Pawnee-Smoky Hill 345-kV transmission project

SB100

Colorado's renewable energy future

PROJECT DESCRIPTION

Public Service Company of Colorado (PSCo), an Xcel Energy company, proposes to construct a new, double-circuit capable, 345-kilovolt (kV) transmission line to connect its existing Pawnee Substation near Brush, Colo., to its Smoky Hill Substation near Aurora, Colo.

The new transmission line will accommodate additional electric generation in northeast Colorado, particularly wind energy, and ensure reliable delivery of power to customers. The project consists of the following sections:

- Section 1 consists of approximately 79 miles of new 345-kV transmission extending from the existing Pawnee Substation to a point east of the existing Brick Center Substation, south of Bennett, Colo. This section will utilize steel monopole structures and will be located in new, 200-foot wide right-of-way. This section will be capable of carrying two transmission circuits. A new Missile Site Substation will be built in Section 1 near Deer Trail, Colo. Both the Pawnee and Missile Site substations will allow for additional generator interconnections.
- Section 2, the center section, consists of rebuilding approximately 15 miles of existing 230-kV wood pole structures to double-circuit, 345-kV capable, steel pole structures. One side of the double circuit towers will carry the existing 230-kV circuit that runs from Pawnee to Smoky Hill. The other side will carry the new Pawnee-Smokey 345-kV circuit.
- Section 3 is the last mile of transmission into the Smoky Hill Substation and consists of approximately one mile of new 345-kV transmission. The section will also be built to allow for double circuit, 345-kV capability.

ROUTE SELECTION

The project area includes Morgan, Adams and Arapahoe counties. The preliminary route from the new line follows the two existing 230-kV transmission lines from Pawnee Substation to Smoky Hill Substation. PSCo proposes to build the majority of the new line in new right-of-way, but adjacent to the existing lines. This helps ensure a reliable transmission system and also helps maintain reliable service during construction. About 15 miles of the western portion of the line will be built in existing right-of-way.

Information will be provided and public input sought on the project and potential route alternatives at public meetings in Morgan, Adams and Arapahoe counties.

STATUTORY MANDATE

Colorado Senate Bill 07-100 (SB 100) directs PSCo, as a rate-regulated utility, to:

- Designate Energy Resource Zones (ERZs)
- Develop plans to construct or expand transmission facilities necessary to deliver power consistent with the timing of energy resources located in or near the ERZs
- Consider how transmission can be provided to encourage local ownership of renewable energy facilities
- Submit plans and applications for Certificates of Public Convenience and Necessity (CPCN) to the Colorado Public Utilities Commission (CPUC) for review

PSCo has designated five ERZs. The Pawnee-Smoky Hill project will relieve transmission constraints and accommodate new generation resources in ERZs 1 and 2. It is also a critical component of a comprehensive long-term transmission plan for Colorado.

REGULATORY APPROVAL

PSCo filed its Certificate of Public Convenience and Necessity for the project with the CPUC on October 31, 2007. The CPUC granted the CPCN on December 30, 2008.

PSCo's siting team will focus on environmental planning, routing and permitting activities through June 2010. Once local land use approvals are obtained, PSCo will begin negotiations to acquire the land rights necessary to build the line. The schedule calls for construction to begin by June 2011, so the transmission line's planned May 2013 in-service date can be met.

DESIGN AND CONSTRUCTION

The structures in all sections will be steel monopoles, with typical heights ranging from 100 to 150 feet, depending upon terrain, span length and other factors.

Additional equipment will be required at the Pawnee Substation and in or near the Smoky Hill Substation to accommodate the project. The additional equipment for Smoky Hill will require an expansion of the existing facility and may require a separate equipment yard near the existing substation.