



Corpus Christi Area Improvements Project

Proposed by American Electric Power
Services Corporation

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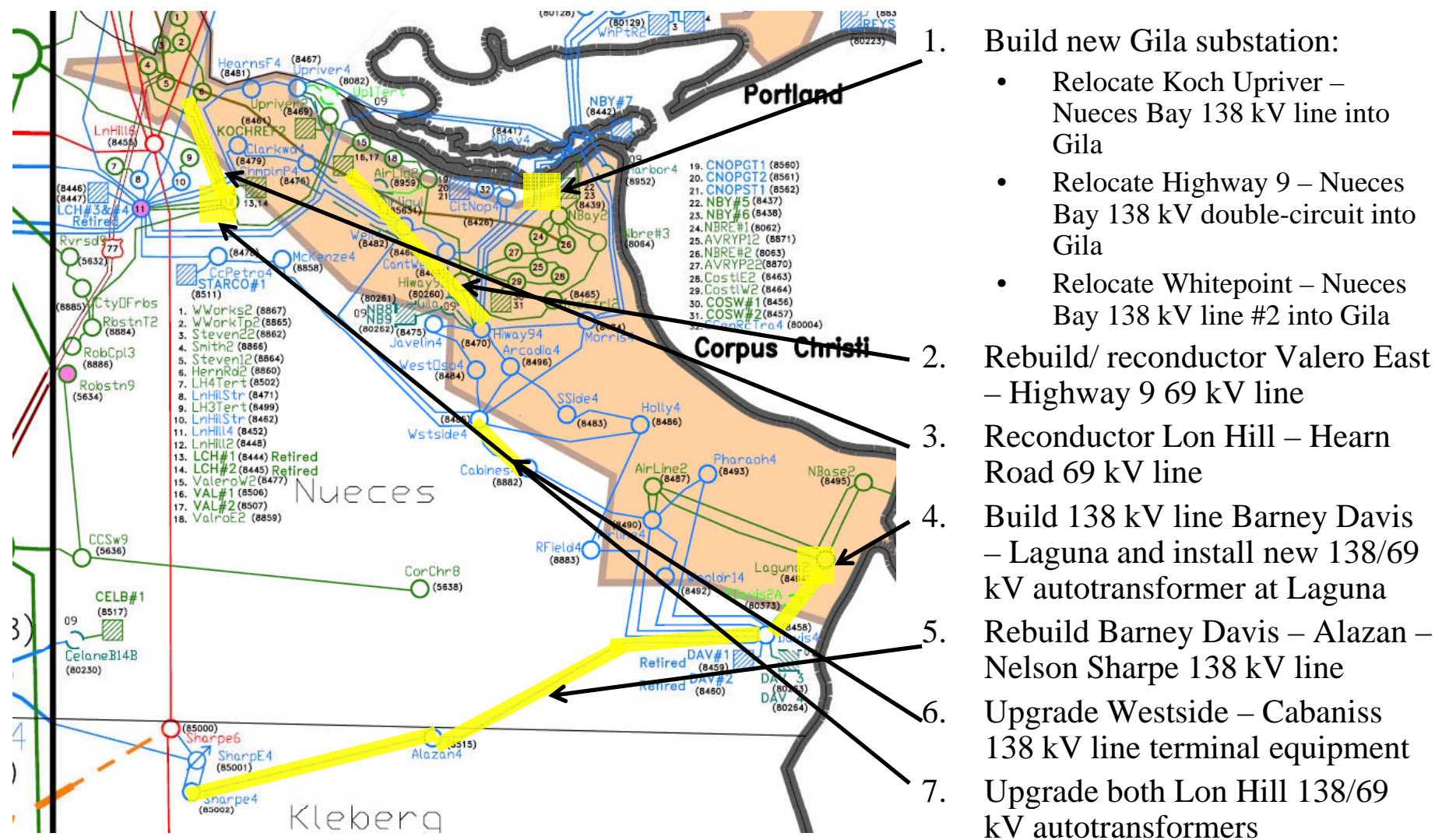
Board of Directors

11/17/2009

Project Need - Background

- **AEPSC submitted the Corpus Christi Improvements Project for RPG review in March 2009**
- **Four discrete drivers for different elements of this project:**
 - Barney Davis repower interconnection agreement signed in June 2008
 - Nueces Bay repower interconnection agreement signed in June 2008
 - Reliability improvements needed
 - Difficulty in scheduling maintenance outages in Corpus Christi area
- **ERCOT Independent Review began in May 2009**

Description of Recommendation – Total Cost \$101.2 M



Discussion of Options

- **Nueces Bay Interconnection**
 - Four options considered
 - Option chosen - Build new Gila substation with 3 lines moved from Nueces Bay – Cost = \$39.71 M
- **Summer Peak Reliability analysis (no Maintenance Outages)**
 - 2014 Summer Peak
 - Upgrade both Lon Hill 138/69 kV autotransformers – \$11.8 M

Discussion of Options

- **Reliability analysis with Maintenance outages**

- As originally proposed, would have required extensive customer-owned breaker replacements
- Revised project reduces impact on breakers but requires generation redispatch, including generation from industrial generators, needed during these maintenance periods
 - Build 138 kV line Barney Davis – Laguna and install new 138/69 kV autotransformer at Laguna – Cost = \$15.1 M
 - Reconductor Lon Hill-Hearn Road 69 kV line and rebuild/reconductor Highway 9- Valero East 69 kV line - Cost = \$6.6 M

Discussion of Options

- **Congestion Analysis**

- Two options, both meet economic criteria:
 1. Rebuild Barney Davis-Alazan-Nelson Sharpe 138 kV line such that the Rate B is 717 MVA, bypass the Nelson Sharpe PST, Upgrade Westside-Cabaniss 138 kV line terminal equipment
 - Cost = \$27.0 M
 2. Build a new Barney Davis-Nelson Sharpe 138 kV line on new ROW, Upgrade Westside-Cabaniss 138 kV line terminal equipment
 - Cost = \$41.6 M

- **Other considerations**

- Option 1 should not require CCN and may be implemented to reduce congestion sooner; output of Barney Davis restricted while line is being rebuilt
- Option 2 would require CCN and may take longer to implement
- Option 1 costs less with similar performance

- **Option 1 chosen**

Stakeholder Review

- The Stakeholder review period for this project was held in April 2009
- There were dissenting comments on the submitted project but these comments were resolved by the recommended package

ERCOT Support for the Project

- ERCOT recommends that the revised set of projects for the Corpus Christi Area Improvements project be endorsed by the ERCOT Board.

Questions?