



Item 11: AEPSC and Oncor Barrilla Junction Area Improvement RPG Project

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Board of Directors Meeting

ERCOT Public

October 11, 2016

Board Action Needed

- At the conclusion of this presentation, the Board of Directors will be asked to vote to endorse the need for the American Electric Power Service Corporation (AEPSC) and Oncor Barrilla Junction Area Improvement Regional Planning Group (RPG) Project based on NERC and ERCOT planning reliability criteria

Background

The oil and gas development in the Permian Basin in West Texas has introduced significant load growth in the Barrilla Junction area and the load along the Barrilla Junction/Solstice to Permian Basin 138 kV transmission line is projected to reach 150 MW by 2020

AEPSC and Oncor submitted a project proposal to the RPG in December 2015. During the independent review process, AEPSC submitted an additional study to address the dynamic need of the area

ERCOT Independent Review

- ERCOT performed an independent review and confirmed NERC and ERCOT planning reliability criteria violations
 - ❑ Steady State Voltage and Thermal violations
 - ❑ Dynamic Transient Voltage Response Criteria violation
- ERCOT evaluated three options to resolve the criteria violations
 - ❑ All three options could meet the reliability criteria
 - ❑ Option B was the least costly and required no new Right of Way

ERCOT Recommendation

- ERCOT recommends the Board endorse the need for Option B, which TAC voted to endorse (with one abstention), to address the reliability need in the study region:
 - Rebuild the existing Barrilla Junction/Solstice to Permian Basin AEP-TNC/Oncor 138 kV transmission line (approximately 54 miles)
 - Install one new 100/-50 MVAR SVC at Hackberry Tap/Lotebush
- The estimated capital cost for Option B is \$77 million and the estimated in-service date is June 2019

The costs estimate assumes that the Barrilla Junction/Solstice to Permian Basin 138 kV line will be rebuilt “energized”

Tier 1 Project Requirements

- Pursuant to Protocol Section 3.11.4.7 (*Tier 1*)
 - Projects with an estimated capital cost of \$50 million or greater are Tier 1 Projects
 - Tier 1 Projects require ERCOT independent review
 - Whether proposed project is needed
 - Whether the proposed project is the preferred solution to the identified system performance deficiency that the projects is intended to resolve
 - Tier 1 Projects require Board endorsement

Tier 1 Project – Requires Board Endorsement

Based on the estimated capital cost of the recommended Option B (that is, \$77 million), the AEPSC and Oncor Barrilla Junction Area Improvement RPG Project is categorized as a Tier 1 project and requires Board endorsement

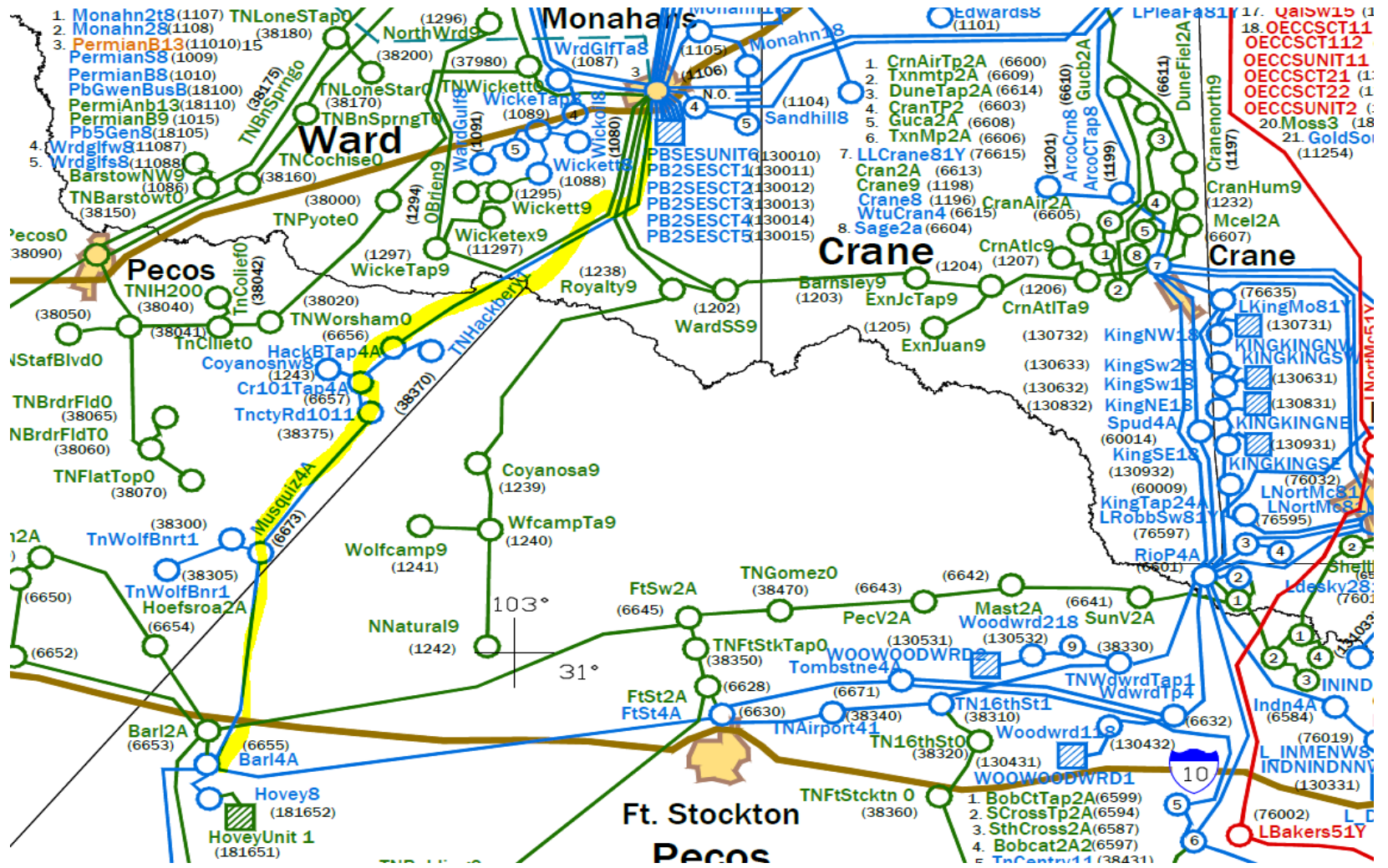
Basis for Board Endorsement

- Pursuant to Planning Guide Section 3.1.3.1 (*Definitions of Reliability-Driven and Economic-Driven Projects*)
 - Proposed transmission projects are categorized for evaluation into two types:
 - Reliability-driven projects; and
 - Economic-driven projects
- ERCOT recommends Option B of the AEPSC and Oncor Barrilla Junction Area Improvement RPG Project to meet the reliability criteria in the ERCOT System, based on ERCOT and NERC planning reliability criteria. Option B was found to be the most cost-effective solution for meeting the reliability criteria.

Request for Board Vote

- ERCOT staff requests and recommends that the Board of Directors vote to endorse the need for the AEPSC and Oncor Barilla Junction Area Improvement RPG Project (Option B) based on NERC and ERCOT planning reliability criteria

Study Region



Questions?