



Item 10: TNMP Line 69H Rebuild and Conversion Regional Planning Group (RPG) Project

Prabhu Gnanam

Manager, Transmission & Interconnection Studies

Board of Directors Meeting

ERCOT Public

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Board Action Needed

- At the conclusion of this presentation, the Board of Directors will be asked to vote to endorse the need for the TNMP Line 69H Rebuild and Conversion Project (RPG) Project based on NERC and ERCOT planning reliability criteria

Background

The TNMP West Texas North (WTN) System is experiencing steady load growth with a significant amount of the forecasted load from facilities tapped from Line 69H

By 2022, the total peak load forecast in the WTN system will reach 254 MW, which will cause reliability criteria violations, and the majority of the criteria violations are located on Line 69H

TNMP submitted a project proposal to the Regional Planning Group (RPG) in March 2016

ERCOT Independent Review

- ERCOT performed an independent review and confirmed NERC and ERCOT planning reliability criteria violations
 - ❑ Steady State Voltage and Thermal violations
- ERCOT evaluated three options to resolve the criteria violations
 - ❑ All involved rebuilding the existing Line 69H to 138 kV standards
 - ❑ Two options (Option 1 and Option 3) meet the reliability criteria
 - ❑ Option 1 provides the benefit of reducing the loading on other transmission lines in the TNMP WTN system

ERCOT Recommendation

- ERCOT recommends the Board endorse the need for Option 1, which TAC voted to endorse (with one abstention), to address the reliability need in the study region:
 - Rebuild Line 69H from IH-20 to Wickett to 138kV standards with 1926 ACSR conductor (~39 miles)
 - Rebuild three existing substations (Pyote, Worsham and Collie Field Tap) along Line 69H to 138kV standards.
 - Connect to IH-20 138kV substation
 - Build new Wickett 138kV ring substation
 - Install Wickett 138/69kV autotransformer
 - Build Wickett to Oncor Wolf 138kV transmission line with 1926 ACSR conductor (~6.0 miles)
- The estimated capital cost for Option 1 is \$50.6 million and the estimated in-service date is June 2019

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 1 (that is, \$50.6 million), the TNMP Line 69H Rebuild and Conversion RPG Project is categorized as a Tier 1 project and requires Board endorsement

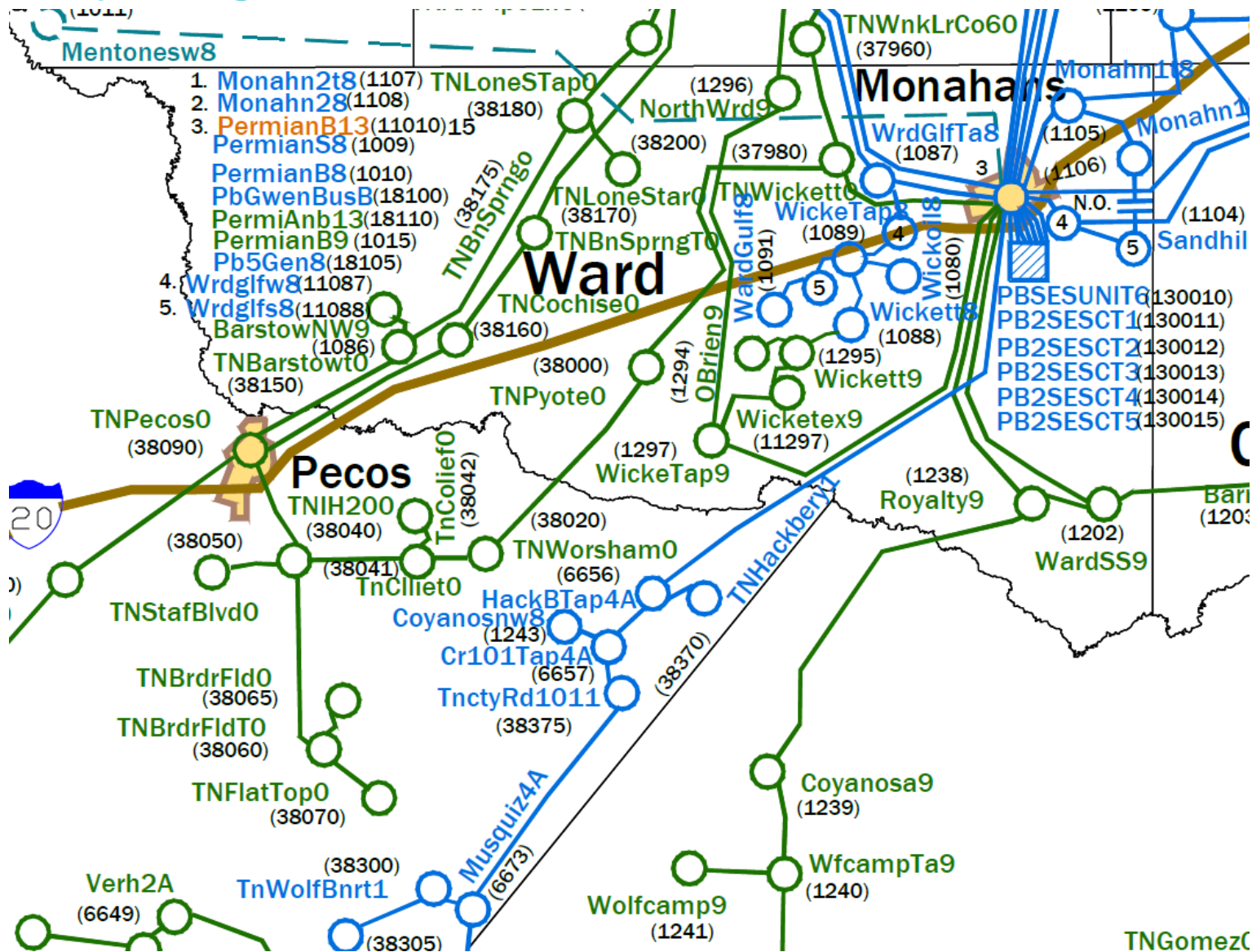
Basis for Board Endorsement

- 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 1 of the TNMP Line 69H Rebuild and Conversion RPG Project to meet the reliability criteria in the ERCOT System, based on ERCOT and NERC planning reliability criteria. Option 1 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 TNMP Line 69H Rebuild and Conversion Project Regional Planning Group Project (Option 1) based on NERC and ERCOT planning reliability criteria

Study Region



Questions?