical Characteristics

- Line and shield conductor type and size:
- Overhead or underground/submarine: Overhead
- Single or double circuit towers: Single Circuit

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3.3.5. Map and Supporting Diagram

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3.3.6. Interconnection Location

3.3.7. Outage Requirements

Outages will be required for construction at the existing Ghent and East Bend stations. PSE&G-Vectren will coordinate with the incumbent transmission owners to determine the length and timing of the outages.

3.3.8. Cost

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3.3.9. Construction Responsibility

PSE&G-Vectren will construct the Ghent to East Bend 345kV transmission line. Modifications to the existing Ghent and East Bend stations are assumed to be constructed by the incumbent transmission owners. PSE&G-Vectren seeks Designated Entity Status to construct, own, operate, and maintain the proposed project.

4. Analytical Assessment

4.1. Analysis

4.2. Equipment Parameters and Assumptions

4.3. PSS/E IDEV Files

PSS/E IDEV files were submitted electronically on July 29, 2016.

4.4. Supporting Information

The Clifty Creek to Miami Fort 138kV circuit was overloaded in the Generator Deliverability tests. The Clifty Creek to Miami Fort 138kV was overloaded for both a stuck breaker at Jefferson 765kV and a double circuit tower outage of the two Clifty Creek to Dearborn 345kV circuits.

The proposed solution for these thermal overloads consists of building a 345kV circuit from Ghent to East Bend. The proposed project will alleviate the thermal overload associated with contingencies 'AEP_P7-1_#632' and 'AEP_P4_#1760_05JEFRSO 765'.

4.5. Proposal Template Spreadsheet

The final RTEP Proposal Template spreadsheet (in Excel format) is provided electronically as a separate file.

4.6. Market Efficiency

This section is not applicable to this proposal.

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5. Cost

5.1. Cost Estimate

5.1.1. Total Cost

5.1.2. Yearly Cash Flow

5.1.3. Escalation Rates

5.2 Detailed Breakdown of Cost

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5.2.1. Planned Return on Equity

5.2.2. Estimated Monthly AFUDC

5.2.3. Annual O&M Cost

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5.3. Cost Commitment

6. Schedule

7. Operations/Maintenance

7.1. Overview

7.1.1. Previous Experience

7.1.2. Intentions for Control Center

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7 1 3 Maintenance Contracts

8. Assumptions

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