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News from AEP

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Valley project involves re-conductoring 'energized' old lines with advanced ACCC conductor

Project is largest and most complex “re-conductoring-while-energized” effort in AEP history

Since lines will be energized, safety top priority throughout project

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CORPUS CHRISTI -- The largest and most complex “re-conductoring-while-energized” project in AEP history started in October when construction crews in southern Texas begin replacing a pair of aging 345-kilovolt (kV) lines running between Corpus Christi and the Rio Grande Valley, each a 120-mile stretch across AEP Texas Central territory.

It also involves one of the nation’s longest installations of aluminum conductor composite core, or ACCC, an advanced conductor that delivers more electricity than a conventional line, cuts line loss 30-40 percent and curbs thermal sag.

The upgrade has been approved by the Electricity Reliability Council of Texas (ERCOT), the regional transmission organization that administers the transmission network for most of Texas.

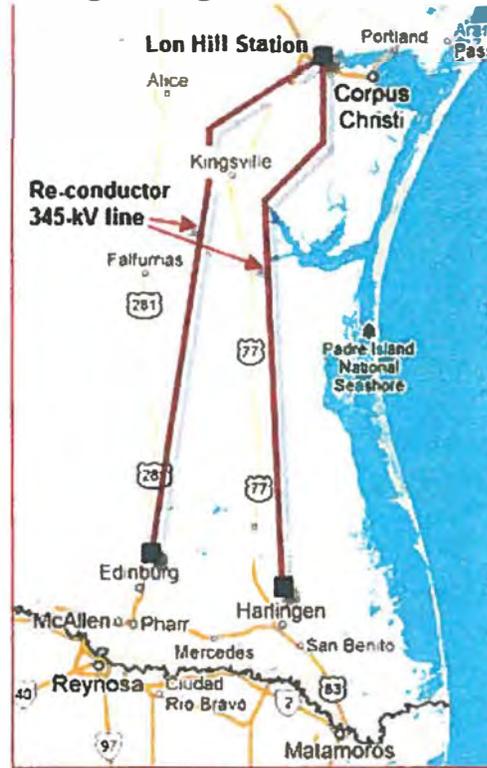
Typically, power is rerouted around transmission lines being replaced. Not this time. Instead, power will keep flowing in the existing lines from Lon Hill Station (Corpus Christi) to the North Edinburg and Rio Hondo stations (see map), making the work tricky as the new conductor is being installed.

“We have to re-conductor this way to maintain service to the (southern) tip of Texas,” explained Michael Glueck, project manager – AEP Transmission. “We’re beefing up the amount of power from Corpus Christi to the valley.”

The project also will improve the reliability of service in an area that experienced power losses a few years ago.

Re-conductoring will be done piecemeal

The re-conductoring work will be done by North Houston Pole Line, a Houston-based subsidiary of Quanta Services, a leading contractor of specialized infrastructure projects. First, a temporary single conductor line is constructed parallel to the existing line, 20 miles or so at a time. This temporary line will serve as a bypass as each line in the three-phase circuit is shut down, replaced and then put back into service. That's how the work will be done -- section by section, line by line, step by step. Workers assigned to the task have been specially trained for the higher-risk job.



"This project is especially challenging because the lines will stay energized during the re-conductoring, so safety will be a high priority every moment, every day, every minute," said Glueck. "The new ACCC line lets us boost power in the future when needed."

Advanced conductor chosen for project

AEP chose the advanced ACCC conductor (line) manufactured by CTC Global, based in Irvine, Calif., because of its high load capacity, strength, and resistance to corrosion, explained James Berger, AEP managing director of transmission projects, based in Tulsa, Okla. The well-tested product can replace the existing line without widening clearances or causing tower modifications and rebuilds.

Since 2005, CTC Global has provided more than 8,400 miles of its energy efficient conductor for 215 projects, including eight installations for AEP in Arkansas and Texas. This contract with AEP, calling for delivery of 1,665 miles of the new conductor, will be the "largest ACCC conductor deployment in the U.S."

Improvements to five substations and some towers along the route are likely due to the advanced age of the structures and their exposure to the Gulf Coast's harsh environment. The anticipated project completion date is March 2016.

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Other projects, still in their formative stages, will bring more power into valley via two modern 345-kV lines, one running south from Laredo, the other from the North Edinburg Station, Hidalgo County, to the Loma Alta Station in Val Verde County.

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