Maddox Creek to Southwest Lima 345kV New Transmission Line

November 15, 2016

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Note: Supporting files (PSS/E IDEV, Case, and Contingency Files) were submitted electronically on October 31, 2016.

1. Executive Summary

- The proposing entity is Public Service Electric and Gas Company (PSE&G).
- This proposal is submitted in response to PJM's 2016 RTEP Proposal Window 3.
- The violation was identified in the winter generation deliverability analyses.
- 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 AEP zone.
- PSE&G seeks Designated Entity Status to construct, own, operate, and maintain the proposed project.
- The following proposes a solution to a winter generation deliverability violation: Flowgate 123.
- 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.
- The Maddox Creek to Southwest Lima 345kV transmission line proposal will provide additional capacity for the system and more outlets for wind generation.

2. Company Evaluation

2.1. Contact Information

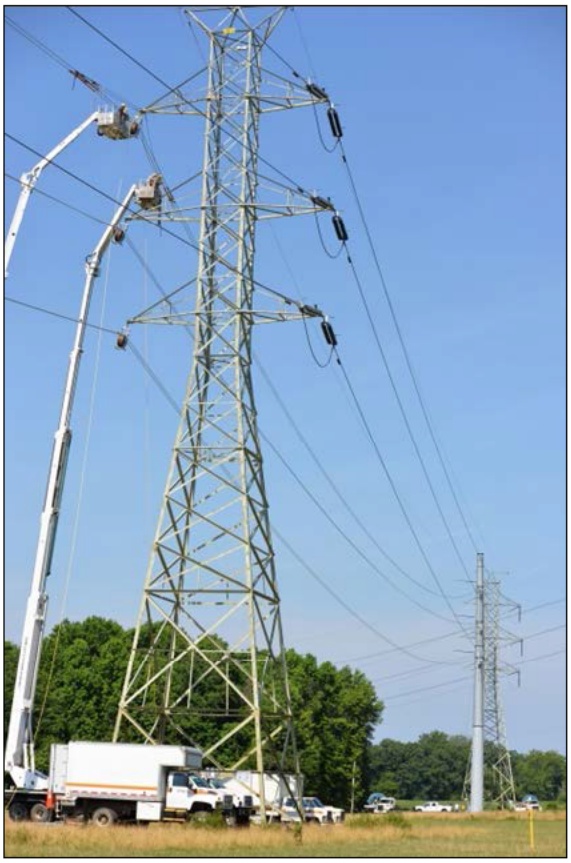
2.1.2. Secondary Contact

2.1.3. Headquarters

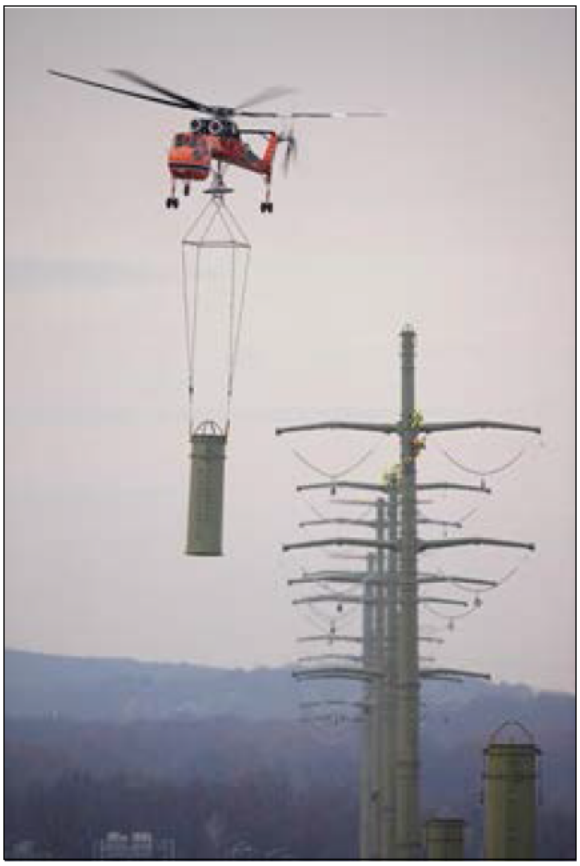
PSEG
80 Park Plaza
Newark, New Jersey 07102
(973) 430-7000

2.2. Pre-Qualification

2.3. Company Information



Mickleton-Gloucester-Camden Project



Susquehanna Roseland Project

Burlington-Camden Upgrade

North Central Reliability Project

3. Constructability Information

3.1. Scope of Project

The proposal includes the installation of an approximately 28-mile 345kV overhead transmission line from the existing Maddox Creek to the existing Southwest Lima 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 28-mile 345kV overhead transmission line from the existing Maddox Creek to the existing Southwest Lima station.

3.3.2. Geographic Description

3.3.3. Route Description

3.3.3.1. Environmental Impacts

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

Land acquisition is anticipated for this project.

3.3.3.3. Permitting Plan and Approach

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

3.3.5. Map and Supporting Diagram

3.3.6. Interconnection Location

3.3.7. Outage Requirements

Outages will be required for construction at the existing Maddox Creek and Southwest Lima stations. PSE&G will coordinate with the incumbent transmission owners to determine the length and timing of the outages.

3.3.8. Cost

3.3.9. Construction Responsibility

PSE&G will construct the Maddox Creek to Southwest Lima 345kV transmission line. Modifications to the existing Maddox Creek and Southwest Lima stations are assumed to be constructed by the incumbent transmission owners. PSE&G 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 October 31, 2016.

4.4. Supporting Information
A thermal overload in AEP's territory was identified in the 2016 RTEP's Winter Generation Deliverability study. The thermal overload on the Maddox Creek to East Lima 345kV line occurs with an outage of the regional Sorenson to Marysville 765kV line. To alleviate the overload and improve system reliability, a new 345kV line is being proposed.

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.

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

5.2.1. Planned Return on Equity

5.2.2. Estimated Monthly AFUDC

5.2.3. Annual O&M Cost

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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