



**Date:** January 8, 2013  
**To:** Board of Directors  
**From:** Jeff Billo, Manager, Transmission Planning  
**Subject:** AEPSC Airline/North Padre Island Area Improvements Regional Planning Group Project

**Issue for the ERCOT Board of Directors**

**ERCOT Board of Directors Meeting Date:** January 15, 2013

**Item No.:** 12

**Issue:**

Whether the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) should endorse the American Electric Power Service Corporation (AEPSC) Airline/North Padre Island Area Improvements Regional Planning Group (RPG) Project, which ERCOT staff has independently reviewed and recommends for Board endorsement for reliability reasons and which the Technical Advisory Committee (TAC) has voted to support.

**Background/History:**

The ERCOT Board endorsed a set of projects for the Corpus Christi area in December 2009. Part of the project set included a new 138 kV line from Barney Davis substation to Laguna substation and a new 138/69 kV autotransformer at Laguna. As part of the public input, environmental assessment and routing analysis process for the new 138 kV line, AEPSC explored alternatives and concluded that a different project set represented a better long-term solution for the area. In July 2012, AEPSC submitted for RPG Review the alternative project to meet the reliability needs in the area.

ERCOT performed an Independent Review, which is attached as *Attachment A*, and found that ERCOT planning reliability criteria would be exceeded without system upgrades. ERCOT analyzed the proposed project as well as seven other alternative projects, including the original project set. Of these, the following set of improvements (known as Option 2 in the ERCOT Independent Review) was found to be the most cost effective for meeting the reliability criteria:

- Construct a new 138 kV transmission line from Barney Davis to Naval Base such that the circuit emergency rating is approximately 320 MVA
- Install a 138/69 kV autotransformer at Naval Base such that the circuit emergency rating is approximately 165 MVA

The cost for these improvements is estimated to be \$54.7 million.

ERCOT staff respectfully recommends Board endorsement of the AEPSC Airline/North Padre Island Area Improvements RPG Project as recommended in the ERCOT Independent Review (that is, Option 2) for reliability reasons.

At its meeting on January 3, 2013, TAC voted to support the endorsement of the AEPSC Airline/North Padre Island Area Improvements RPG Project. (TAC's motion passed with one



abstention.)

**Key Factors Influencing Issue:**

1. With one Airline 138/69 kV autotransformer out of service, the contingency loss of the other Airline autotransformer will cause a local voltage collapse even in the shoulder seasons when loads are typically lower. The loss of load would include critical load at the Naval Base substation.
2. The recommended set of improvements (known as Option 2 in the ERCOT Independent Review) was found to be the most cost-effective solution for meeting the reliability criteria.

**Conclusion/Recommendation:**

ERCOT staff respectfully recommends that the Board endorse the AEPSC Airline/North Padre Island Area Improvements RPG Project as recommended in the ERCOT Independent Review (that is, Option 2).



**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**  
**BOARD OF DIRECTORS RESOLUTION**

WHEREAS, Electric Reliability Council of Texas, Inc. (ERCOT) staff independently reviewed the American Electric Power Service Corporation (AEPSC) Airline/North Padre Island Area Improvements Regional Planning Group (RPG) Project and recommends endorsement by the ERCOT Board of Directors (Board) as recommended in the ERCOT Independent Review (that is, Option 2) for reliability reasons;

WHEREAS, the Technical Advisory Committee (TAC) has voted to support Board endorsement of the AEPSC Airline/North Padre Island Area Improvements RPG Project as recommended in the ERCOT Independent Review (that is, Option 2); and

WHEREAS, after due consideration of the alternatives, the Board deems it desirable and in the best interest of ERCOT to endorse the AEPSC Airline/North Padre Island Area Improvements RPG Project as recommended in the ERCOT Independent Review (that is, Option 2);

THEREFORE, BE IT RESOLVED, that the Board hereby endorses the AEPSC Airline/North Padre Island Area Improvements RPG Project as recommended in the ERCOT Independent Review (Option 2).

**CORPORATE SECRETARY'S CERTIFICATE**

I, Vickie G. Leady, Assistant Corporate Secretary of ERCOT, do hereby certify that, at its January 15, 2013 meeting, the ERCOT Board passed a motion approving the above Resolution by \_\_\_\_\_.

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_\_ day of January, 2013.

\_\_\_\_\_  
Vickie G. Leady  
Assistant Corporate Secretary