BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION	**)**	
OF PUBLIC SERVICE COMPANY OF	**)**	
COLORADO FOR A CERTIFICATE OF	**)**	
PUBLIC CONVENIENCE AND	**)**	
NECESSITY FOR COLORADO'S	**)**	**PROCEEDING NO. 21A-XXXXE**
POWER PATHWAY 345 KV	**)**	
TRANSMISSION PROJECT AND	**)**	
ASSOCIATED FINDINGS REGARDING	**)**	
NOISE AND MAGNETIC FIELD	**)**	
REASONABLENESS	**)**	

DIRECT TESTIMONY AND ATTACHMENTS OF CARLY R. ROWE

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

March 2, 2021

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COLORADO'S POWER PATHWAY 345 KV TRANSMISSION PROJECT AND ASSOCIATED FINDINGS REGARDING NOISE AND MAGNETIC FIELD REASONABLENESS	**)**	**PROCEEDING NO. 21A-XXXXE**

DIRECT TESTIMONY AND ATTACHMENTS OF CARLY R. ROWE

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
APEN	Air Pollution Emissions Notice
BLM	Bureau of Land Management
CDOT	Colorado Department of Transportation
CPCN	Certificate of Public Convenience and Necessity
Extension	May Valley-Long Horn Extension
HB 01-1195	House Bill 01-1195
I-	Interstate
kV	Kilovolt
Pathway Project or Project	Colorado's Power Pathway 345 kV Transmission Project
PTC	Production Tax Credit
Public Service or the Company	Public Service Company of Colorado
ROW	Right of Way
S&LR	Siting & Land Rights
SB 00-197	Senate Bill 00-197
SWA	State Wildlife Area
US	United States Route
Xcel Energy	Xcel Energy Inc.
XES	Xcel Energy Services, Inc.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COLORADO'S POWER PATHWAY 345 KV TRANSMISSION PROJECT AND ASSOCIATED FINDINGS REGARDING NOISE AND MAGNETIC FIELD REASONABLENESS	**)**	**PROCEEDING NO. 21A-XXXXE**

DIRECT TESTIMONY AND ATTACHMENTS OF CARLY R. ROWE

I. INTRODUCTION, QUALIFICATIONS, AND PURPOSE OF TESTIMONY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Carly Rowe, and my business address is 1800 Larimer Street, Denver, Colorado 80202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am employed by Xcel Energy Services, Inc. ("XES") as Manager, Siting and Land Rights. XES is a wholly-owned subsidiary of Xcel Energy, Inc. ("Xcel Energy"), and provides an array of support services to Public Service Company of Colorado ("Public Service" or "the Company") and the other utility operating company subsidiaries of Xcel Energy on a coordination basis.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Public Service.

Q. HAVE YOU PREPARED A STATEMENT OF YOUR EXPERIENCE AND QUALIFICATIONS?

A. Yes, that statement is included at the end of my testimony.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to describe the siting, permitting, and land rights activities that have occurred and are planned to occur with respect to Colorado's Power Pathway 345 kilovolt ("kV") Transmission Project ("the Project" or "the Pathway Project") to support the Company's Application for a Certificate of Public Convenience and Necessity ("CPCN").

II. PATHWAY PROJECT AREA DESCRIPTION

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. In this section of my Direct Testimony, I provide a brief summary of the Project, describe how the Project is presented in five segments for purposes of the Company's CPCN Application, and provide a description of the area, municipalities, and general land uses that comprise each of the five Project segments.

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE PROJECT AND THE TRANSMISSION FACILITIES PUBLIC SERVICE IS PLANNING TO CONSTRUCT.

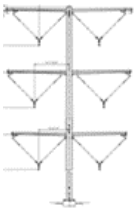
A. The Pathway Project involves constructing an approximately 560-mile, 345 kV double circuit network transmission system between seven substations. A vicinity map of the Pathway Project is provided as Attachment ARK-1 to the Direct Testimony of Company witness, Ms. Amanda R. King. The Project will connect the Front Range to areas of northeastern, eastern, and southeastern Colorado that are rich with potential for renewable energy resource development, but do not currently have a backbone[1] transmission system that can integrate new renewable energy resources needed to meet the State's clean energy goals. The northern terminus of the Pathway Project will be at the Company's existing Fort St. Vrain

[1] A "backbone" system generally refers to bulk transmission lines networked together that can move large amounts of energy from a distant location to load areas. Backbone transmission systems support the reliability of the transmission system because of the networked nature of these systems. A grid supported by backbone transmission is better positioned to withstand outages without losing generation resource or load.

Substation (located at the Fort St. Vrain Generating Station) in Platteville in western Weld County. The Pathway Project then extends east to a new Canal Crossing Substation near the existing Pawnee Substation and Pawnee Generating Station; then extends east/southeast to a new Goose Creek Substation south of the City of Burlington; then extends south to a new May Valley Substation northeast of the City of Lamar; then extends west to the planned Tundra Substation near the Comanche Generating Station. The Project then extends north to the Company's existing Harvest Mile Substation, located adjacent to the City of Aurora in Arapahoe County. The Project also involves expansion of the Fort St. Vrain, Pawnee, and Harvest Mile Substations; expansion of the planned but not yet in-service Tundra Substation; and construction of the new Canal Crossing, Goose Creek, and May Valley Substations. The three new substations will be 345 kV switching stations.[2] For purposes of its CPCN filing, the Company presents and describes the transmission line Project in five segments ("Segments 1 through 5" or "Segments") between the existing or new substations. The Project segments and components are summarized in Table CRR-D-1 below.

[2] A switching station is a type of substation that operates at a single voltage level (and, therefore, does not have transformers that change or "transform" voltage from one voltage level to another).

Table CRR-D-1: Project Segment Description Overview

Project Segment	Project Segment Description (approximate length in miles)
All Segments	**Colorado's Power Pathway 345 kV Transmission Project** Total 560 miles
	➢ The Project consists of five transmission line segments (Segments 1-5) as detailed below, with each segment bounded by substations. <u>Transmission Facilities:</u> ➢ The overall Project involves construction of approximately 560 miles of new 345 kV double circuit transmission line in new 150-foot wide right of way. ➢ Each segment of transmission line will be constructed using single pole, double circuit tangent structures (see typical structure diagram at left) and two-pole dead-end structures. The Project will utilize two-bundle 1272 kcmil ACSR Bittern conductor. <u>Substation Facilities:</u> ➢ The Project involves expansion of three existing substations (Fort St. Vrain, Pawnee, and Harvest Mile), expansion of a planned switching station (Tundra), and construction of three new substations which will be 345 kV switching stations (Canal Crossing [near and interconnected to existing Pawnee Substation], Goose Creek [near and interconnected to Cheyenne Ridge Wind Project], and May Valley [near but not interconnected to existing Lamar Substation]).
Fort St. Vrain Substation expansion	**Expand existing Fort St. Vrain Substation**: The existing 230 kV Fort St. Vrain Substation will be expanded, and a new 345 kV station arrangement will be established on land currently owned by Public Service.

Segment 1	**Fort St. Vrain Substation to Canal Crossing / Pawnee Substations** 75 miles
	Segment 1 involves constructing approximately 75 miles of new 345 kV double circuit transmission line from the existing Fort St. Vrain Substation to the new Canal Crossing and existing Pawnee Substations.
Canal Crossing Substation new construction	**Construct New Canal Crossing Substation:** A new 345 kV switching station will be constructed adjacent to the existing Pawnee Substation to accommodate new 345 kV line terminations and equipment on land currently owned by Public Service. The new Canal Crossing Substation is essentially an expansion of the Pawnee Substation and will interconnect to the Pawnee Substation *via* two short transmission ties.
Pawnee Substation expansion	**Expand existing Pawnee Substation:** The existing 345 kV Pawnee Substation will be expanded to accommodate new 345 kV line terminations and equipment on land currently owned by Public Service.
Segment 2	**Canal Crossing / Pawnee Substations to Goose Creek Substation** 160 miles
	Segment 2 involves constructing approximately 160 miles of new 345 kV double circuit transmission line from the new Canal Crossing and existing Pawnee Substations to a new 345 kV Goose Creek Substation located near the existing Cheyenne Ridge Wind Project.
Goose Creek Substation new construction	**Construct New Goose Creek Substation:** A new 345 kV switching station will be constructed on approximately 40 acres of land to be acquired by Public Service near the existing Cheyenne Ridge Wind Project. The new switching station will accommodate new 345 kV line terminations and equipment.
Segment 3	**Goose Creek Substation to May Valley Substation** 65 miles
	Segment 3 involves constructing approximately 65 miles of new 345 kV double circuit transmission line from the new Goose Creek Substation to a new 345 kV May Valley Substation.

May Valley Substation new construction	**Construct New May Valley Substation:** A new 345 kV switching station will be constructed on approximately 40 acres of land to be acquired by Public Service near the existing Lamar Substation. The new switching station will accommodate new 345 kV line terminations and equipment, but will not interconnect to the existing Lamar Substation.
Segment 4	**May Valley Substation to Tundra Substation** 140 miles
	Segment 4 involves constructing approximately 140 miles of new 345 kV double circuit transmission line from the new May Valley Substation to the planned Tundra Substation.
Tundra Substation expansion	**Tundra Substation:** The Tundra Substation is a 345 kV switching station planned to interconnect a solar with storage project approved as part of the Company's approved Colorado Energy Plan Portfolio that will be in service by the end of 2022. This Project will expand the planned Tundra Substation to accommodate new 345 kV line terminations and equipment. No new land acquisition is required for the expansion.
Segment 5	**Tundra Substation to Harvest Mile Substation** 120 miles
	Segment 5 involves constructing approximately 120 miles of new 345 kV double circuit transmission line from the Tundra Substation to the existing Harvest Mile Substation.
Harvest Mile Substation expansion	**Harvest Mile Substation:** The existing 345 kV Harvest Mile Substation will be expanded to accommodate new 345 kV terminations and equipment. No new land acquisition is required for the expansion.

Q. WILL THE PROJECT SEGMENTS BE CONSTRUCTED IN ORDER OF SEGMENT 1 THROUGH 5?

A. No. The anticipated sequencing of Project construction and in-service dates for each Project segment is discussed in the Direct Testimonies of Company witnesses, Ms. Brooke A. Trammell and Mr. Brian J. Richter.

Q. IS THE COMPANY BRINGING FORWARD ANY OTHER OPTIONS FOR THE COMMISSION'S CONSIDERATION IN ADDITION TO THE PATHWAY PROJECT?

A. Yes. The Company is also presenting for Commission consideration in this proceeding an optional extension of the Pathway Project referred to as the "May Valley-Longhorn Extension."

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE MAY VALLEY-LONGHORN EXTENSION.

A. The May Valley-Longhorn Extension is a 90-mile, 345 kV double circuit transmission line that would extend from the southeastern corner of the Pathway Project at the new May Valley Substation south to the new Longhorn Substation near Vilas. A vicinity map of the May Valley-Longhorn Extension is provided as Attachment ARK-2 to the Direct Testimony of Company witness, Ms. King. The Company is bringing forward this optional extension to the Pathway Project for the Commission's consideration, as it would establish additional transmission interconnection opportunities for potential renewable generation developers in the wind-rich southeastern area of the state. The Company anticipates that having a double-circuit transmission line to this area would not only facilitate clean energy resource development, but would also minimize the potential likelihood of clean energy project developers needing to construct multiple gen-tie lines in this region to interconnect to the Pathway Project 345 kV transmission backbone. I discuss the May Valley-Longhorn Extension from a siting and land rights perspective in Section V of my testimony.

Q. HAS THE COMPANY IDENTIFIED ITS PREFERRED ROUTE FOR THE PATHWAY PROJECT?

A. No. The Company has identified the existing substations that will be expanded and the general location for its planned new substations, which serve as endpoints between which the transmission line will be routed. However, preferred or alternative routes have not been identified for the Project to date. The Company has completed a high-level analysis to identify Study Areas for cost estimation purposes and to inform its detailed routing process, which I describe later in my testimony. In doing so, the Company will use the Study Areas described below and as shown on the Study Area maps of each Project segment provided as Attachment CRR-1 as a guide for routing the transmission line.

Q. IS THIS THIS LEVEL OF ROUTING ANALYSIS CONSISTENT WITH OTHER TRANSMISSION CPCNS THE COMMISSION HAS PREVIOUSLY REVIEWED AND APPROVED?

A. Yes. It is common practice for the Company to file a CPCN Application before preliminary or final routes have been identified. As I noted previously, the Company is not seeking specific Commission approval of the siting and routing in its Application because, consistent with Colorado law, local governments will review and approve the siting and routing of all utility facilities associated with the Project through various local land use permitting processes. The identification of preferred, alternative, and final routes will be informed by jurisdictional coordination and public outreach efforts that I describe later in my testimony.

Q. PLEASE PROVIDE A DESCRIPTION OF THE CHARACTERISTICS OF THE PROJECT LOCATION FROM A LAND USE PERSPECTIVE.

A. Table CRR-D-2 below provides a description of the Project location characteristics including counties, towns, cities, and primary land uses near each Project segment.

Table CRR-D-2: Characteristics of Project Location

Fort St. Vrain Substation to Canal Crossing/Pawnee Substation 75 miles
This portion of the Project spans both Weld and Morgan counties with Platteville and Fort Morgan municipalities near its endpoints. The land use in this area is primarily characterized by agriculture uses, oil and gas infrastructure (wells and pipelines) and contains a developed urban area on the west side near the Fort St. Vrain Substation.
Canal Crossing/Pawnee Substation to Goose Creek Substation 160 miles
The area between the Canal Crossing/Pawnee Substation and new Goose Creek Substation is located within Morgan, Washington, Yuma, Kit Carson, and Cheyenne counties. The land within this area is primarily used for agriculture and features a high density of oil and gas development towards the north with multiple large pipelines occurring throughout the area. Municipalities located within this area include Akron, Yuma and Burlington.
Goose Creek Substation to May Valley Substation 65 miles
The area between new Goose Creek and May Valley substations is located within Cheyenne, Kiowa and Prowers counties. Land use within this area is primarily rural featuring agriculture land use and oil and gas development. Smaller towns and communities, including Cheyenne Wells and Sheridan Lake, are characteristic to the area.
May Valley Substation to Tundra Substation 140 miles
The area between May Valley and Tundra substations is located within Prowers, Kiowa, Crowley and Pueblo counties. This area features both conservation land and dense development along the Arkansas River and US 50. State land (including formally designated areas) and federally-owned and/or managed lands such as Bureau of Land Management land and the Pueblo Chemical Depot are also located in the area between these two endpoints.
Tundra Substation to Harvest Mile Substation 120 miles
The area between Tundra and Harvest Mile substations includes Pueblo, El Paso, Elbert and Arapahoe counties along with several developed urban areas, including the cities of Pueblo, Colorado Springs, and Aurora. State land holdings and federal land associated with military installations are also located in the area.

III. SITING, PERMITTING, AND LAND RIGHTS ACQUISITION

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. The purpose of this section of my Direct Testimony is to describe the siting, permitting, and land rights activities that have occurred and are planned to occur with respect to the Project that is described in Section II of my testimony. Importantly, I explain that the Company will comply with § 40-5-101(3), C.R.S., which provides that a "public utility shall not construct or install a new facility, plant, or system within the territorial boundaries of a local government unless the construction or installation complies with the local government's zoning rules, resolutions, or ordinances." I also discuss that the Company may need to request that the Commission exercise its statutory "backstop" authority to order the construction of a facility if a local government denies a permit to construct transmission facilities or otherwise unreasonably impairs a utility's ability to provide electric service.[3]

A. Siting and Routing

Q. IS THE COMPANY SEEKING APPROVAL OF PROJECT SITING OR ROUTING IN THIS APPLICATION?

A. No. I am not a lawyer but my understanding of § 40-5-101(3), C.R.S. is that it generally vests local governments rather than the Commission with authority over siting and routing. Consistent with Colorado law, local governments will review

[3] *See* § 29-20-108(5), C.R.S.

and approve the development of all utility facilities, including electric substations, associated with the Project through various local land use permitting processes. While the Company is not seeking specific Commission approval of the siting and routing in its Application, I nonetheless explain the siting, routing, permitting, and land rights activities associated with the Project to provide the Commission with context for considering the Company's Application for a CPCN.

Q. PLEASE PROVIDE AN OVERVIEW OF THE STATUS OF SITING AND ROUTING ACTIVITIES TO DATE FOR THE PROJECT.

A. The Company has conducted a high-level assessment of land use permitting requirements and potential opportunities and constraints related to Project siting and routing. Resource data, including existing transmission corridors, land use, oil and gas infrastructure, surface water, critical habitat, jurisdiction and formally designated lands, and conservation easements, were mapped to aid in the review of each of the Project segments, establish Study Areas for each segment, and to aid in estimating Project costs. The resource data identified major constraints along each of the Project segments that serve as an indicator of routing and permitting complexity in each segment. These constraints could potentially result in an increase in line miles when compared to the direct, straight line distance between the segment endpoints.

Each Project segment was then evaluated based on the following characteristics to estimate Project cost and schedule:

- Potential for higher cost due to the need to increase line miles for routing in areas where constraints are present;

- Potential increased cost and schedule risk due to presence of sensitive land uses, species habitat, cultural and historic resources, wetlands and waterways; and,

- Local land use permitting processes and complexity of complying with different submittal requirements for each of the multiple jurisdictions associated with each Project segment.

Q. PLEASE DISCUSS THE STUDY AREA IDENTIFICATION PROCESS.

A. Mapped resource data were reviewed and analyzed as to whether areas would be generally compatible with or would be a constraint to transmission development. For example, resources and land uses such as conservation easements, residential or commercial development, heavily forested areas, species habitat, designated state or federal lands, and National Register of Historic Places sites or districts are considered constraints that may warrant additional permitting, planning, special routing considerations, and agency coordination to minimize impacts. Linear infrastructure, such as roads and existing transmission lines, are considered compatible resources due to the similar land use and presence of existing impacts. Using the data described above, constraints within the area of each Project segment were reviewed, and a Study Area for each Project segment was identified. The Study Areas for each segment are generally 20 miles wide to allow for a more detailed analysis of resource data and routing opportunities within the Study Areas. The approximate centerline of each Study Area was used to determine estimated line miles for cost and schedule analysis. Detailed routing studies will be focused within the Study Area for each Project segment. Table CRR-D-3 below provides a summary of factors that influenced the identification of the Study Areas and will be further evaluated during the routing process. A map

of the Study Area for each of the five Project segments is provided as Attachment CRR-1 to my Direct Testimony.

Table CRR-D-3: Summary of Influencing Factors for Identification of Study Areas

Segment 1	**Fort St. Vrain Substation to Canal Crossing/Pawnee Substation** 75 miles
	North of Study Area: South Platte River and US 34 Within Study Area: - I-76, US 85, and US 6 - Pivot irrigation and dense oil and gas wells - Centennial Valley State Wildlife Area ("SWA"), Brush Prairie Ponds SWA, The Nature Conservancy managed properties, and conservation easements - Solar arrays in western portion of Study Area
Segment 2	**Canal Crossing/Pawnee Substation to Goose Creek Substation** 160 miles
	Within Study Area: - US 34, US 36, US 385, I-70 - Limited linear infrastructure such as existing transportation features and transmission that can be paralleled directly between segment end points - Two existing wind projects, Carousel Wind Farm and Cheyenne Ridge Wind Project - Several municipal airports - Brush Prairie Ponds SWA - Large waterways including South Fork Republican River, Landmans Creek, and Arikaree River; associated sensitive resources - High density of oil and gas wells in northern portion of the Study Area - Multiple natural gas pipelines traverse the Study Area
Segment 3	**Goose Creek Substation to May Valley Substation** 65 miles
	Within Study Area: - US 40, US 385 - No existing high-voltage transmission; existing pipelines running north/south - Oil and gas wells scattered throughout - Queens SWA, conservation easements, and Colorado Parks and Wildlife managed properties - Big Sandy Creek; associated sensitive resources - Existing Cheyenne Ridge Wind Project in northern portion of Study Area - Sand Creek Massacre National Historic site west of Study Area
Segment 4	**May Valley Substation to Tundra Substation** 140 miles
	Within Study Area: - US 287 - Queens SWA, Chico Basin Stewardship Trust Land, conservation easements, and Bureau of Land management ("BLM") land South of Study Area: Pueblo Chemical Depot, Transportation Technology Center, US 50 and the Arkansas River; Santa Fe Trail Scenic and Historic Byway
Segment 5	**Tundra Substation to Harvest Mile Substation** 120 miles
	Within Study Area: - US 24 - Pueblo Chemical Depot - Chico Basin Stewardship Trust Land, and conservation easements - Several water resources present including creeks, gulches, several unnamed tributaries, and wetlands/floodplains Eastern Study Area: Existing Golden West Wind Energy Project West of Study Area: I-25, Colorado Springs Municipal Airport; other municipal airports along I-25 corridor; Schriever Airforce Base, US Airforce Academy, Fort Carson Military Reservation

Q. HOW DOES THE IDENTIFICATION OF STUDY AREAS FOR EACH OF THE SEGMENTS DIFFER FROM THE IDENTIFICATION OF TRANSMISSION LINE ROUTES OR SPECIFIC SUBSTATION SITES?

A. Study Areas as defined for the purposes of this CPCN are broad corridors (e.g., 20 miles wide) within which the transmission line and new substations are anticipated to be located. The transmission line route is the specific location of where the transmission line will be constructed within the right-of-way ("ROW") (i.e., 150-feet wide) and a substation site is the specific location where the substation will be constructed. As described above, the Study Areas allow the Company to assess the constraints and opportunities between segment end points in order to identify the best route location for the transmission line and the best locations for new substation construction. Table CRR-D-4 below provides a description of common resources evaluated and routing and siting considerations that will be analyzed as part of the detailed routing studies that will be completed for the Project. This list is not exhaustive and additional resources may be identified and evaluated in the routing studies based on the regional characteristics associated with each segment and/or based on jurisdictional coordination, or public outreach.

Table CRR-D-4: Resource Types Evaluated and Routing Considerations

Resource Type	Routing and Siting Considerations
Existing Transmission & Substations	Parallel existing linear facilities (transmission line) and utilize existing property rights where feasible (transmission line and substations).
Existing & Planned Utility-scale Wind & Solar Facilities	Adhere to required setbacks from turbines, solar arrays, and other existing infrastructure within facility boundaries.
Protected Biological Resources	Minimize potential impacts to environmentally sensitive resources and designated habitat by identifying and evaluating proximity to transmission routes and substation areas. Identify areas of existing disturbance that may be utilized for project development to further minimize impacts.
Land Cover/Land Use	Minimize visual impacts and impacts to vegetation, habitat, irrigation, and dense developments by avoiding land uses not compatible with transmission line development.
Protected and/or designated lands and Conservation Easements	Avoid lands that may not allow transmission line development or would require removal of easement protections or designations.
Transportation Network – road, rail, air	Maximize paralleling existing linear facilities, where feasible and where not constrained by existing development.
Oil & Gas Wells, Pipelines	Minimize impacts to existing oil and gas infrastructure by complying with required setbacks and considering concerns regarding induced voltage.
Recreation –parks, campgrounds, scenic byways	Identify areas of designated recreation and/or scenic value and evaluate during transmission line routing to minimize impacts.
Surface Water – wetlands, floodplains, playas, scenic rivers	Minimize impacts to sensitive resources and avoid flood prone areas by spanning large water resources and through careful pole placement.
Topography/slope	Minimize impacts to hillsides, aesthetics, and soil erosion by avoiding areas of high topographic relief that constrain transmission line construction and maintenance.
County Boundaries, Incorporated/Municipal Boundaries, Places	Each jurisdiction has unique land use permitting requirements and adopted codes outlining ordinances that will be evaluated during routing to identify areas compatible with transmission development or those that prohibit such development.
Parcels and Section Lines	Maximize paralleling property, fence, and section lines where not constrained or reserved for future road development.
Protected Cultural/Historic Resources	Evaluate potential impacts to protected resources that may not allow transmission line development or where presence of development would result in potential resource degradation.
Constructability	Minimize use of areas that pose technical, engineering, economic, and constructability challenges.

As described earlier in my testimony, the assessment of the Project segments to date for this CPCN was completed at a high level and detailed routing activities have not yet begun. Study Areas for each Project segment were identified based on the factors considered above and future routing activities are anticipated to be focused in these areas to determine the transmission line routes. Examination of additional resource data and coordination with local permitting jurisdictions, key stakeholders, and the public will influence the ultimate location of proposed routes.

Q. WHAT ARE THE COMPANY'S NEXT STEPS FOR IDENTIFYING POTENTIAL PROJECT ROUTES AND SUBSTATION SITES?

A. For each Project segment, a detailed routing or siting analysis will be completed to more closely examine resources, constraints, and opportunities described above plus additional routing considerations at a local level. These additional local-level routing and siting considerations include, for instance, future land use, feasible crossing locations at water features and state highways, zoning, topography and parcel lines. Preferred and alternative routes and sites will be identified after completing routing and siting studies, coordinating with permitting entities, and conducting public outreach. Project permitting at the local, state, and federal level will follow, as needed based on the final transmission line route and substation sites selected.

B. Land Rights Acquisition

Q. PLEASE PROVIDE AN OVERVIEW OF THE LAND RIGHTS AND ACQUISITION EXPECTED FOR THIS PROJECT.

A. The Project will require acquisition of a 150-foot-wide ROW for the transmission line. The 150-foot-wide ROW will be secured under non-exclusive easement agreements. Fee acquisition of land will be required for two new substations: the Goose Creek Substation (to be located near the Company's existing Cheyenne Ridge Wind Farm collector station) and the new May Valley Substation (to be located near, but not interconnected to, the Company's existing Lamar Substation). Existing Company owned property will be utilized for substation expansions required at Fort St. Vrain, Pawnee, Tundra, and Harvest Mile, and for the new Canal Creek Substation which will expand the existing Pawnee Substation, and is located immediately adjacent to the Pawnee Substation. Constraints on the land where the existing Pawnee Substation is located require new facilities for the Pathway Project to be sited on adjacent Company-owned land.

Q. WHAT IS THE ANTICIPATED TIMING OF THE COMPANY'S LAND RIGHTS AND ACQUISITION ACTIVITIES?

A. The Company plans to begin landowner outreach and easement acquisition activities concurrent with permitting activities for each Project segment starting in third Quarter or fourth Quarter of 2021. Landowner outreach and negotiations will also commence concurrent with permitting activities for fee acquisition required for the new Goose Creek Substation and the new May Valley Substation. As discussed in more detail by Company witness, Mr. Richter, different segments of

the Pathway Project have different planned in-service dates based on the sequence and timing of construction. To support the various in-service dates, the Company's goal is to have all easements and substation sites secured roughly six months before the start of construction to allow sufficient time for final engineering and construction preparation.

Q. IS THE PLANNED CONSTRUCTION SEQUENCING RELATED TO THE COMPANY'S LAND RIGHTS AND ACQUISITION ACTIVITIES?

A. Yes. As I discussed, the array of land rights acquisition, routing and siting, and permitting activities will be planned to ensure timely commencement of construction under the sequencing schedule described in Mr. Richter's Direct Testimony. For example, because Segment 5 (Tundra to Harvest Mile) has the latest planned start date, the Company will have more time to complete its permitting and routing activities for this segment than for other segments with earlier planned construction start dates. The Company anticipates that some permitting and routing activities for Segment 5 may take more time than permitting and routing for other segments, such as the greenfield transmission line construction that will include Segments 2 (Canal Crossing to Goose Creek) and 3 (Goose Creek to May Valley). Due to its proximity to growing municipal areas within the state (Pueblo, Colorado Springs, and the Denver metro area), Segment 5 presents routing challenges not common to the other Segments. The growth occurring along this segment may result in reduced land availability, increased land costs, and longer time needed to conduct routing and permitting activities across multiple local jurisdictions that the Company will need to work with.

Q. DOES THE COMPANY PLAN TO ACQUIRE LAND RIGHTS IN FEE FOR ITS SUBSTATION NEEDS?

A. Yes. The Project will require expansion of four existing substations and construction of three new substations. No fee acquisition is anticipated to be needed at Fort Saint Vrain, Pawnee, Tundra, and Harvest Mile Substations for the substation expansions as the Company owns sufficient land to accommodate the required substation expansions. These substation expansion areas are shown on maps provided as Attachment CRR-2 to my Direct Testimony. Similarly, the new Canal Crossing Substation, which will be located immediately adjacent to the Pawnee Substation, does not require any fee acquisition, as the Company owns sufficient land at that site. The new Canal Crossing Substation location adjacent to the existing Pawnee Substation is shown on Page 2 of Attachment CRR-2.

The Company will need to acquire land in fee for two new greenfield substation projects: the new Goose Creek Substation (to be located near the Company's existing Cheyenne Ridge Wind Farm collector station) and the new May Valley Substation (to be located near, but not interconnected to, the Company's existing Lamar Substation). The Company will commence acquisition activities for approximately 40 acres for the new May Valley Substation, and approximately 40 acres for the new Goose Creek Substation. The Siting Study Area for the new Goose Creek Substation is shown on Page 1 of Attachment CRR-3. The Siting Study Area for the new May Valley Substation is shown on Page 2 of Attachment CRR-3.

Q. PLEASE DESCRIBE THE COMPANY'S NEXT STEPS REGARDING LAND RIGHTS ACQUISITION ACTIVITIES.

A. After routes have been identified for each transmission line segment, the Company will begin gathering parcel ownership information along each Segment, purchasing parcel data from various counties, procuring real estate market analyses, and ordering title reports. The Company will also commence fee acquisition negotiations for the new greenfield substations.

C. Permitting

Q. PLEASE PROVIDE AN OVERVIEW OF THE LAND USE PERMITTING ANTICIPATED FOR THE PROJECT.

A. As part of the routing and siting studies, the Company will conduct jurisdictional outreach to each county or municipality anticipated to be crossed by a transmission line route or where Project endpoint substations are located to solicit feedback and discuss potential land use permits that may be required for each Project Segment and substation. Given the Project consists of constructing a new 345 kV transmission line outside of existing ROW, the Company anticipates that the Project will trigger land use permitting requirements in most jurisdictions. To date, no meetings have been held with jurisdictions to discuss the Project.

Anticipated land use permitting requirements for counties crossed by the study areas for each segment are listed in Table CRR-D-5 below, by Project Segment. Municipal permitting requirements will be determined by the jurisdictions that are crossed by a transmission line route. Permitting requirements are subject to change based on identification and selection of final routes, the sites identified

for the new Goose Creek and May Valley Substations, other identified modifications to existing substations, and coordination with the jurisdictions.

Table CRR-D-5 Anticipated Land Use Permitting Requirements by Project Segment

County	Type of Permit Anticipated to be Required	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Subst.
Arapahoe	Areas & Activities of State Interest (1041[1])					**X**	Harvest Mile
Cheyenne	Areas & Activities of State Interest (1041[1])		**X**	**X**			Goose Creek
Crowley	Use by Review				**X**		
El Paso	Areas & Activities of State Interest (1041[1])					**X**	
Elbert	Permit to Conduct a Designated Activity of State Interest					**X**	
Kiowa	Conditional Use Permit			**X**	**X**		May Valley
Kit Carson	Land Use Change Permit for a Major Electrical or Natural Gas Facility		**X**				Goose Creek
Morgan	Areas & Activities of State Interest (1041[1])	**X**	**X**				Canal Crossing
Prowers	Areas & Activities of State Interest (1041[1]) Special Use Permit			**X**	**X**		May Valley
Pueblo	Areas & Activities of State Interest (1041[1])				**X**	**X**	Tundra
Washington	Use by Special Review		**X**				
Weld	Areas & Activities of State Interest (1041[1]) Use by Special Review Permit	**X**					Fort St. Vrain
Yuma	Major Land Use Permit		**X**				

[1] Colorado House Bill 1041 was established in 1974 to set up a permitting process that allows local governments to "identify, designate, and regulate areas and activities of state interest" in order to maintain control of local development projects. *See generally* COLO. REV. STAT. Tit. 24, Art. 65.1 (§ 24-65.1-101, C.R.S. *et seq.*). Permits obtained pursuant to House Bill 1041 are often referred to as "1041 permits."

Q. DOES THE COMPANY ANTICIPATE THE NEED TO OBTAIN ANY STATE OR FEDERAL PERMITS OR APPROVALS, IN ADDITION TO THE LOCAL PERMITTING REQUIREMENTS?

A. Federal and state permits/approvals may be required prior to construction. Any necessary construction-related authorizations, which are typically administrative in nature, will be obtained between the time local land use permits are acquired and when construction begins. State authorizations may include, for example, permits for road, bridge, and highway crossings or road occupancy permits from the Colorado Department of Transportation ("CDOT"); and stormwater discharge permits and Air Pollution Emissions Notice ("APEN") from the Colorado Department of Public Health and Environment. Federal permits may be required for any construction related impacts to wetland or waterbodies from the U.S. Army Corps of Engineers. The Company anticipates coordinating with state and federal agencies as needed over the course of Project development, but whether federal or state permits or approvals are required, for what purpose, and where they will be necessary will likely not be fully determined until a final route is selected.

Q. ARE THERE ANY ADDITIONAL CONSTRUCTION-RELATED PERMITTING REQUIREMENTS?

A. In addition to the state and federal permitting requirements previously discussed, the Company will work with the appropriate county and municipal authorities to acquire any construction-related authorizations, if necessary. These authorizations may include, for example, permits for county and local road crossings, county and local road occupancy, and additional stormwater discharge permits. Permits for

temporary construction laydown and staging areas from local jurisdictions may also be required.

Q. WHAT OUTREACH AND PUBLIC ENGAGEMENT DOES THE COMPANY PLAN TO CONDUCT?

A. A Project website, email address, and telephone hotline will be developed to share information about the Project and to provide multiple ways for the public to communicate with Project representatives. Open houses and/or neighborhood meetings will be held during the routing studies. These meetings will be conducted either virtually or in person, depending on local or state guidance or requirements related to the COVID-19 pandemic. This public outreach will allow the Company to provide information about the Project, receive public feedback and input on route selection, and address questions about the Project. Information that will be presented during the open houses and neighborhood meetings will be provided on the Project website. The Project website is anticipated to be available prior to when the public open houses and neighborhood meetings are scheduled. Regular updates with Project information including planning, permitting, and construction notices will be available on the website to keep the public informed about Project progress. Any neighborhood meetings and/or public hearings required by permitting entities will also be conducted as the Project progresses.

Q. PLEASE DESCRIBE THE ESTIMATED SCHEDULE FOR PERMITTING AND LAND RIGHTS ACTIVITIES.

A. Table CRR-D-6 below provides an overview of the anticipated outreach, permitting and land rights activities, many of which will occur in parallel to one another, to

support a construction start in 2023 for Segments 2 (Canal Crossing to Goose Creek) and Segments 3 (Goose Creek to May Valley) and the associated substations (Pawnee, Canal Crossing, Goose Creek, and May Valley), and a commercial operation date for this portion of the Project of late 2025. The Company will engage in similar permitting and land rights activities for other Segments of the Project with a similar timeframe. Mr. Richter's Direct Testimony discusses the construction timeline and sequencing.

Table CRR-D-6: Representative Permitting and Land Rights Activities and Durations

Activity	Description	Typical Duration
Develop Project Communication Channels & Public Outreach	Develop communication channels to provide information to the public and for the public to contact Project representatives throughout the duration of the Project.	3 months to develop, ongoing communication throughout Project
Consultation & Jurisdictional Outreach	Coordinate with jurisdictions to provide Project information, request area information, and discuss potential permitting requirements.	Initial outreach 6 months to one year during Routing and Siting Study, ongoing throughout Project
Conduct Routing and Siting Study	Analyze resource data within a Study Area to identify alternative route locations between end point substations and compare routes to select a preferred route.	Minimum12 months, depending on length of segment and area constraints
Host Public Open Houses/Landowner Meetings	Conduct public open houses and meet with landowners during the route identification process to provide information about the project and request feedback on transmission route alternatives and substation sites.	3 months for routing public meetings, ongoing landowner meetings as needed
Complete Environmental Studies	Survey area along preferred and alternative routes for biological, wetlands, and cultural resources and determine if additional permits or approvals may be required.	6 months, dependent on studies required and if any are seasonally limited
Land Use Permit Approvals & Public Hearings	Apply for required federal, state, and local land use and environmental permits and approvals for Project facilities.	1.5 years, depending on number of jurisdictions and specific permit processes required
Acquire Land Rights	Work with landowners to acquire necessary easements and property for construction, operations, and maintenance of the transmission line and substations.	1.5 years, depending on number of landowners

D. Estimated Land and Permitting Costs

Q. HOW DID THE COMPANY ESTIMATE THE LAND COSTS ASSOCIATED WITH THE PROJECT?

A. Mr. Richter's Direct Testimony presents the cost estimates for the Pathway Project. The Company estimated land costs for the five transmission line segments by gathering current land values in the various counties the Project will or is likely to traverse. Land costs for each transmission line segment were then developed based on assumed line miles for each segment based on a 150-foot-wide ROW.

Land costs associated with fee acquisition required for the new Goose Creek Substation near the Cheyenne Ridge Wind Farm were estimated based on recent fee purchases the Company made for the two wind farm collector substations required for the Cheyenne Ridge Wind Farm. The estimated land costs for expansion of the May Valley Substation were based on research of current land values in the vicinity of Lamar. Additional land costs associated with fee acquisition for the substations, such as surveying, title work, and legal services, were developed based on recent actual costs associated with other substation projects the Company has completed in the last two years.

Other land related costs, such as survey, title work, ROW agent support, legal services, and internal labor were developed using historic costs for other transmission line projects built by the Company in the last five years. Examples of these costs include the following:

- Siting and Land Rights staff support of the Project;
- External consulting services to support the Project;

- Real estate market analyses;
- Title work;
- Appraisals;
- Land survey;
- Legal support;
- Crossing permit fees; and,
- Recording fees.

Q. HOW DID THE COMPANY ESTIMATE THE PERMITTING RELATED COSTS ASSOCIATED WITH THE PROJECT?

A. The Company estimated permitting costs for the five transmission line segments by estimating the total number of line miles of each segment (described in my testimony, above) and estimated costs based on an assumed number of hours per mile required for professional services to complete all activities required to route and permit the transmission line. The number of hours per mile of transmission line was extrapolated from other transmission line projects that the Company has developed. Permitting costs for substations were developed based on categorization of each substation as an expansion on property currently owned or leased by the Company or greenfield development and extrapolated costs from other substation projects the Company has developed. Other costs that contribute to this estimate include those associated with permit application fees, survey for and mitigation associated with cultural, biological, and water resources, and damage and/or settlement payments.

Q. WHAT ASSUMPTIONS WERE MADE TO DEVELOP THE LAND AND PERMITTING COSTS?

A. The estimated line miles (see Table CRR-D-1) were used as the basis to develop land and permitting costs for the Project.

The land rights acquisition costs assume the Project will require a 150-foot-wide ROW and fee acquisition for two new substations. Current land use types along the transmission line segments were also assumed when developing the costs to purchase easements for each segment based on prevailing land use types within the relevant Study Area. For example, the land rights acquisition cost assumes the easement purchase price of irrigated crop land to be higher than non-irrigated grazing land. Additional ancillary land costs also include:

- Land survey;
- Real estate market analysis;
- Siting and Land Rights staff/consulting services support; and,
- Legal services.

Costs per mile were developed for each ancillary land acquisition cost above based on similar 345 kV projects the Company has developed and built in the last five years.

The permitting costs assumed:

- A standard number of professional services costs (siting and land rights staff/consulting services) for routing of the transmission line (per mile) and siting of the expanded and greenfield substations (each) and identification of access and temporary construction areas;

- That one public open house would be held for every 50 line-miles, one public open house would be held for each substation included in the Project, and two rounds of open houses would be held at a standard cost for each;

- A standard number of professional services costs for each type and number of land use permits anticipated to be required for the Project (including permit fees); and,

- A standard number of professional services costs per mile of transmission line for biological and cultural resources surveys and permitting.

Q. HAS THE COMPANY INCORPORATED "RISK RESERVE" INTO THE LAND AND PERMITTING-RELATED PROJECT COSTS?

A. Yes. The Company has included risk reserve into the land and permitting-related Project costs. The Company's approach to the development of risk reserve amounts is discussed in the Direct Testimony of Company witness, Mr. Richter.

Q. PLEASE DESCRIBE THE KEY LAND AND PERMITTING-RELATED RISKS ADDRESSED IN THE RISK RESERVE PROCESS.

A. Cost risks associated with land acquisition activities include the transmission line segments being longer than originally anticipated due to unforeseen routing challenges, and landowner negotiations that may require legal resources. Land-related risks may also impact the Project schedule and include, for example, delay in receipt of real estate market analyses, title reports, and land survey.

Cost risks associated with permitting-related activities include:

- Delays in route identification due to complexities related to working with a large number of jurisdictions with local land use permitting approval;

- Potential for public opposition and resulting delays in route identification or permit approvals;

- Sensitive biological resources, cultural resources, and/or protected lands, triggering additional state or federal agency review and

permitting, and potentially adding costs or delaying route approval and construction;

- Route changes after permit approval due to landowner requests or neighboring jurisdictional requirements at boundaries;

- Adjustments to route and/or other Project components due to requests/requirements from jurisdictions, to address concerns from the public, or other unexpected issues resulting in the need to amend permit applications or denial of a land use application can cause the need to rework (additional engineering, environmental studies, landowner negotiations, permit documentation), resulting in extending the schedule, and increasing costs; and,

- Conflicting unrelated projects in the area that are developed after the final route is determined (such as a new wind, solar, or oil and gas development).

Each of the above permitting-related cost risks add a level of uncertainty to the Project schedule and cost with regard to permitting. As outlined earlier in my testimony, there is the potential for up to 13 or more jurisdictions to be crossed by the Project and land use authorizations would be required from each of those jurisdictions. In the Company's experience, smaller-scale projects crossing fewer jurisdictions have encountered strong public opposition that would have led to permit denial had the Company not revised the project location. Given the scale of this Project, there is a greater possibility of experiencing these cost risks and resulting land use permitting delays. Delays in permit processing/review or denial of a permit in any jurisdiction(s) would delay the in-service dates and could result in additional cost to obtain land use approvals.

IV. PERMIT RISKS AND COMMISSION "BACKSTOP" AUTHORITY

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. In this section of my Direct Testimony I discuss that the Company may need to request the Commission exercise its statutory "backstop" authority to construct a facility if a local government denies a permit to construct transmission facilities or otherwise unreasonably impairs a utility's ability to provide electric service.[4]

Q. YOU HAVE DESCRIBED THAT THE NEW TRANSMISSION COULD CROSS UP TO 13 COUNTIES AND SEVERAL CITIES, DATES FOR THE PROJECT EACH OF WHICH HAS ITS OWN UNIQUE LAND USE PERMITTING REQUIREMENTS. DOES PUBLIC SERVICE VIEW LOCAL LAND USE PERMITTING REQUIREMENTS AND TIMEFRAMES AS POSING A RISK TO MEETING PLANNED IN-SERVICE DATES?

A. Yes. The Company's ability to acquire local land use permits could pose a significant risk to meeting planned in-service dates. Since every line segment crosses several local jurisdictions, a denial or delay by any one city or county risks delaying the Project's schedule.

Q. WHAT RELIEF IS AVAILABLE IN THE EVENT A LOCAL GOVERNMENT DENIES A LAND USE PERMIT APPLICATION?

A. Section 29-20-108, C.R.S. which outlines the actions a public utility and local jurisdictions must take relative to location, construction, or improvement of major

[4] *See* § 29-20-108(5), C.R.S.

electrical facilities, and was codified through two pieces of legislation: Senate Bill 00-197 ("SB 00-197") and House Bill 01-1195 ("HB 01-1195").

In SB 00-197, the legislature created deadlines for local government action on utility applications to construct these types of facilities. The bill (codified at § 29-20-108 (1), C.R.S.) requires final local government action on utility applications within 120 days after submission of a preliminary application (if the local government requires a preliminary application) or within 90 days after submission of a final application. The statute provides that, if the local government does not take final action within these deadlines, the application is deemed approved.

HB 01-1195 established the Commission's "backstop" authority, which is codified at §§ 29-20-108(5) and 40-4-102, C.R.S. While I am not a lawyer, by my understanding, the Commission's "backstop" authority is a mechanism for utilities to appeal decisions of local governments with respect to the siting of major utility facilities. If a local government denies a permit or application or imposes conditions on a permit conditions that would "unreasonably impair the ability of the public utility … to provide safe, reliable, and economical service to the public …" a utility may appeal the local government's action to the Commission. When it considers appeals under this statute, the Commission is required to balance local government interests with statewide interests in locating the utility facilities. The Commission—after evaluation of certain factors—may order the construction of the relevant facility.

Alternatively, if a decision is made by a local jurisdiction which is believed to be an abuse of discretion, an action pursuant to Colorado Rules of Civil Procedure 106(a)(4) can be filed in district court.

Q. HAS PUBLIC SERVICE EVER FILED AN APPEAL WITH THE COMMISSION CONCERNING A LOCAL GOVERNMENT PERMITTING DECISION?

A. The Company has not appealed any decisions to date. However, the Commission has in the past exercised its authority under § 29-20-108(5), C.R.S. and reversed permit conditions imposed by local governments related to the construction of transmission facilities where such conditions unreasonably impaired the utility's ability to provide safe, reliable, and economical service.[5] Moreover, Public Service is aware of a Commission decision issued just prior to the enactment of the Commission's backstop authority in response to a petition for a declaratory order filed by the Company. In Docket No. 00D-583E, Public Service filed a petition for a declaratory order with the Commission after the City of Louisville denied Public Service's permit application to complete transmission line upgrades. In Decision No. C01-268, the Commission determined that the issue of transmission upgrades was a matter of statewide concern within the Commission's jurisdiction. The Commission held that "unique circumstances" triggered by the proven urgent need

[5] *See* Docket No. 07A-265E, Decision No. R08-078E (mailed date July 29, 2008), *aff'd* Decision No. C08-1182 (mailed date Nov. 14, 2008), *final order* Decision No. C09-183 (mailed date Feb. 24, 2009); Docket No. 03-192, Decision No. C04-192E (mailed date Jan. 26, 2004).

for the overhead transmission lines in question warranted the Commission acting as "arbiter of last resort" and granting the petition.[6]

Q. GIVEN THE SIGNIFICANT NUMBER OF COUNTIES AND CITIES THAT WILL BE INVOLVED IN REVIEWING AND DECIDING ON PERMIT APPLICATIONS FOR THIS PROJECT, WOULD THE COMPANY CONSIDER APPEALING LOCAL GOVERNMENT DECISIONS IN AN EFFORT TO MEET PLANNED IN-SERVICE DATES?

A. To allow for the interconnection and delivery of new renewable energy resources in time for resource developers to take advantage of production tax credit ("PTC") benefits and meet the Company's and State's carbon dioxide emissions reduction goals, achieving planned in-service dates will be critically important. If the Company were to receive denials that it believed were unreasonable, and if an appeal could potentially provide timely resolution and allow Public Service to meet its scheduled in-service dates, the Company would consider appealing such decisions.

Q. IS THE COMPANY REQUESTING THE COMMISSION TAKE ANY ACTION HERE WITH RESPECT TO EXERCISING ITS BACKSTOP AUTHORITY?

A. No. Public Service is not requesting the Commission take any action at this time in this Proceeding. The Company is only previewing this potential issue for the Commission should it later arise.

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[6] Proceeding No. 00D-583E, Decision No. C01-268, Section I.C.4,b, slip op. at 35-36 (mailed Mar. 21, 2001).

V. MAY VALLEY-LONGHORN EXTENSION

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. The purpose of this section of my Direct Testimony is to describe the May Valley-Longhorn Extension (or "Extension") option and the associated siting and land rights activities associated with this extension should the Commission issue a CPCN for the May Valley-Longhorn Extension in addition to the Pathway Project.

Q. PLEASE SUMMARIZE THE MAY VALLEY-LONGHORN EXTENSION.

A. The Company is also presenting for Commission consideration in this proceeding a 90-mile, 345 kV double circuit transmission line that would extend from the southeastern corner of the Pathway Project at the new May Valley Substation south to the new Longhorn Substation near Vilas. A vicinity map of the May Valley-Longhorn Extension is provided as Attachment ARK-2 to the Direct Testimony of Company witness, Ms. King. The Company is bringing forward this May Valley-Longhorn Extension to the Pathway Project for the Commission's consideration, as it would establish additional transmission interconnection opportunities for potential renewable generation developers in the wind-rich southeastern area of the state. The Company anticipates that having a well-planned generation tie line to this area would not only facilitate clean energy resource development, but would also minimize the potential likelihood of clean energy project developers needing to construct multiple generation tie lines in this region to interconnect to the Pathway Project 345 kV transmission backbone.

Q. PLEASE PROVIDE AN OVERVIEW OF THE LAND RIGHTS AND ACQUISITION EXPECTED FOR THE MAY VALLEY-LONGHORN EXTENSION.

A. Similar to the Pathway Project, the Extension will require acquisition of a 150-foot-wide ROW for the transmission line. The 150-foot-wide ROW will be secured under non-exclusive easement agreements. Fee acquisition of land will be required for the Longhorn Substation. A map of the Siting Study Area for the new Longhorn Substation is provided as Attachment CRR-5. The Company anticipates the land it will acquire in fee for the May Valley Substation for the Pathway Project (shown on Page 2 of Attachment CRR-3) will be sufficient to accommodate interconnection of the Extension facilities.

Q. PLEASE PROVIDE A DESCRIPTION OF THE LOCATION AND LAND USE CHARACTERISTICS OF THE MAY VALLEY-LONGHORN EXTENSION.

A. The May Valley-Longhorn Extension is bounded by the new May Valley Substation and the new Longhorn Substation near Vilas. The May Valley-Longhorn Extension is located in Prowers and Baca counties. The area is primarily rural featuring agriculture land use, oil and gas development and the Arkansas River. Multiple existing and planned wind energy facilities are located within this Project area and there is only limited existing electric system infrastructure. Nearby developed areas include the towns of Lamar and Springfield. State land holdings, federally owned and/or managed lands, and conservation easements are also located within the area and the Comanche National Grassland is located near the southern terminus of the Extension.

Q. PLEASE PROVIDE AN OVERVIEW OF THE STATUS OF SITING AND ROUTING ACTIVITIES TO DATE FOR THE MAY VALLEY-LONGHORN EXTENSION.

A. The Company has conducted activities for the May Valley-Longhorn Extension similar to the activities I described earlier in my testimony for Segments 1 through 5 of the Pathway Project. These activities include a preliminary assessment of land use permitting requirements and potential opportunities and constraints related to Project siting and routing using resource data. The resource data identified major constraints along the May Valley-Longhorn Extension that serves as an indicator of routing and permitting complexity that could potentially result in an increase in line miles when compared to the estimated direct, straight line distance between the segment endpoints. Preferred and alternative routes have not been identified for the Extension date.

Q. HOW WAS THE STUDY AREA IDENTIFIED FOR THE MAY VALLEY-LONGHORN EXTENSION?

A. The Study Area for the May Valley-Longhorn Extension was identified in the same manner that was used to identify the study areas for Segments 1 through 5 of the Pathway Project as detailed earlier in my testimony. Mapped resource data were reviewed and analyzed as to whether areas would be generally compatible with or would be a constraint to transmission development. Resources and land uses that are considered constraints and may warrant additional permitting, planning, special routing considerations, and agency coordination to minimize impacts are described earlier in Section III of my testimony.

Q. HOW DOES THE IDENTIFICATION OF THE STUDY AREA FOR THE MAY VALLEY-LONGHORN EXTENSION DIFFER FROM THE IDENTIFICATION OF TRANSMISSION LINE ROUTES?

A. The Study Area as defined for the purposes of this CPCN is a 20-mile-wide corridor within which the transmission line is anticipated to be located, whereas a route is the specific location of where the transmission line will be constructed within ROW (i.e., 150-feet-wide). The Study Area allows the Company to assess the constraints and opportunities between segment end points in order to identify the best route location. Examination of additional resource data and coordination with local permitting jurisdictions, key stakeholders, and the public will influence the ultimate location of proposed routes.

Q. HAS THE COMPANY IDENTIFIED A ROUTE FOR THE MAY VALLEY-LONGHORN EXTENSION?

A. No. A route has not been identified for the May Valley-Longhorn Extension. As described earlier in my testimony regarding the Pathway Project, preferred and alternative routes will be identified after completing routing studies, coordinating with permitting entities, and conducting public outreach.

Q. CAN YOU DESCRIBE THE LAND USE CHARACTERISTICS THAT INFLUENCED THE IDENTIFICATION OF THE STUDY AREA FOR THE MAY VALLEY-LONGHORN EXTENSION?

A. Table CRR-D-7 below summarizes the factors that influenced the identification of the Study Area and will be further evaluated during the routing process.

Attachment CRR-4 provides a map of the Study Area for the May Valley-Longhorn Extension.

Table CRR-D-7

May Valley Substation to Longhorn Substation 90 Miles
Within Study Area: • I-287 • Arkansas River • Santa Fe Trail Scenic and Historic Byway • Three known existing or proposed wind projects, Antelope Creek Wind, Twin Buttes and Colorado Green Wind Project Two Buttes Reservoir SWA, conservation easements, Colorado state land board, and BLM land West of Study Area: City of Lamar, High density of oil and gas wells in western portion of Study Area. The Comanche National Grassland is crossed by the southern border of the Study area. South of Study Area: I-160; Pike and San Isabel National Forests

Q. WHAT ARE THE ANTICIPATED LAND USE PERMITTING REQUIREMENTS FOR THE MAY VALLEY-LONGHORN EXTENSION?

A. As noted previously, the May Valley-Longhorn Extension is located within Baca and Prowers counties. There are no land use permit requirements for Baca County; however, Prowers County may involve an Areas & Activities of State Interest (1041) Special Use Permit. Permitting requirements are subject to change based on identification and selection of the final route, location of the site identified for the new Longhorn Substation near the Vilas substation, and coordination with the jurisdictions.

Q. DOES THE COMPANY ANTICIPATE ANY FEDERAL PERMITS WILL BE REQUIRED FOR THE MAY VALLEY-LONGHORN EXTENSION?

A. Federal permits required for the May Valley-Longhorn Extension are anticipated to be similar as those required for Segments 1 through 5 of the Pathway Project. The May Valley-Longhorn Extension will require a crossing of the Arkansas River south of Lamar and designated lands, conservation areas, sensitive species habitat, and developed areas occur along the river corridor. Depending on the location of the river crossing, additional federal permitting may be required.

Q. DOES THE COMPANY ANTICIPATE ADDITIONAL CONSTRUCTION-RELATED PERMITTING FOR THE MAY VALLEY-LONGHORN EXTENSION?

A. Similar to Segments 1 through 5 of the Pathway Project, the Company will work with the appropriate county and municipal authorities to acquire any construction-related authorizations, if necessary. Permits for temporary construction laydown and staging areas from local jurisdictions may also be required. Construction-related permitting will be confirmed upon final route selection.

Q. WILL THE COMPANY CONDUCT PUBLIC OUTREACH AND ENGAGEMENT FOR THE MAY VALLEY-LONGHORN EXTENSION?

A. Yes. The May Valley-Longhorn Extension would be included on the Pathway Project website, email, and hotline developed to share information about the Pathway Project and to provide multiple ways for the public to communicate with Project representatives. Open houses and/or neighborhood meetings will be held as part of the routing study for the May Valley-Longhorn Extension. Regular updates with Project information including planning, permitting, and construction

notices will be available on the website to keep the public informed about Project progress. Any neighborhood meetings and/or public hearings required by permitting entities will also be conducted as the Project progresses.

Q. PLEASE DESCRIBE THE ESTIMATED SCHEDULE FOR PERMITTING AND LAND RIGHTS ACTIVITIES FOR THE MAY VALLEY-LONGHORN EXTENSION.

A. The May Valley-Longhorn Extension schedule will coincide with the schedule for Segments 2 and 3 of the Pathway Project, to match the in-service date of these segments, including the May Valley Substation. The same permitting and land rights activities will be conducted for this segment as described earlier in my testimony for Segments 1 through 5 of the Pathway Project as detailed in Table CRR-D-6.

Q. HOW DID THE COMPANY ESTIMATE THE LAND AND PERMITTING COSTS ASSOCIATED WITH THE MAY VALLEY-LONGHORN EXTENSION?

A. Mr. Richter's Direct Testimony presents the cost estimates for the May Valley-Longhorn Extension. The Company developed its cost estimate for the land and permitting costs for the May Valley-Longhorn Extension in the same manner it did for Segments 1 through 5 of the Pathway Project.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Statement of Qualifications

Carly R. Rowe

Carly Rowe is a Manager in Xcel Energy's Siting & Land Rights ("S&LR") group in Denver, Colorado. In this role she oversees land planning, permitting and public outreach efforts for energy infrastructure projects in Colorado.

Ms. Rowe has 13 years of experience conducting siting, permitting and stakeholder outreach efforts in support of complex electric transmission development. Ms. Rowe joined Public Service Company of Colorado in 2017 as a Senior Agent on the S&LR team and prior to working at Public Service, she worked in consulting. In her consulting roles she provided environmental planning, public outreach, permitting, and project management services to public utilities, merchant transmission companies and wind and solar developers throughout the United States. Ms. Rowe graduated from the University of California, Davis in 2005 where she earned a B.S. in Environmental Policy and Planning.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

* * * * *

IN THE MATTER OF THE APPLICATION	)	
OF PUBLIC SERVICE COMPANY OF	)	
COLORADO FOR A CERTIFICATE OF	)	
PUBLIC CONVENIENCE AND NECESSITY	)	**PROCEEDING NO. 21A-XXXXE**
FOR COLORADO'S POWER PATHWAY	)	
345 KV TRANSMISSION PROJECT AND	)	
ASSOCIATED FINDINGS REGARDING	)	
NOISE AND MAGNETIC FIELD	)	
REASONABLENESS	)	

AFFIDAVIT OF CARLY R. ROWE
ON BEHALF OF
PUBLIC SERVICE COMPANY OF COLORADO

I, Carly R. Rowe, being duly sworn, state that the Direct Testimony and attachments were prepared by me or under my supervision, control, and direction; that the Direct Testimony and attachments are true and correct to the best of my information, knowledge and belief; and that I would give the same testimony orally and would present the same attachments if asked under oath.

Dated at Denver, Colorado, this 1st day of March, 2021.

Carly Rowe

Carly R. Rowe, Manager, Siting and Land Rights

Subscribed and sworn to before me this 1st day of Mar., 2021.

Amanda Clark

Notary Public

AMANDA CLARK
Notary Public
State of Colorado
Notary ID # 20164004880
My Commission Expires 03-25-2024

My Commission expires 3/25/2024