

Appendix F

2026 Rule 3627 Ten-Year Transmission Plan

Public Service Company of Colorado

Transmission Projects 2024-2036

Table of Contents

Arapahoe Substation Upgrades	F-4
Avon-Gilman 115 kV Transmission Line	F-6
Barker Distribution Substation.....	F-8
Carbondale – Crystal Transmission	F-10
Central Weld Reliability Loop (formerly Weld – Rosedale – Box Elder – Ennis 230/115 kV Transmission Project).....	F-12
Circuit 5107: Daniels Park - Santa Fe Uprate	F-14
Circuits 5111 and 5707: Daniels Park – Prairie – Greenwood Uprate	F-16
Circuits 5167 and 5285: Smoky Hill - Buckley - Tollgate - Jewell – Leetsdale Uprate	F-18
Circuit 5283: Leetsdale – Elati 230 kV Underground Transmission Line Upgrade.....	F-21
Circuit 5625: Denver Terminal – Elati Uprate	F-23
Circuit 5709: Greenwood – Arapahoe Uprate and Circuit 5717: Greenwood – Monaco Series Reactor	F-25
Circuits 9055, 9558, and 9464: Cherokee - Federal Heights - Semper – Broomfield Uprate	F-27
Circuit 9332: Arapahoe - Air Liquide Tap - South - Gray Street Uprate	F-31
Circuit 9335: Arapahoe – South Tap – Bancroft Uprate	F-33
Circuit 9542: Cherokee - New Substation A.....	F-35
Circuit 9546: Cherokee - Mapleton - New Substation A Uprate	F-37
Circuit 9549: Cherokee - Conoco - New Substation A Uprate	F-39
Circuit 9955: Leetsdale – Harrison Uprate	F-41
Colorado’s Power Pathway	F-43
Colorado’s Power Pathway May Valley – Longhorn Extension	F-45
Colorado’s Power Pathway Voltage Control/Support	F-47
Colorado Springs Utilities Unintended Flow Mitigation Project.....	F-49
Daniels Park Substation Upgrades	F-51
Distribution Planning Substations.....	F-53
Gateway South – Hayden Transmission	F-55
Glenwood – Rifle 115 kV Transmission.....	F-57
Greenwood Substation Upgrades	F-59
Kestrel Substation	F-61
Lamar DC Tie Replacement.....	F-63
Metro Water Recovery Substation	F-65
New Substation A.....	F-67

New 115 kV Transmission Line: Cherokee - New Substation A	F-69
Northern Colorado Area Plan Project	F-71
Northern Colorado Transmission.....	F-73
PI-2024-06 Generation Interconnection Substation.....	F-75
Poder (formerly Stock Show) Distribution Substation.....	F-77
Poncha – Front Range 230 kV Transmission Line	F-79
San Luis Valley Network Upgrades	F-81
San Luis Valley-Poncha 230 kV Line	F-83
Smoky Hill Substation Upgrade.....	F-85
South Substation Upgrade	F-87

Arapahoe Substation Upgrades

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

One upgrade to the Arapahoe Substation includes replacing the existing 1596-amp bus tie breaker with a new bus tie breaker with a rating of 2000 amps. Another upgrade includes adding a new transformer in the substation to support power flows in southwest Denver as well as additional load growth. This new 230/115 kV transformer will support the 115 kV system in the Denver Metro area by mitigating the overload on the other 230/115 kV transformer currently at the Arapahoe Substation. Other alternatives were considered but were not preferred compared to installing another transformer due to the increased complexity and expected higher cost.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 230/115 kV

Facility Rating: 2000 A

Point of Origin/Location: Arapahoe Substation

Point of Termination: N/A

Intermediate Points: N/A

Length of Line (Miles): N/A

Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.

Case Studied: 2025HS, 2026HS, 2027HS, 2028HS

BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)
N/A Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$37.1

Schedule:

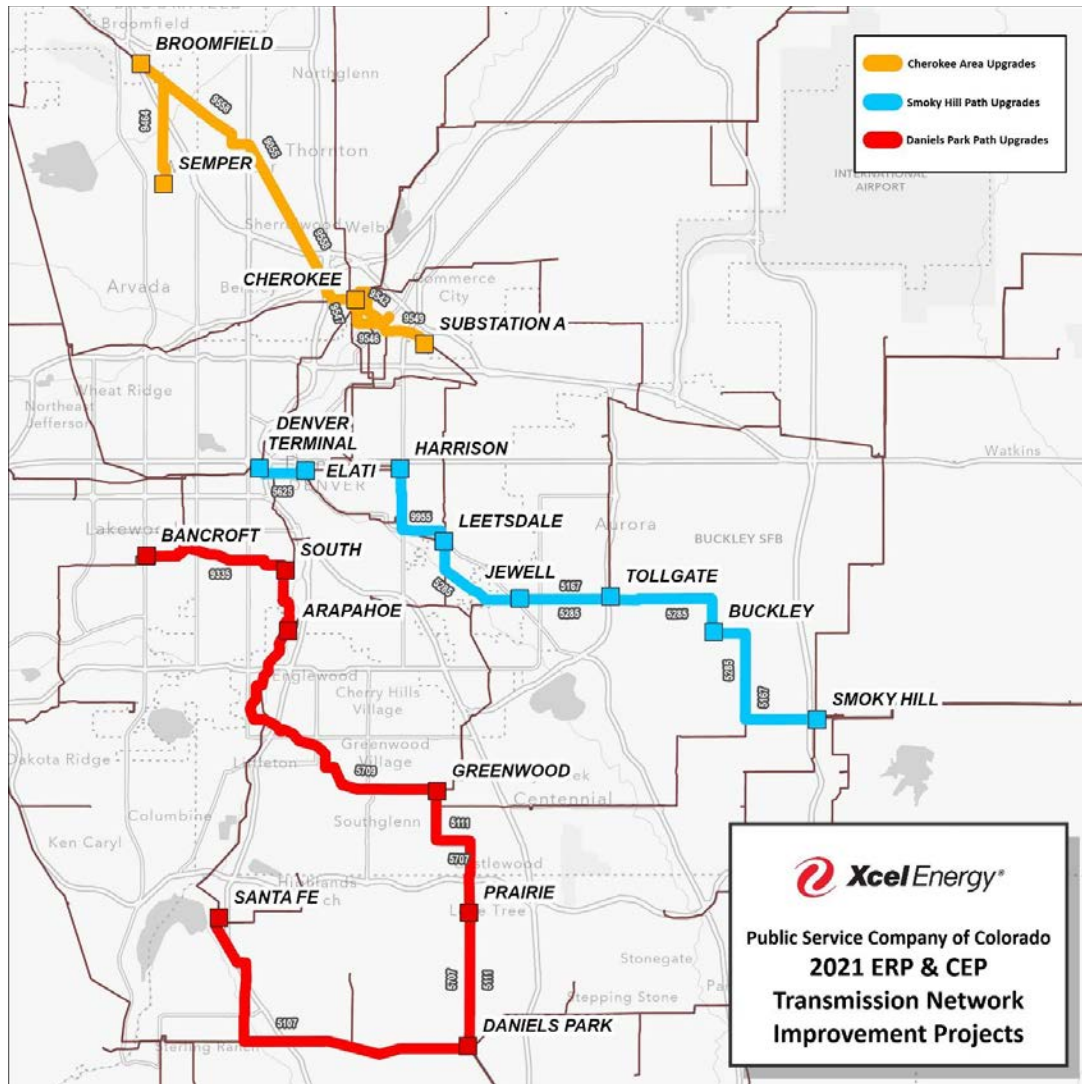
Construction Date: 2028

In-Service Date: 2029

Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

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Avon-Gilman 115 kV Transmission Line

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: New 115 kV line between Avon and Gilman substations to improve the reliability of the Holy Cross Energy Association ("HCEA") system. Also includes a new capacitor bank installation at Vail Substation. Line would be operated normally open, but used for emergency backup.

Type of Project: Transmission Line

Project Drivers: Reliability

Development Status: Planned

Voltage Class: 115 kV

Facility Rating: 159 MVA

Point of Origin/Location: Gilman Substation

Point of Termination: Avon Substation

Intermediate Points: N/A

Length of Line (Miles): 10

Planning Study Status: Capacity Bank Sizing Study completed by Public Service on 10/17/2022, available at:
https://www.rmao.com/public/wtpp/Operating_Studies/Vail_Cap_Bank_Study_Report_17OCT2022.pdf

Case Studied: 2033HS1, 2033HW1

BAA Peak Summer/Winter Demand (MW): 12,022 Summer
 9,288 Winter

Study Generation Assumptions: Generation assumptions from the 2033HS1 and 2033HW1 cases were used for the study.

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: 2029

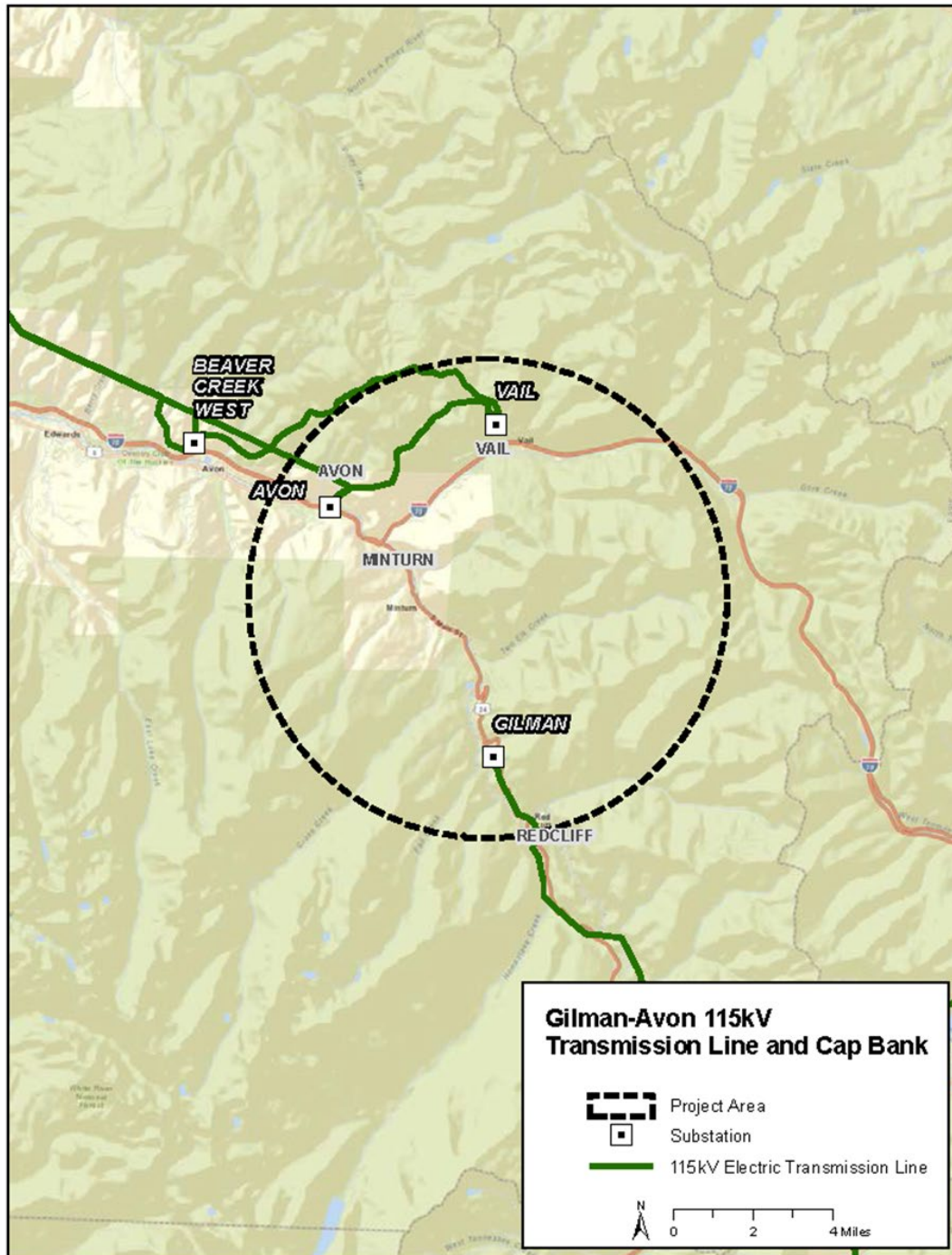
Regulatory Info: No CPCN required by Decision No. C15-0590, Proceeding No. 15M-0043E

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Barker Distribution Substation

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

The Barker Distribution Substation project is a new distribution substation and transmission line needed to serve growing customer demand on Public Service's distribution system in and around downtown Denver. The Barker Distribution Substation project includes: (1) the construction of a new enclosed distribution substation at an existing Public Service-owned site in the Lower Downtown neighborhood of Denver; and (2) connection of the new substation to the Public Service transmission network through a new double-circuit 230 kV underground transmission line that is approximately 2,000 feet in length and that will terminate at the Lacombe Substation. The Barker Substation will include three new 230/13.8 kV, 50 MVA distribution transformers.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 230 kV

Facility Rating: 796 MVA (transmission line)

Point of Origin/Location: Lacombe Substation

Point of Termination: Barker Substation

Intermediate Points: N/A

Length of Line (Miles): <1

Planning Study Status: Public Service's transmission planning organization conducted power flow analysis of the addition of the Barker Distribution Substation to the Public Service transmission system in the planning of the project, however a formal planning study report documenting the assumptions and analysis was not developed. This project is also included in the transmission models for all current and future transmission studies, allowing Public Service to continue to validate the performance of the transmission system with the inclusion of these new facilities.

Case Studied: N/A

BAA Peak Summer/Winter Demand (MW): N/A

Study Generation Assumptions: N/A

Estimated Cost (\$ millions): \$100.8

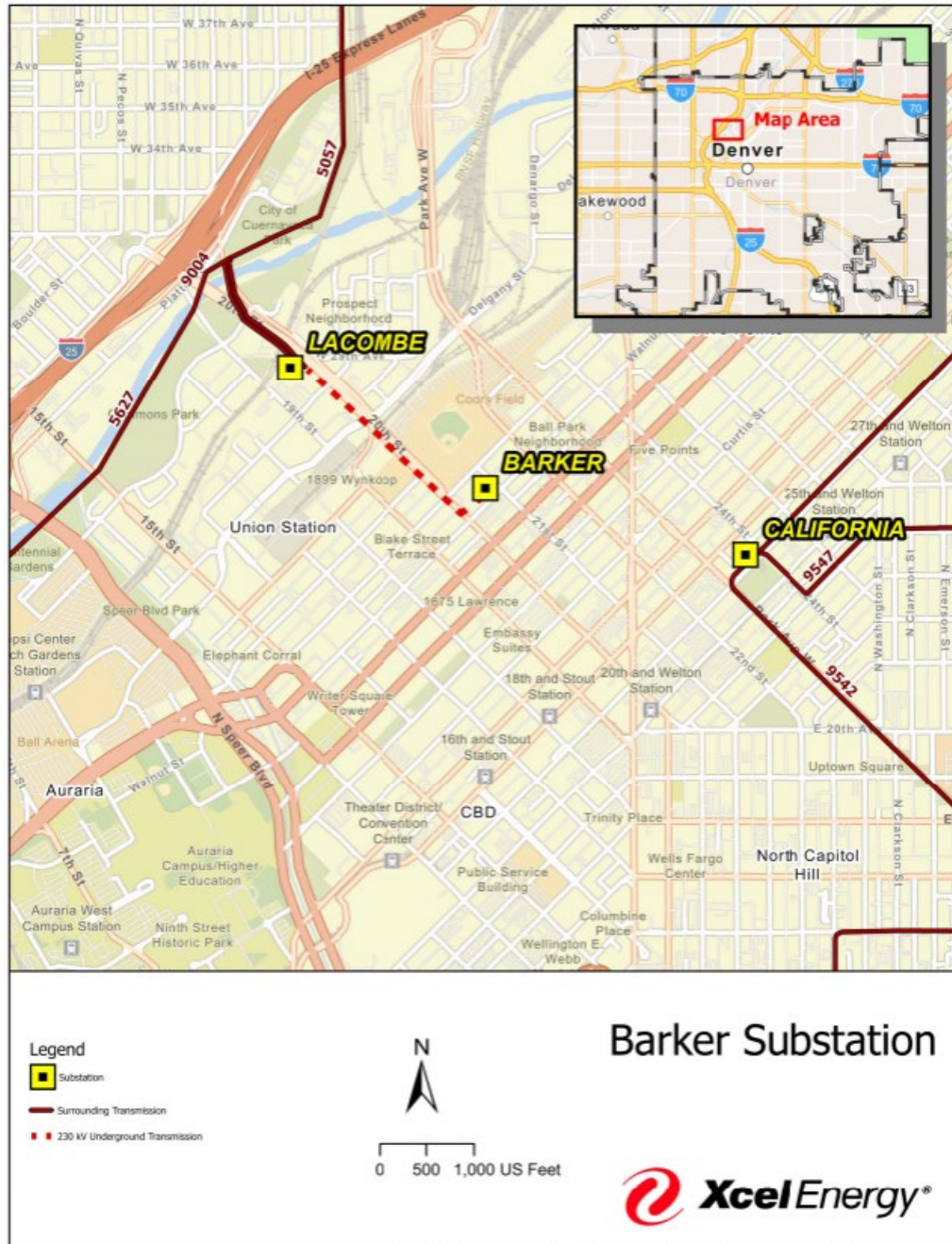
Schedule:

Construction Date: 2024

In-Service Date: 2027
 Regulatory Info: CPCN granted by Decision No. R25-0597, Proceeding No. 21A-0069E.

Contact Information:

Email: Info@XcelEnergyLacombeToBarkerSubstation.com
 Phone: 720-797-2840
 Website: <https://xcelenergylacombetobarkersubstation.com/>



Carbondale – Crystal Transmission

Project Sponsor: Public Service Company of Colorado

Additional Project Participants: Holy Cross Energy

Project Description and Purpose: New 115 kV transmission line between Carbondale and Crystal substations.

Type of Project: Transmission Line

Project Drivers: Load serving, reliability

Development Status: Conceptual

Voltage Class: 115 kV

Facility Rating: TBD

Point of Origin/Location: Carbondale Substation

Point of Termination: Crystal Substation

Intermediate Points: N/A

Length of Line (Miles): TBD

Planning Study Status: Planning study not yet complete.

Case Studied: TBD

BAA Peak Summer/Winter Demand (MW): TBD

Study Generation Assumptions: TBD

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

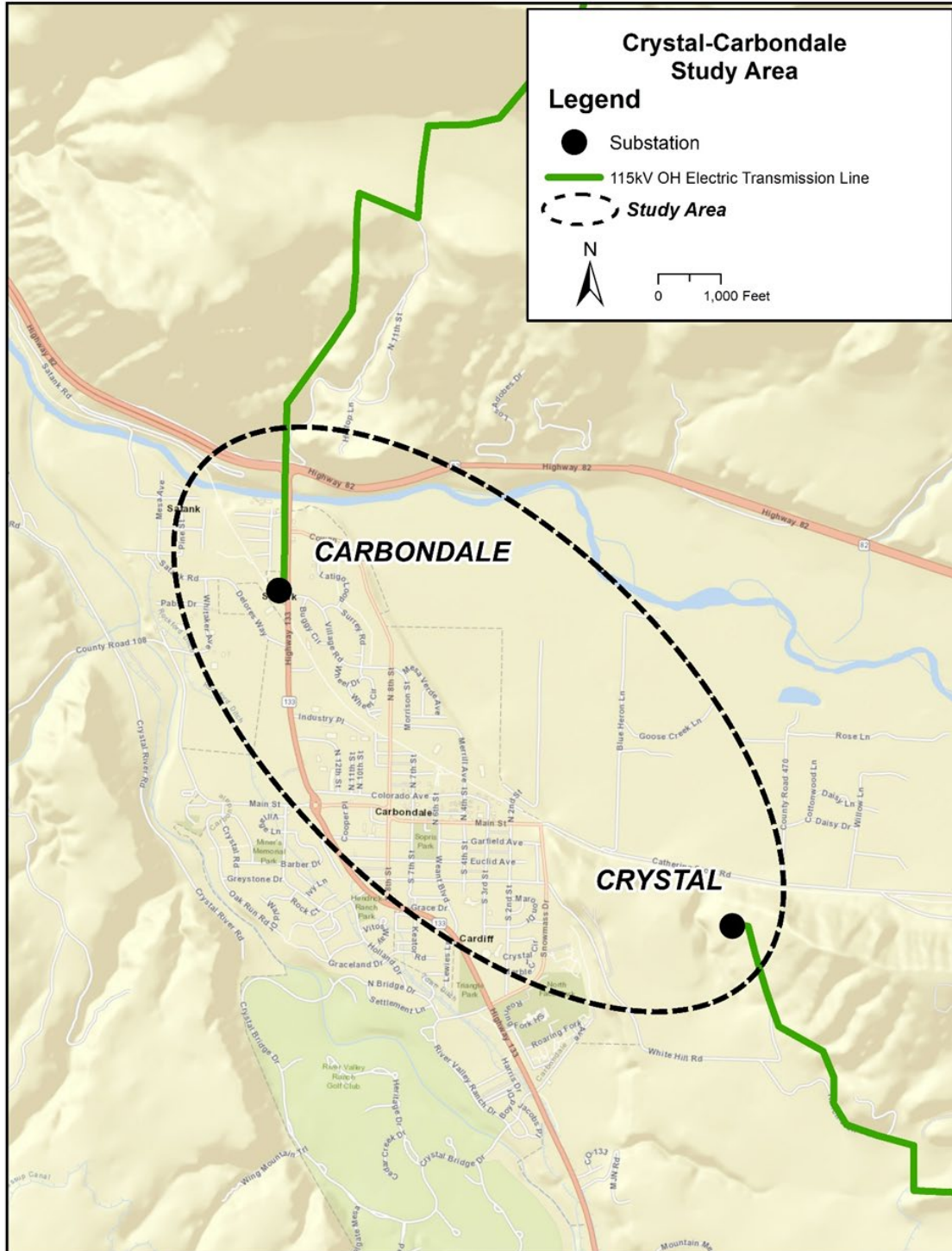
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website: <http://www.transmission.xcelenergy.com/Projects/Colorado>



Central Weld Reliability Loop (formerly Weld – Rosedale – Box Elder – Ennis 230/115 kV Transmission Project)

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Build a new 230 kV transmission line from Weld to Rosedale and a 230kV or 115kV line from Rosedale to Box Elder to Ennis to replace portions of Public Service's existing 44 kV transmission network in central and southern Weld County to increase reliability, load-serving capability and resource interconnection capability in northern Colorado.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving, and generation

Development Status: Conceptual

Voltage Class: 230/115 kV

Facility Rating: TBD

Point of Origin/Location: Weld Substation

Point of Termination: Ennis Substation

Intermediate Points: Rosedale Substation and new Beebe Draw Substation

Length of Line (Miles): 13 + 7

Planning Study Status: Planning study under development by CCPG Foothills Subcommittee, final study report not yet available.

Case Studied: TBD

BAA Peak Summer/Winter Demand (MW): TBD

Study Generation Assumptions: TBD

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

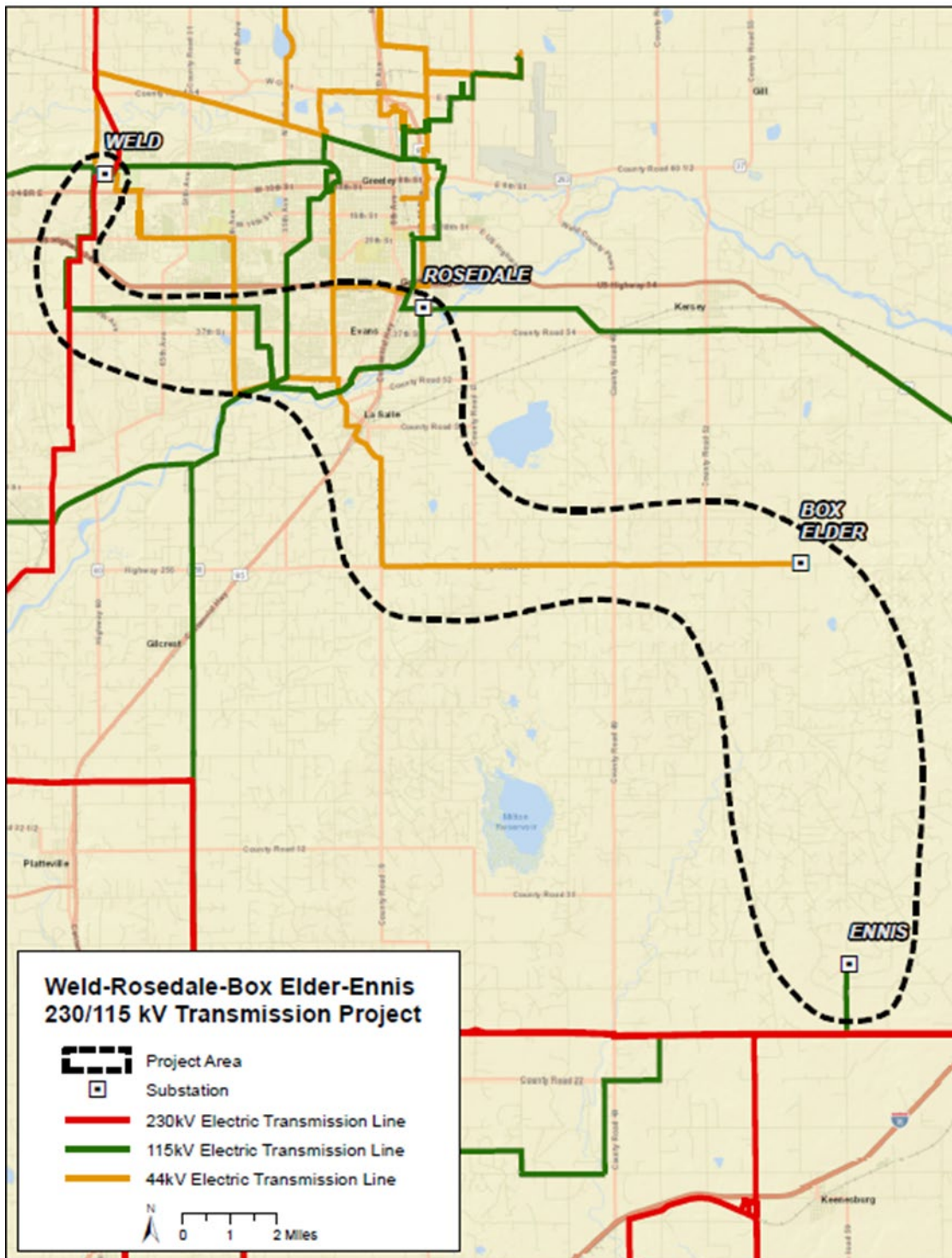
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Circuit 5107: Daniels Park - Santa Fe Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

This upgrade includes reconductoring this circuit which will increase its rating from 1214 amps to 1600 amps in order to resolve the overloads to the 230 kV circuit. Public Service anticipates installing an advanced HTLS conductor on the existing towers to meet the recommended rating. ATTs were evaluated but were not found to be a viable option for upgrading this circuit. Additionally, energy storage was considered but not preferred to reconductoring the circuit due to the need for additional land adjacent to the substation, the installation of a complicated switching scheme, and the installation of multiple transformers. The energy storage would also have limited secondary value to the grid as it would only be used for the purpose of mitigating the overload and thus not preferred by Public Service.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	230 kV
Facility Rating:	1600 A
Point of Origin/Location:	Daniels Park Substation
Point of Termination:	Sante Fe Substation
Intermediate Points:	N/A
Length of Line (Miles):	10.5
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.
Estimated Cost (\$ millions):	\$12.2

Schedule:

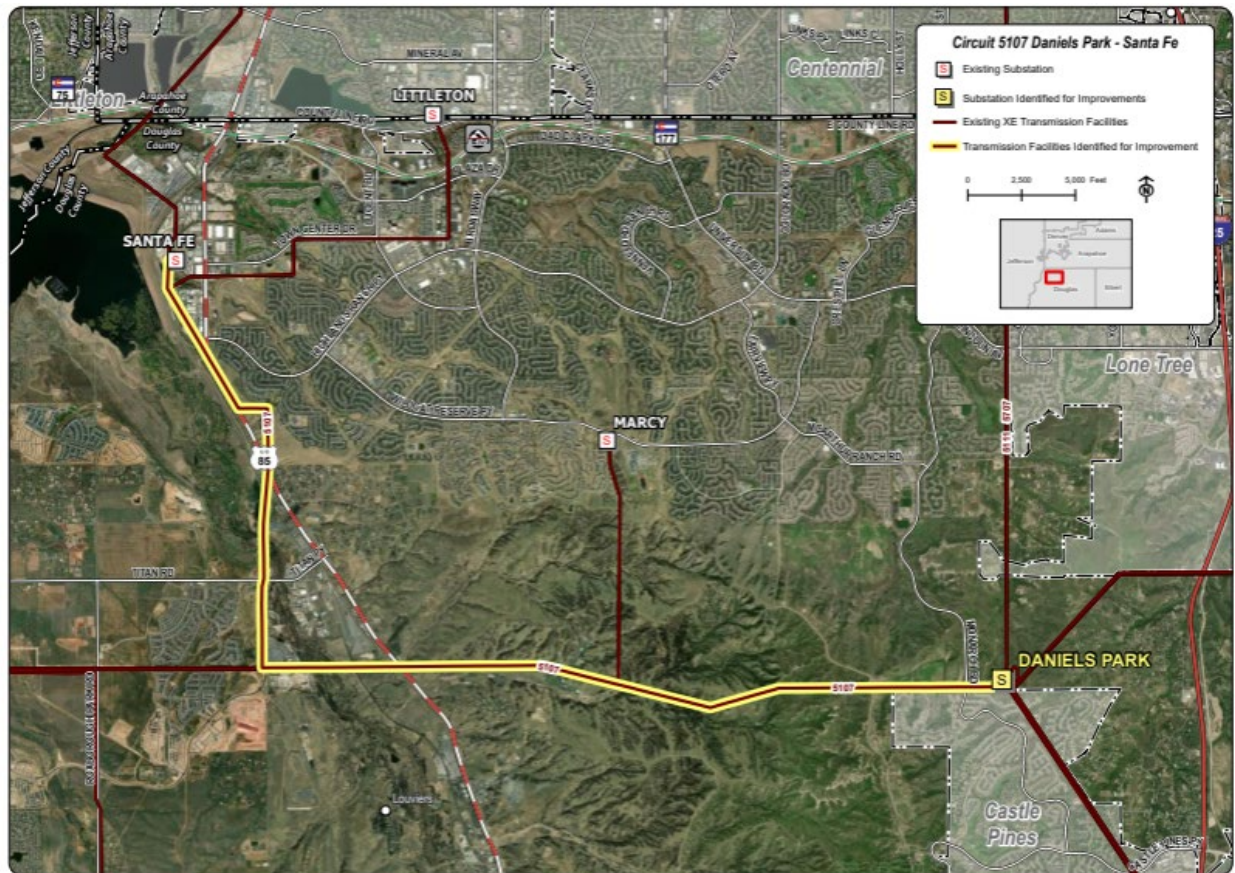
Construction Date:	2030
In-Service Date:	2030
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Circuits 5111 and 5707: Daniels Park – Prairie – Greenwood Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

This upgrade will involve replacing the conductor on each circuit with a new conductor rated for 2300 amps and associated equipment upgrades at the Daniels Park, Prairie, and Greenwood Substations. These upgrades will address the overloads to these circuits caused by increased generation in the area. Public Service identified 2300 amps as the preferred rating because it prevents a feasible upgrade that can be installed on the existing towers as opposed to rebuilding the segment. Public Service concluded that neither energy storage nor dynamic line ratings were capable to serve as alternatives for this upgrade.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	230 kV
Facility Rating:	2300 A
Point of Origin/Location:	Daniels Park Substation
Point of Termination:	Greenwood Substation
Intermediate Points:	Prairie Substation
Length of Line (Miles):	8.4
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$19.7

Schedule:

Construction Date:	2026
In-Service Date:	2027
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Circuits 5167 and 5285: Smoky Hill - Buckley - Tollgate - Jewell – Leetsdale Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

Due to the increased renewable imports into the Denver Metro area from the Smoky Hill/Harvest Mile area, these circuits experience significant overloads under N1 contingencies. To address these overloads, Public Service's upgrades include replacing the conductor currently installed on each circuit with a new conductor rated for 2000 amps and Public Service anticipates it will install an advanced HTLS conductor on the existing towers to meet the recommended upgrades. Additionally, Public Service's analysis indicates the need to upgrade Circuit 5285 for the entire path from Smoky Hill to Leetsdale and recommends that circuit 5167 be simultaneously upgraded between Buckley Substation and the Leetsdale Tap due to the efficiencies of upgrading both circuits attached to the same towers at the same time and minimizes the need for future rework on circuit 5167. Increasing the voltage of these circuits was evaluated but not preferred due to the extreme costs of this alternative. PST technologies are not capable of reducing flows enough to eliminate the overflows and thus was not preferred. Energy storage and DLR were evaluated but not capable of serving as viable alternatives.

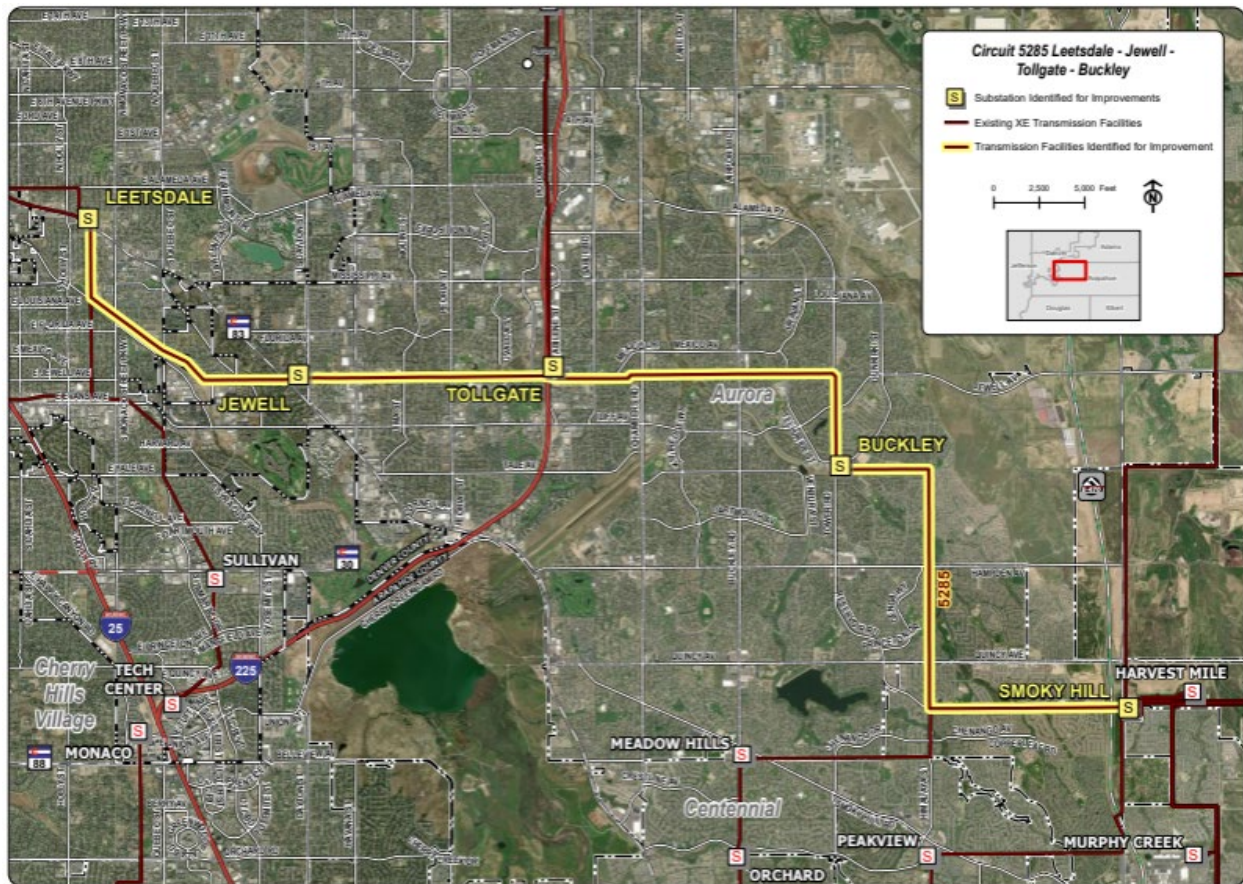
Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	230 kV
Facility Rating:	2000 A
Point of Origin/Location:	Smoky Hill Substation
Point of Termination:	Leetsdale Substation
Intermediate Points:	Buckley, Tollgate, Jewell Substations
Length of Line (Miles):	5.5 and 15.4
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.
Estimated Cost (\$ millions):	\$39.2

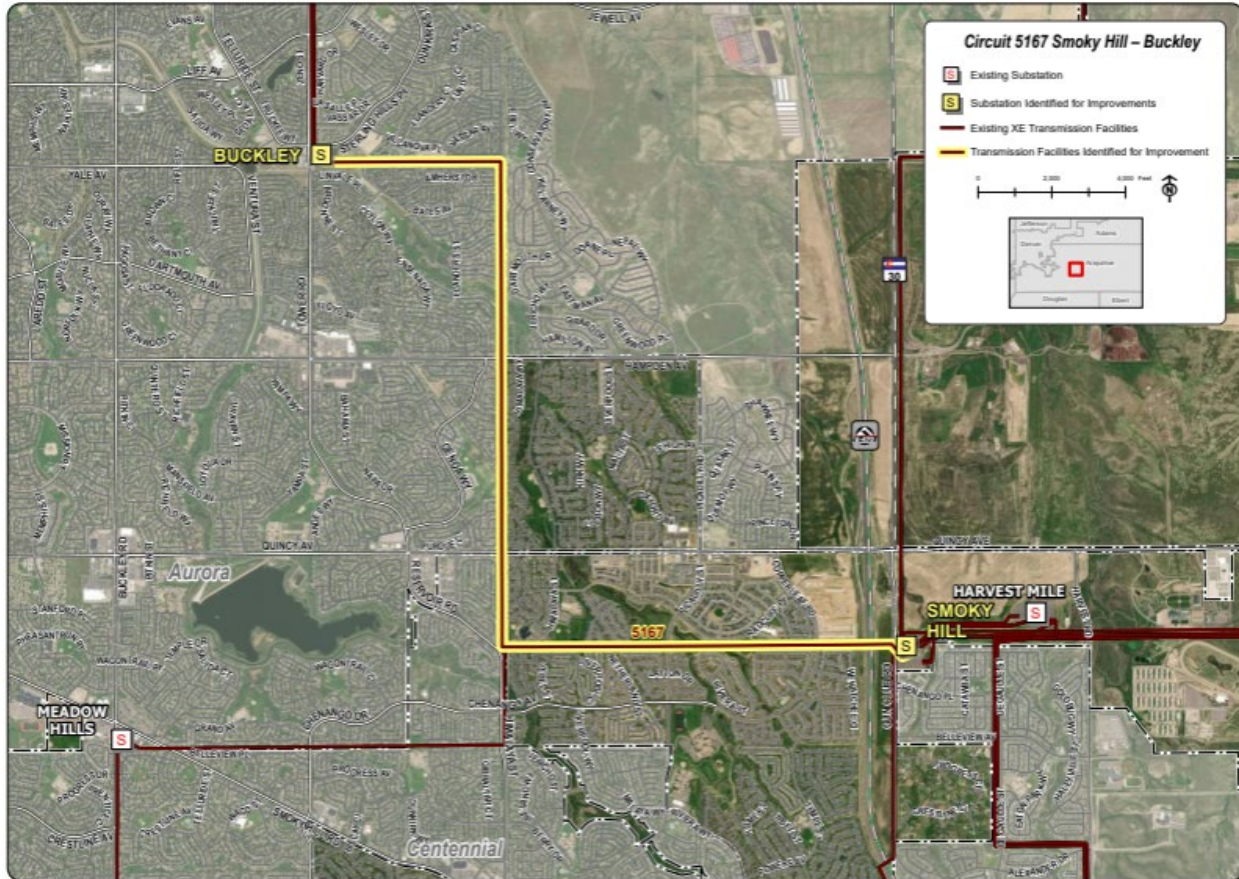
Schedule:

Construction Date: 2027
 In-Service Date: 2030
 Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com
 Phone:
 Website:





Circuit 5283: Leetsdale – Elati 230 kV Underground Transmission Line Upgrade

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

The Leetsdale – Monroe – Elati line is a 230 kV line that is an underground facility originally built in 1990. The line uses a high pressure fluid filled (“HPFF”) pipe for insulation. The established rating was originally 1000 amps or 398 MVA, but the line has since been derated due to the physical properties of HPFF to ensure continued safe operations. In addition to the system needs caused by the derating of this line, the potential for this line to overload as a result of the clean energy resources anticipated for the 2021 ERP & CEP had also been identified in the CCPG 80x30 Task Force’s study report. The project will replace this circuit with a new concrete reinforced duct bank on a new alignment within Denver Street ROW. The proposed cable system is a two-bundle of 4000 kcmil XLPE cable. Work is also required at Leetsdale, Monroe, and Elati substations to accept the new cable system and increase the rating

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 230 kV

Facility Rating: 796 MVA

Point of Origin/Location: Leetsdale Substation

Point of Termination: Elati Substation

Intermediate Points: Monroe Substation

Length of Line (Miles): 5.3

Planning Study Status: Planning study report filed in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachment AWS-2.

Case Studied: 2024HS, 2024HW

BAA Peak Summer/Winter Demand (MW): 9,908 Summer
7,283 Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$218.8

Schedule:

Construction Date: 2026

In-Service Date: 2027

Circuit 5625: Denver Terminal – Elati Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: During an N-1 outage of the Greenwood – Arapahoe – Denver Terminal circuit, the increased flows on this parallel path can be accommodated by the increased rating planned for Circuit 5283, however, Circuit 5625 from Elati to Denver Terminal experiences overloads based on the rating of the exiting transmission line and substation equipment. Public Service evaluated a range of alternatives to address the overloads on Circuit 5625 and identified that upgrading the circuit to equal the new rating planned for Circuit 5283 from Leetsdale to Elati is the preferred solution to mitigate this overload.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	230 kV
Facility Rating:	2000 A
Point of Origin/Location:	Denver Terminal Substation
Point of Termination:	Elati Substation
Intermediate Points:	N/A
Length of Line (Miles):	1.25
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$66.8

Schedule:

Construction Date:	2030
In-Service Date:	2031
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Circuit 5709: Greenwood – Arapahoe Uprate and Circuit 5717: Greenwood – Monaco Series Reactor

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

These upgrades include installing a power flow controller on the Greenwood to Monaco circuit paired with upgrading the 230 kV Greenwood to Arapahoe Circuit 5709. These upgrades alleviate a range of scenarios in which these transmission paths overload. This includes the need for a series reactor to control power flow and replacing the current conductor rated at 1440 amps with a new conductor rated for 2400 amps. These upgrades were chosen over the alternative of upgrading the existing 230 kV circuits and substations along the Greenwood to Leetsdale path due to this alternative having higher costs and complexity.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 230 kV

Facility Rating: 2400 A

Point of Origin/Location: Greenwood Substation

Point of Termination: Arapahoe Substation, Monaco Series Reactor

Intermediate Points: N/A

Length of Line (Miles): 9.4

Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.

Case Studied: 2025HS, 2026HS, 2027HS, 2028HS

BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)

N/A Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): Circuit 5709 Reconductor: \$12.7
 Circuit 5717 Series Reactor: \$14.2

Schedule:

Construction Date: Circuit 5709 Reconductor: 2026
 Circuit 5717 Series Reactor: 2028

In-Service Date: Circuit 5709 Reconductor: 2027
 Circuit 5717 Series Reactor: 2030

Regulatory Info:

CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

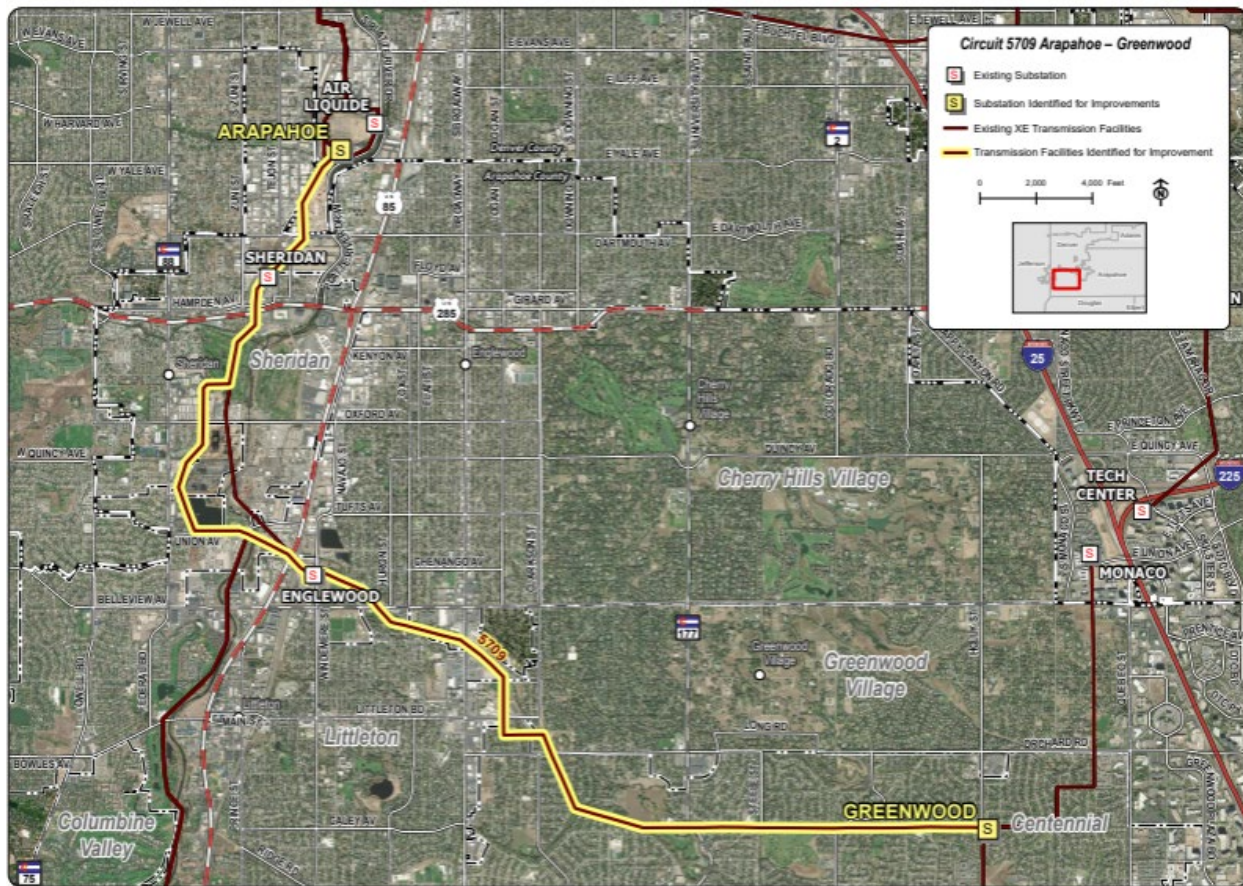
Contact Information:

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PSCoPlanning@xcelenergy.com

Phone:

Website:



Circuits 9055, 9558, and 9464: Cherokee - Federal Heights - Semper – Broomfield Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

The prevailing flows on this path run from Valmont to Cherokee, but with the addition of the Approved Portfolio the direction of the flow changes to now flow out from Cherokee in a northern direction. Under this change, an N-1 outage of either circuit will overload the other. To mitigate this overload, Public Service identified the need to rebuild these circuits to a rating of 2000 amps. Other alternatives were considered but would require new greenfield transmission lines.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	115 kV
Facility Rating:	2000 A
Point of Origin/Location:	Cherokee Substation
Point of Termination:	Broomfield Substation
Intermediate Points:	Federal Heights Substation, Semper Substations
Length of Line (Miles):	10, 12.3, and 4
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

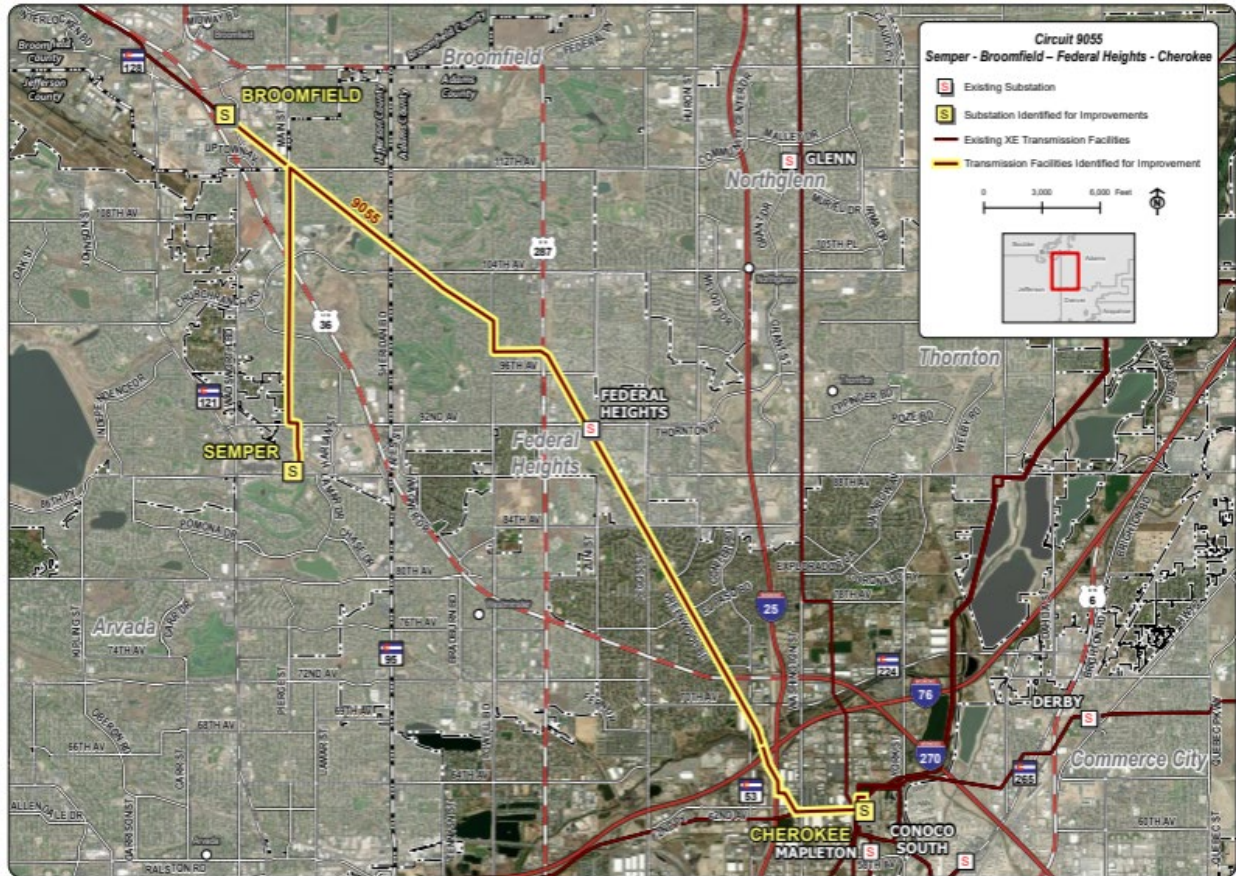
Estimated Cost (\$ millions): \$58.2

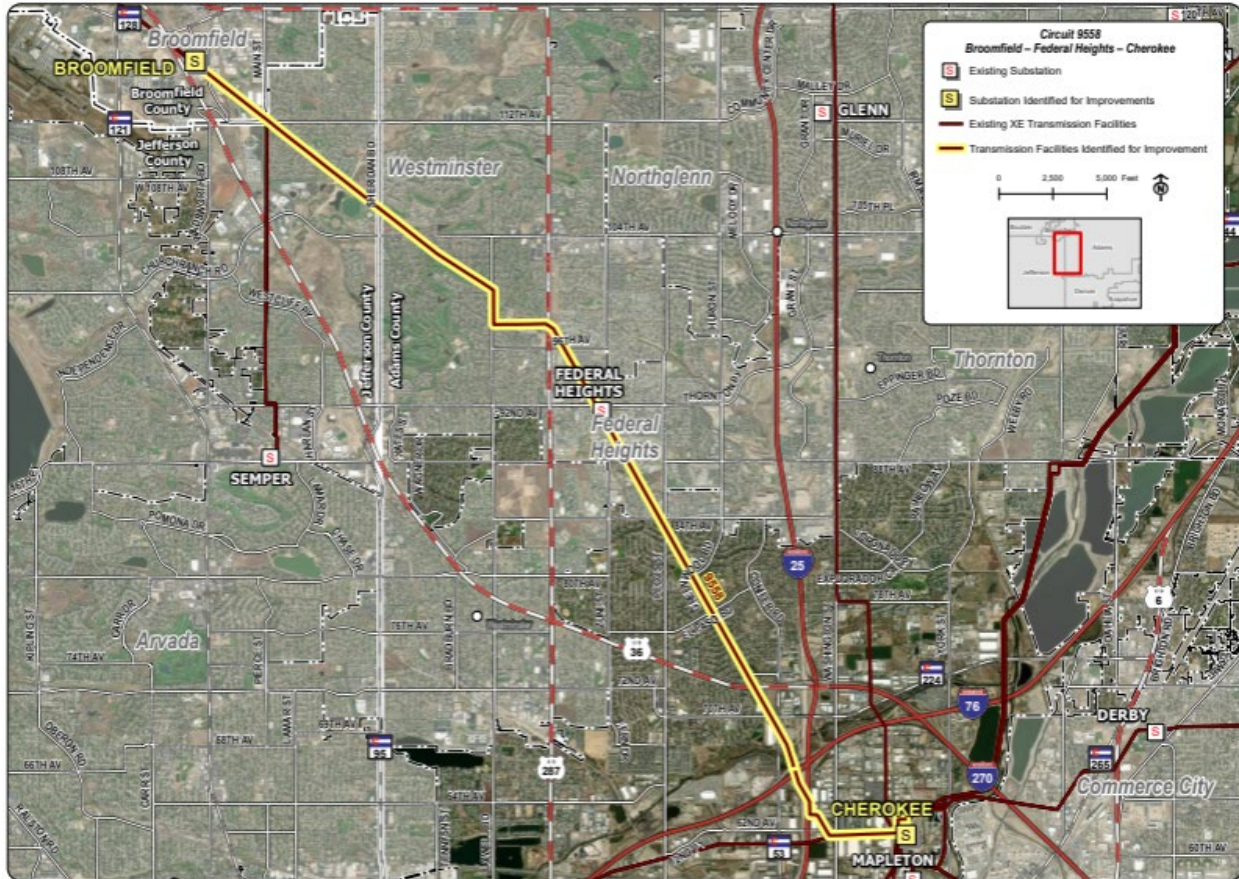
Schedule:

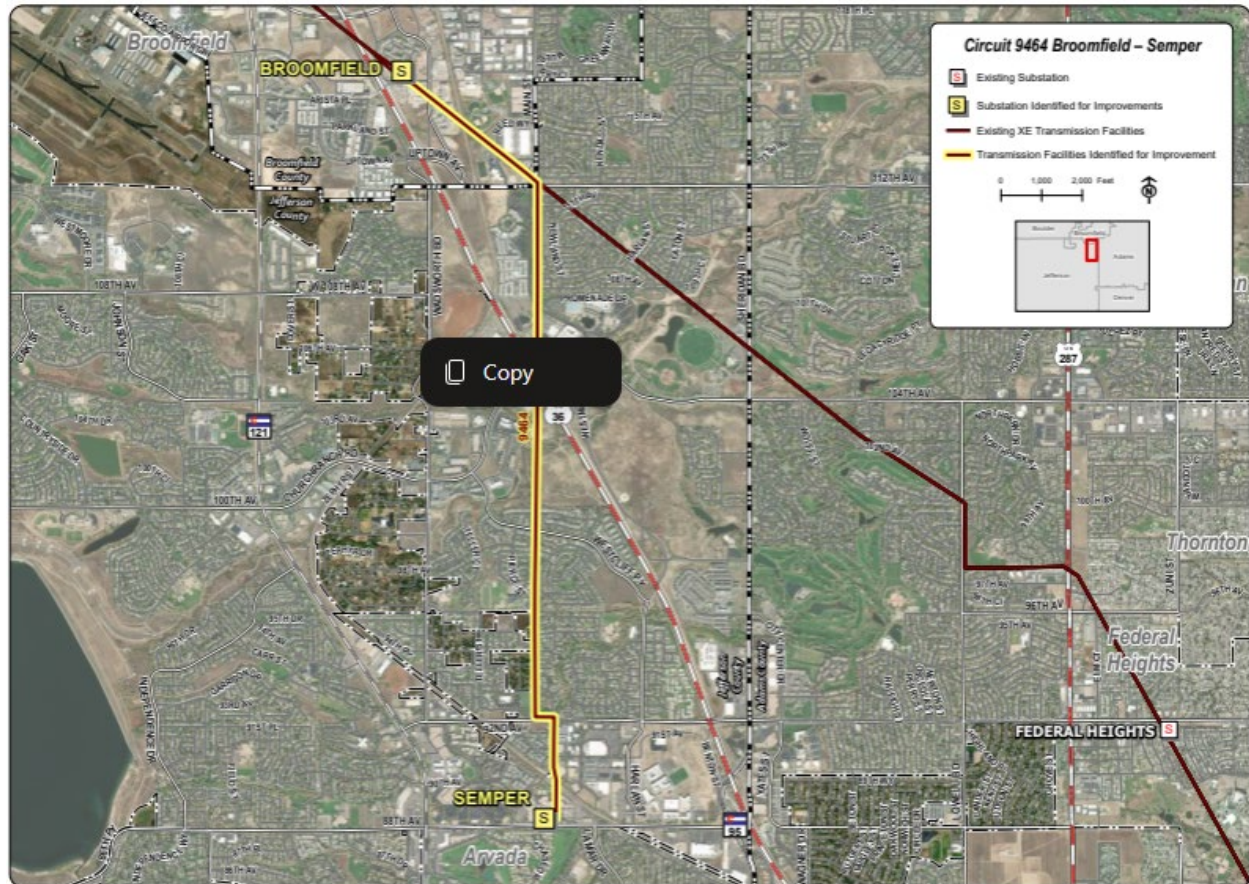
Construction Date:	2028
In-Service Date:	2029
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

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 Website:







Circuit 9332: Arapahoe - Air Liquide Tap - South - Gray Street Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

The circuit is rated at 600 amps while the conductor on this circuit is rated at 798 amps. The circuit cannot be used to its maximum conductor rating due to the 600-amp switches in the substations. To increase the circuit rating upgrades include replacing the limiting switches in the 115 kV substations along the circuit to allow for the circuit to be operated at full 798-amp rating. Other alternatives were evaluated but none were superior to this upgrade due to it being the most cost-effective solution.

Type of Project: Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 115 kV

Facility Rating: 798 amps

Point of Origin/Location: Arapahoe Substation

Point of Termination: Gray Street Substation

Intermediate Points: Air Liquide Tap, South Substations

Length of Line (Miles): N/A

Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.

Case Studied: 2025HS, 2026HS, 2027HS, 2028HS

BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)
 N/A Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): Costs of this project are included within the South Substation Upgrade and Circuit 9335 Upgrade projects.

Schedule:

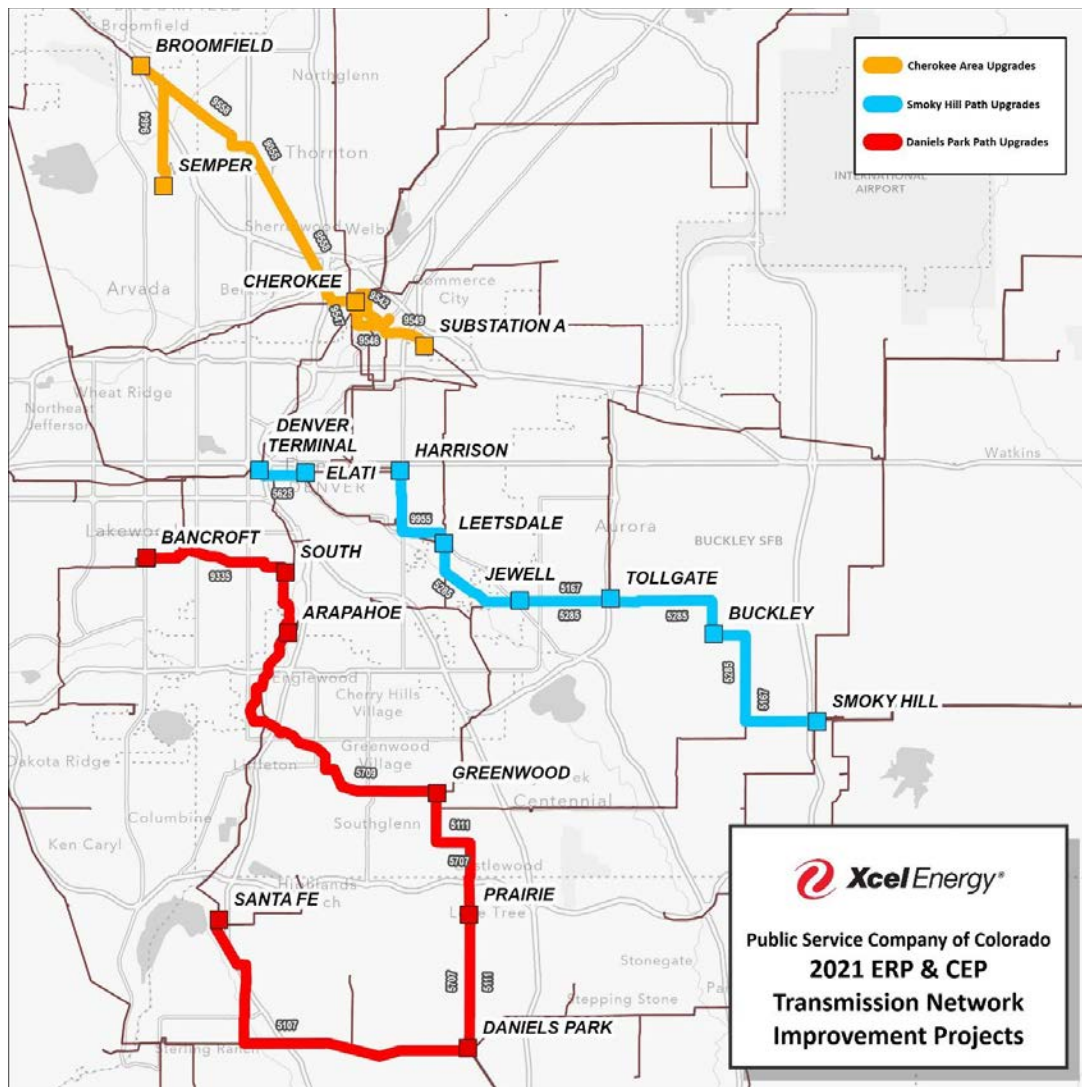
Construction Date: Construction schedule included within the South Substation Upgrade and Circuit 9335 Upgrade projects.

In-Service Date: 2030

Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

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 Phone:
 Website:



Circuit 9335: Arapahoe – South Tap – Bancroft Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

This upgrade includes rebuilding the circuit at a rating of 1200 amps to alleviate overloads between the Arapahoe and South Substations under a variety of dispatch scenarios. Reconductoring this circuit was not deemed viable due to the age and condition of the existing towers. Adding an additional circuit along this path was not preferred because the overloads were mitigated by upgrading the circuit. Other alternatives like energy storage and dynamic line ratings were evaluated but not preferred because the technology was not deemed capable of serving as an alternative for this upgrade.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	115 kV
Facility Rating:	1200 A
Point of Origin/Location:	Arapahoe Substation
Point of Termination:	Bancroft Substation
Intermediate Points:	South Tap Substation
Length of Line (Miles):	6.8
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

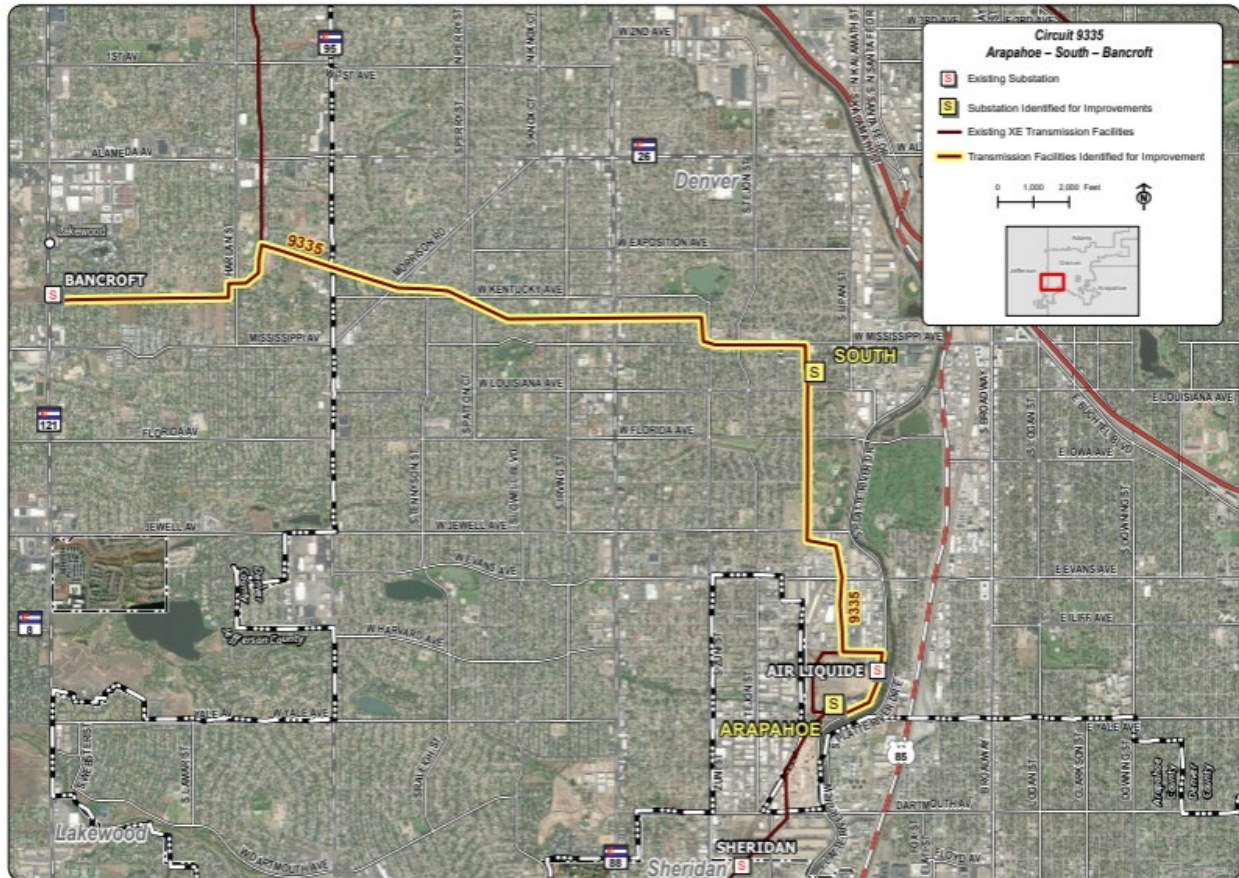
Estimated Cost (\$ millions): \$37.5

Schedule:

Construction Date:	2029
In-Service Date:	2029
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com
 Phone:
 Website:



Circuit 9542: Cherokee - New Substation A

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: This upgrade includes upgrading the line between the Cherokee Substation and the new 115 kV New Substation A from 770 A to 1600 A making the new rating sufficient for the system under multiple N-1 contingencies to move power between the Cherokee North and South buses, thus mitigating overloading other elements in the system. Public Service considered other alternatives but they all would require new greenfield transmission lines and additional re-configuration of the downtown 115 kV lines.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	115 kV
Facility Rating:	1600 A
Point of Origin/Location:	Cherokee Substation
Point of Termination:	New Substation A
Intermediate Points:	N/A
Length of Line (Miles):	5.85
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$167.7

Schedule:

Construction Date:	2029
In-Service Date:	2030
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Circuit 9546: Cherokee - Mapleton - New Substation A Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: This upgrade includes upgrading the line between Cherokee to Mapleton and the new 115 kV switching station from 799 A to 1600 A making the new rating sufficient for the system under multiple N-1 contingencies to move power between the Cherokee North and South buses, thus mitigating other overloads on the system. Public Service considered other alternatives, but they would have required new greenfield transmission lines and additional re-configuration of the downtown 115 kV lines.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 115 kV

Facility Rating: 1600 A

Point of Origin/Location: Cherokee Substation

Point of Termination: New Substation A

Intermediate Points: Mapleton

Length of Line (Miles): 3

Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.

Case Studied: 2025HS, 2026HS, 2027HS, 2028HS

BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)
 N/A Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$78.5

Schedule:

Construction Date: 2029

In-Service Date: 2030

Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Circuit 9549: Cherokee - Conoco - New Substation A Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: This upgrade includes uprating the line between the new 115 kV switching station and the Conoco South from 799 amps to 1600 amps making the new rating sufficient for the system under multiple N-1 contingencies to move power between the Cherokee North and South buses, thus mitigating other overloads on the other elements of the system. Public Service considered other alternatives, but they would have required new greenfield transmission lines and additional re-configuration of the downtown 115 kV lines.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	115 kV
Facility Rating:	1600 A
Point of Origin/Location:	Cherokee Substation
Point of Termination:	New Substation A
Intermediate Points:	Conoco Substation
Length of Line (Miles):	3.7
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$15.8

Schedule:

Construction Date:	2029
In-Service Date:	2030
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Circuit 9955: Leetsdale – Harrison Uprate

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: With increased imports flowing across the 230 kV system toward the center of the Denver Metro area, the 115 kV Leetsdale to Harrison Circuit 9955 experiences overloads across a variety of dispatch scenarios. To address the overloads, Public Service proposes rebuilding this line from its current 708 A rating to 1900 A. Energy storage is not a viable alternative to this upgrade given that limited operation durations are not capable of fully mitigating N-1 overloads. Additional alternatives were considered but all required new greenfield transmission line expansion along with re-configuration of the 115 kV lines in downtown Denver.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	115 kV
Facility Rating:	1900 A
Point of Origin/Location:	Leetsdale Substation
Point of Termination:	Harrison Substation
Intermediate Points:	N/A
Length of Line (Miles):	3.3
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$124.3

Schedule:

Construction Date:	2030
In-Service Date:	2031
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Colorado's Power Pathway

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Build approximately 550 miles of new 345 kV double circuit transmission lines, expand four existing substations, and construct three new substations to connect Front Range load centers to renewable resource rich areas in northeastern, eastern, and southeastern Colorado in anticipation of clean energy resources that Public Service will acquire through the 2021 ERP & CEP.

Type of Project: Transmission Line and Substations

Project Drivers: Generation, reliability

Development Status: Under Construction

Voltage Class: 345 kV

Facility Rating: 1725 MVA per circuit

Point of Origin/Location: Fort Saint Vrain Substation

Point of Termination: Harvest Mile Substation

Intermediate Points: Canal Crossing Substation, Pawnee Substation, Goose Creek Substation, May Valley Substation, Sandstone Substation, Tundra Substation

Length of Line (Miles): 550

Planning Study Status: 80x30 Task Force Phase I Transmission Report completed by CCPG on 2/24/2021, available at: https://www.rmao.com/public/wtpp/Operating_Studies/02_24_21_80x30_Task%20Force_Phase_I_Transmission_Report.pdf.

Case Studied: 2030HS1

BAA Peak Summer/Winter Demand (MW): 10,273 Summer
N/A Winter

Study Generation Assumptions: Benchmark generation tables are available as Appendix A to the Phase I Transmission Report for the CCPG 80x30 Task Force, linked above. In addition to existing or planned generation reflected in the benchmark model, the Pathway Project was studied with 3000 MW of new generic renewable dispatch and 3000 MW of existing renewable dispatch located in ERZs 1, 2, 3, and 5.

Estimated Cost (\$ millions): \$1,693 (all segments)

Schedule:

Construction Date: 2023

In-Service Date: Segments 2 and 3: 2025

Segment 1: 2026

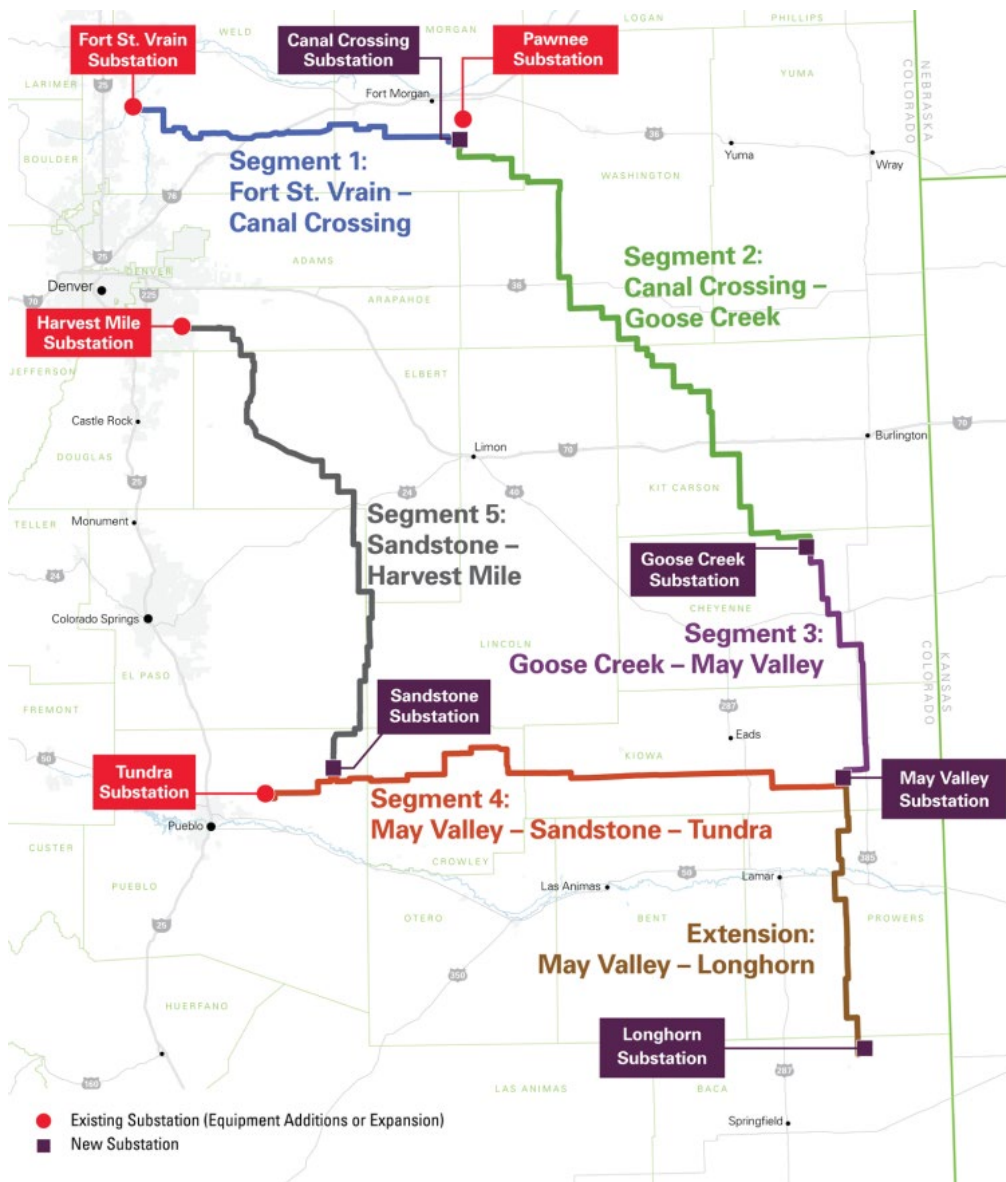
Segments 4 and 5: 2027

Regulatory Info:

CPCN for Colorado's Power Pathway Project granted by Decision No. C22-0270, Proceeding No. 21A-0096E. CPCN for Sandstone Switching Station granted by Decision No. R24-0739, Proceeding No. 24A-0131E

Contact Information:

Email: ColoradosPowerPathway@XcelEnergy.com
 Phone: 855-858-9037
 Website: <https://www.coloradospowerpathway.com/>



Colorado's Power Pathway May Valley – Longhorn Extension

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Construct approximately 90 miles of new double-circuit 345 kV transmission lines and a new substation in southeastern Colorado to connect renewable resources in far southeastern Colorado to the Colorado's Power Pathway Project.

Type of Project: Transmission Line and Substations

Project Drivers: Generation

Development Status: Planned

Voltage Class: 345 kV

Facility Rating: 1725 MVA

Point of Origin/Location: May Valley Substation

Point of Termination: Longhorn Substation

Intermediate Points: N/A

Length of Line (Miles): 90

Planning Study Status: 80x30 Task Force Phase I Transmission Report completed by CCPG on 2/24/2021, available at: https://www.rmao.com/public/wtpp/Operating_Studies/02_24_21_80x30_Task%20Force_Phase_I_Transmission_Report.pdf.

Case Studied: 2030HS1

BAA Peak Summer/Winter Demand (MW): 10,273 Summer
 N/A Winter

Study Generation Assumptions: Benchmark generation tables are available as Appendix A to the Phase I Transmission Report for the CCPG 80x30 Task Force, linked above. In addition to existing or planned generation reflected in the benchmark model, the Pathway Project was studied with 3000 MW of new generic renewable dispatch and 3000 MW of existing renewable dispatch located in ERZs 1, 2, 3, and 5.

Estimated Cost (\$ millions): TBD

Schedule:

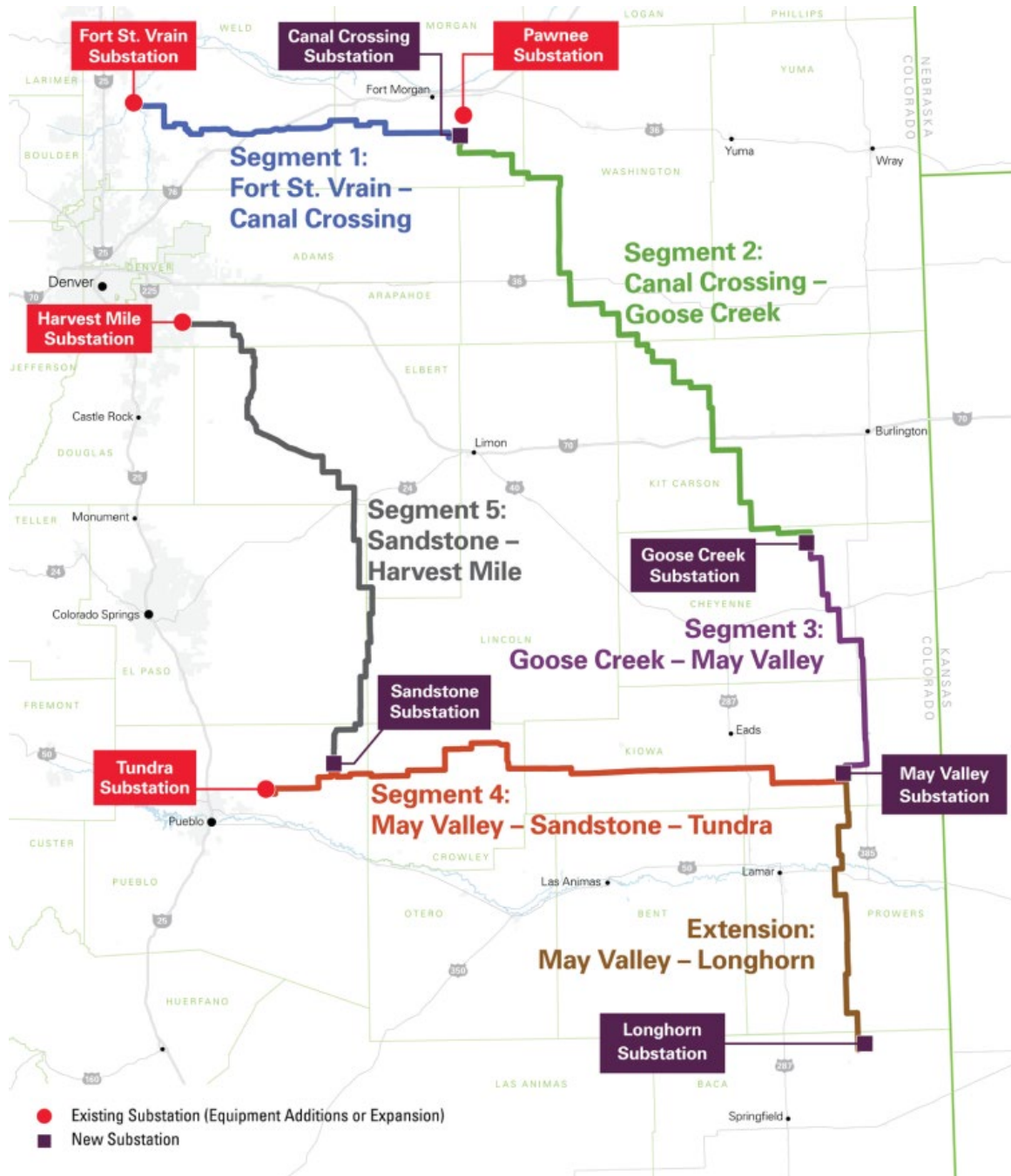
Construction Date: TBD

In-Service Date: TBD

Regulatory Info: Conditional CPCN granted by Decision No. C22-0270, Proceeding No. 21A-0096E. Not included in the approved 2021 ERP & CEP resource portfolio by Decision No. C24-0052, Proceeding No. 21A-0141E. Pending determination in JTS Phase II, Proceeding No. 24A-0442E.

Contact Information:

Email: ColoradosPowerPathway@XcelEnergy.com
 Phone: 855-858-9037
 Website: <https://www.coloradospowerpathway.com/>



Colorado's Power Pathway Voltage Control/Support

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: STATCOM and Synchronous Condenser facilities required to accommodate the resource portfolio selected in Public Service's 2021 ERP & CEP on the Colorado's Power Pathway Project.

Type of Project: Voltage Control and Grid Strength Equipment

Project Drivers: Reliability, Generation

Development Status: Planned

Voltage Class: 345 kV

Facility Rating: Various

Point of Origin/Location: May Valley Substation, Goose Creek Substation

Point of Termination: N/A

Intermediate Points: N/A

Length of Line (Miles): N/A

Planning Study Status: Transmission studies filed with the Commission in Proceeding No. 25A-0409E as Hearing Exhibit 102, Attachments ADW-4, ADW-5, and ADW-6.

Case Studied: 2030HS1

BAA Peak Summer/Winter Demand (MW): 10,273 MW

Study Generation Assumptions: Generation assumptions are described in the CPP Engineering Impact Study filed in Proceeding No. 25A-0409E as Hearing Exhibit 102, Attachment ADW-4.

Estimated Cost (\$ millions): \$350.8

Schedule:

Construction Date: 2025

In-Service Date: 2027

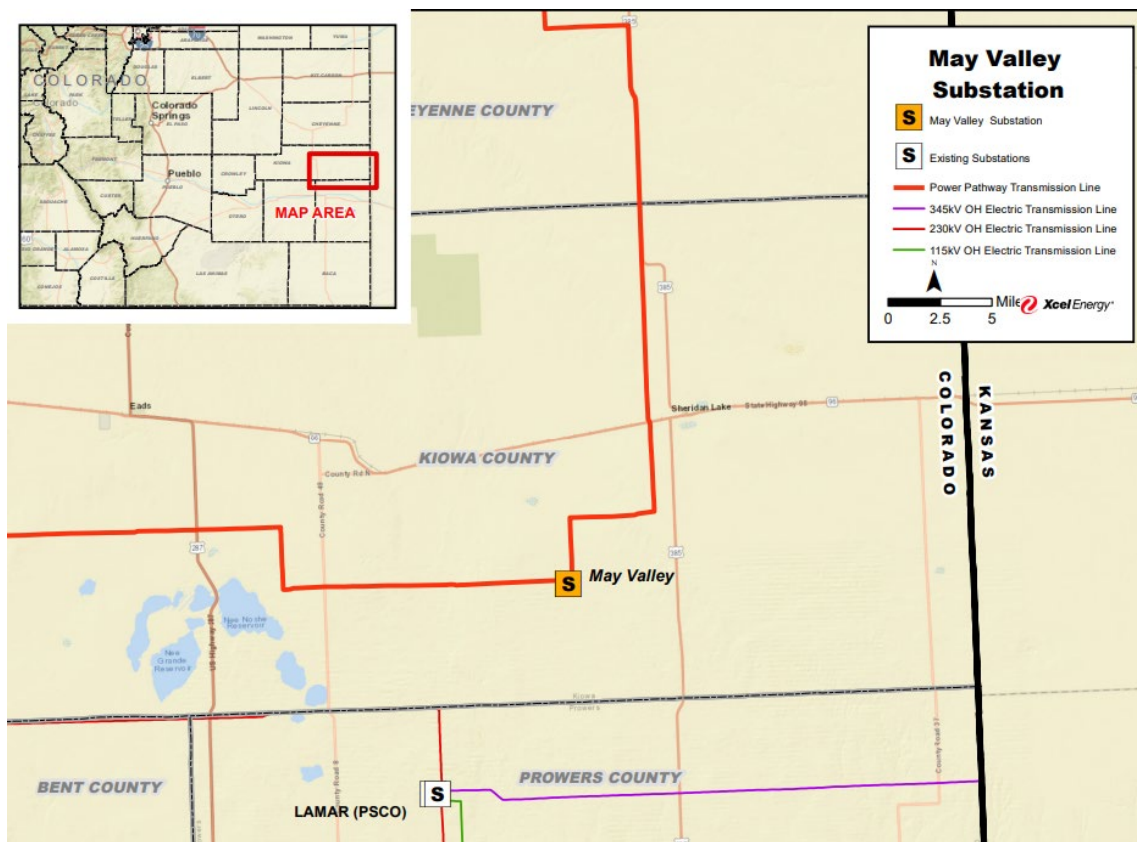
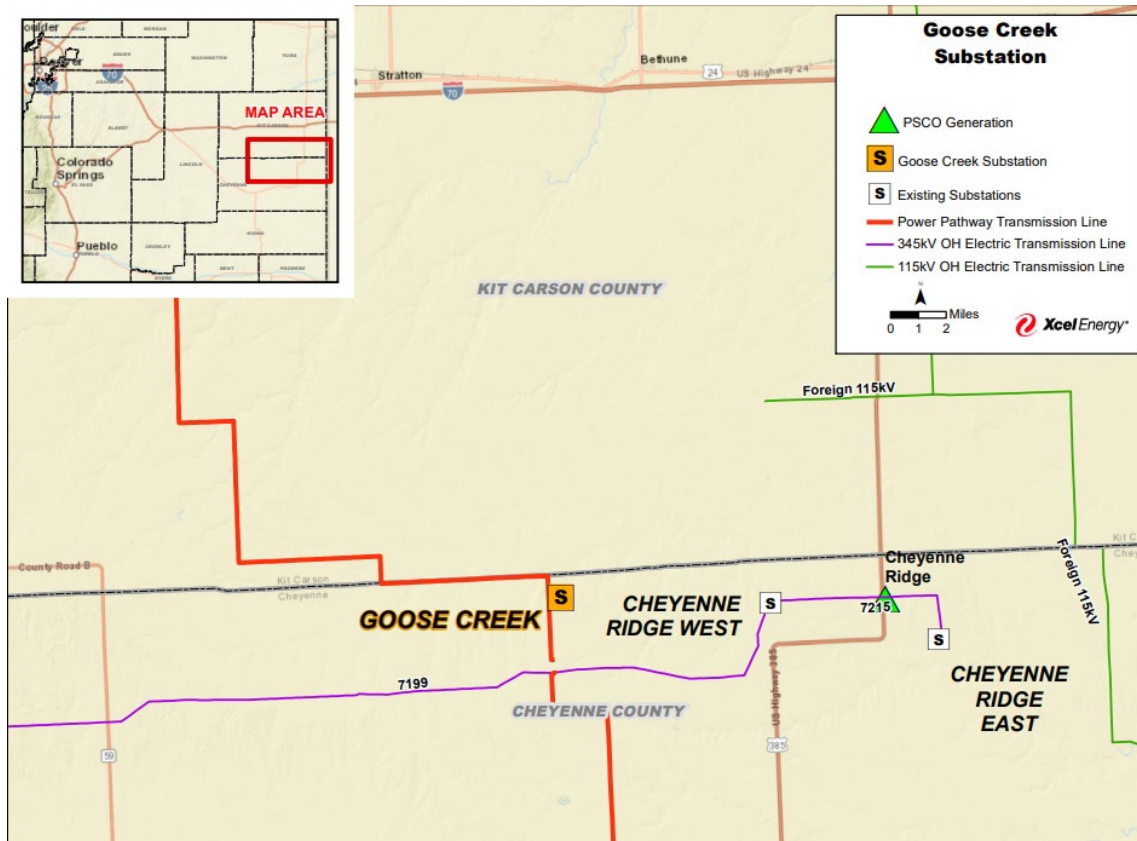
Regulatory Info: CPCN pending in Proceeding No. 25A-0409E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Colorado Springs Utilities Unintended Flow Mitigation Project

Project Sponsor: Public Service Company of Colorado

Additional Project Participants: Colorado Springs Utilities (“CSU”)

Project Description and Purpose:

Public Service and CSU have reached mutual agreement on a joint project between the two utilities to resolve the inadvertent power flow issue on the CSU transmission system; consistent with the joint project identified in the CCPG Douglas Elbert El Paso (“DEEP”) study as the recommended long-term solution. Under this agreement, CSU will take on all engineering and construction responsibility associated with the project, and Public Service will contribute funding for the project. Public Service will have an ownership share in the new facilities commensurate with its portion of the capital costs associated with construction. More specifically, CSU will (1) install a series reactor at its Flying Horse 115 kV substation, and (2) tap CSU’s Fuller – Cottonwood 230 kV line via the CSU Briargate Substation and add a 230/115 kV transformer. Public Service will have partial funding responsibility (an up-front capital contribution up to \$12 million and ongoing O&M responsibility commensurate with its ownership share), while CSU will engineer, construct, operate, and maintain the facilities. The series reactor changes the impedance of the line and reroutes power from congested facilities and may be considered an application of ATT.

Type of Project: Substations

Project Drivers: Reliability, load-serving, generation, and import/export capabilities

Development Status: Conceptual

Voltage Class: 115 kV

Facility Rating: N/A

Point of Origin/Location: Flying Horse Substation

Point of Termination: N/A

Intermediate Points: N/A

Length of Line (Miles): N/A

Planning Study Status: This project was studied in a coordinated manner through the CCPG DEEP Subcommittee, but the Subcommittee did not publish a formal study report documenting the assumptions and analysis. DEEP’s analysis and preliminary conclusions are summarized in a presentation available here: <https://doc.westconnect.com/Documents.aspx?NID=18280>. Alternatives analyzed by the DEEP Subcommittee are also described in Public Service’s 2021 Annual Rule 3206 Report in Proceeding No. 21M-0005E.

Case Studied: N/A

BAA Peak Summer/Winter Demand (MW): N/A

Study Generation Assumptions: Generation assumptions included heavy south – north flow stress as described in the DEEP presentation linked above.

Estimated Cost (\$ millions): \$12.4

Schedule:

Construction Date: 2021

In-Service Date: 2024

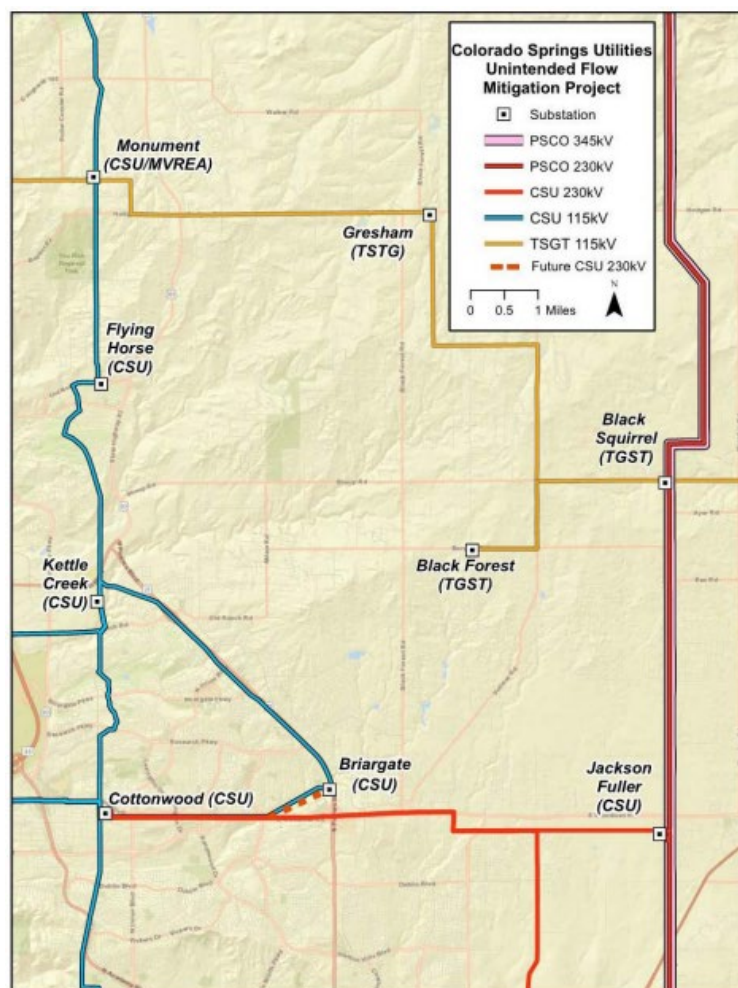
Regulatory Info: No CPCN required by Decision No. C21-0437 in Proceeding No. 21M-0005E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Daniels Park Substation Upgrades

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

The Daniels Park Substation is one of the primary import points for the Denver Metro area and with additional flows through this substation if one of the existing 345/230 kV transformers were lost there would be overloads to the remaining transformers. Public Service's analysis indicates that the addition of a fourth 345/230 kV transformer to the Daniels Park Substation would mitigate potential overloads. Energy storage was considered as an alternative, but the system would require an infeasible amount of storage to mitigate the overloads. Phase-shifting transformers were also considered as an alternative, but they were not viable due to the amount of power flowing through the southern metro transmission constraint.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 345/230 kV

Facility Rating: 560 MVA

Point of Origin/Location: Daniels Park Substation

Point of Termination: N/A

Intermediate Points: N/A

Length of Line (Miles): N/A

Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.

Case Studied: 2025HS, 2026HS, 2027HS, 2028HS

BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)
 N/A Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$24.3

Schedule:

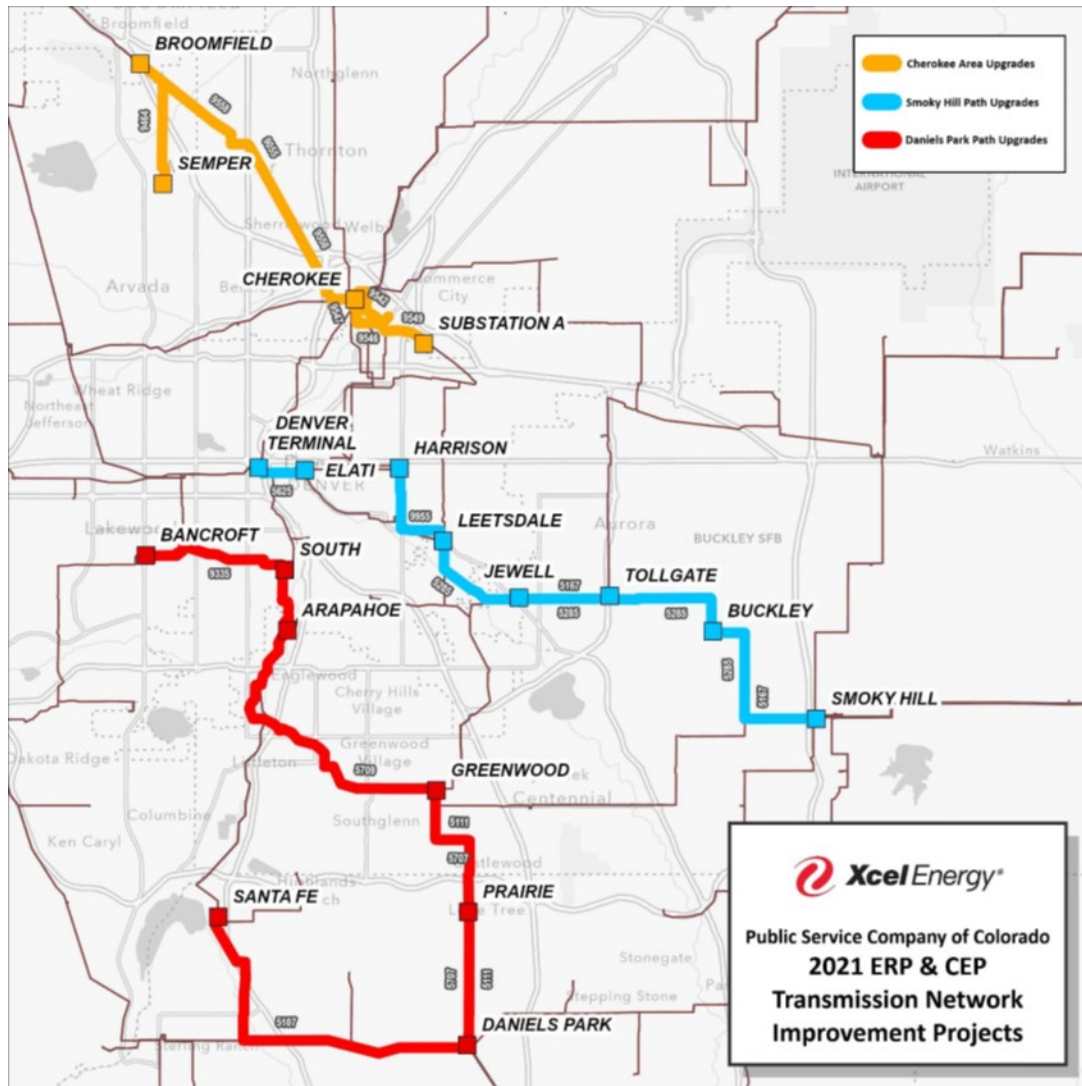
Construction Date: 2028

In-Service Date: 2029

Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com
 Phone:
 Website:



Distribution Planning Substations

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Construct new distribution substations to accommodate load growth on Public Service's distribution system, including:

Substation	Approximate Location
Gray Street Distribution Substation	Lakewood
Dove Valley Distribution Substation	Arapahoe County
Superior Distribution Substation	Superior
Engelmann Spruce Distribution Substation	Adams County
Berkley Distribution Substation	Adams County/Jefferson County
Lowry Distribution Substation	Denver/Arapahoe County
North Sheridan Distribution Substation	Denver
Cherry Knolls Distribution Substation	Arapahoe County/Denver
Columbine Valley Distribution Substation	Arapahoe County
Welby Distribution Substation	Denver
Cherry Creek Distribution Substation	Denver
Lucerne Distribution Substation	Weld County
Wellington Distribution Substation	Wellington
Wilson Ranch Distribution Substation	Fort Collins
Central Park Boulevard Distribution Substation	Denver
Ball Arena Distribution Substation	Denver
River Mile Distribution Substation	Denver
Leyden Distribution Substation	Jefferson County
Sampson Gulch Distribution Substation	Arapahoe County
Daniels Park Distribution Substation	Douglas County
Denver International Airport (DEN) South	Denver
Denver International Airport (DEN) North	Denver
Antonito Distribution Substation	Antonito

Type of Project:	Substations
Project Drivers:	Reliability, load serving
Development Status:	Various
Voltage Class:	Various
Facility Rating:	Various
Point of Origin/Location:	Various
Point of Termination:	Various
Intermediate Points:	Various
Length of Line (Miles):	Various
Planning Study Status:	Ongoing
Case Studied:	TBD
BAA Peak Summer/Winter Demand (MW):	TBD
Study Generation Assumptions:	TBD

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date:	TBD
In-Service Date:	TBD
Regulatory Info:	TBD

Contact Information:

Email:	PSCoPlanning@xcelenergy.com
Phone:	
Website:	

No map available at this time.

Gateway South – Hayden Transmission

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Public Service performed the “Gateway South-Northwest Colorado 500 kV Interconnection Project - Interconnection Reliability Study.” The purpose of the study was to assess the reliability impact of the construction of an 80-mile 500 kV transmission line between Hayden Substation and a new “Little Snake Substation” on the Aeolis-Clover 500 kV transmission line. The study also considered the reliability impact of the construction of a 65-mile 500 kV transmission line between the Craig Substation and the “Little Snake Substation.” The study attempted to understand how generation dispatch between the Public Service area in Eastern Colorado and the PacifiCorp East (“PACE”) area in Wyoming impacts the amount of flow possible on these two alternative lines.

Type of Project: Transmission Line

Project Drivers: Import/Export Capability

Development Status: Conceptual

Voltage Class: 500 kV

Facility Rating: TBD

Point of Origin/Location: Hayden Substation or Craig Substation

Point of Termination: Little Snake Substation

Intermediate Points: TBD

Length of Line (Miles): 80 (Hayden alternative), 50 (Craig alternative)

Planning Study Status: Planning study report filed confidentially in Proceeding No. 24A-0442E as Hearing Exhibit 101, Attachment JWI-2, Volume 2 Technical Appendix, Appendix K – Gateway 500 kV Interconnection Study.

Case Studied: 2032HS, 2032HW, 2033LS

BAA Peak Summer/Winter Demand (MW): Summer 11,405
 Winter 7,968
 Spring 7,263

Study Generation Assumptions: See planning study report filed in Proceeding No. 24A-0442E.

Estimated Cost (\$ millions): TBD

Schedule:

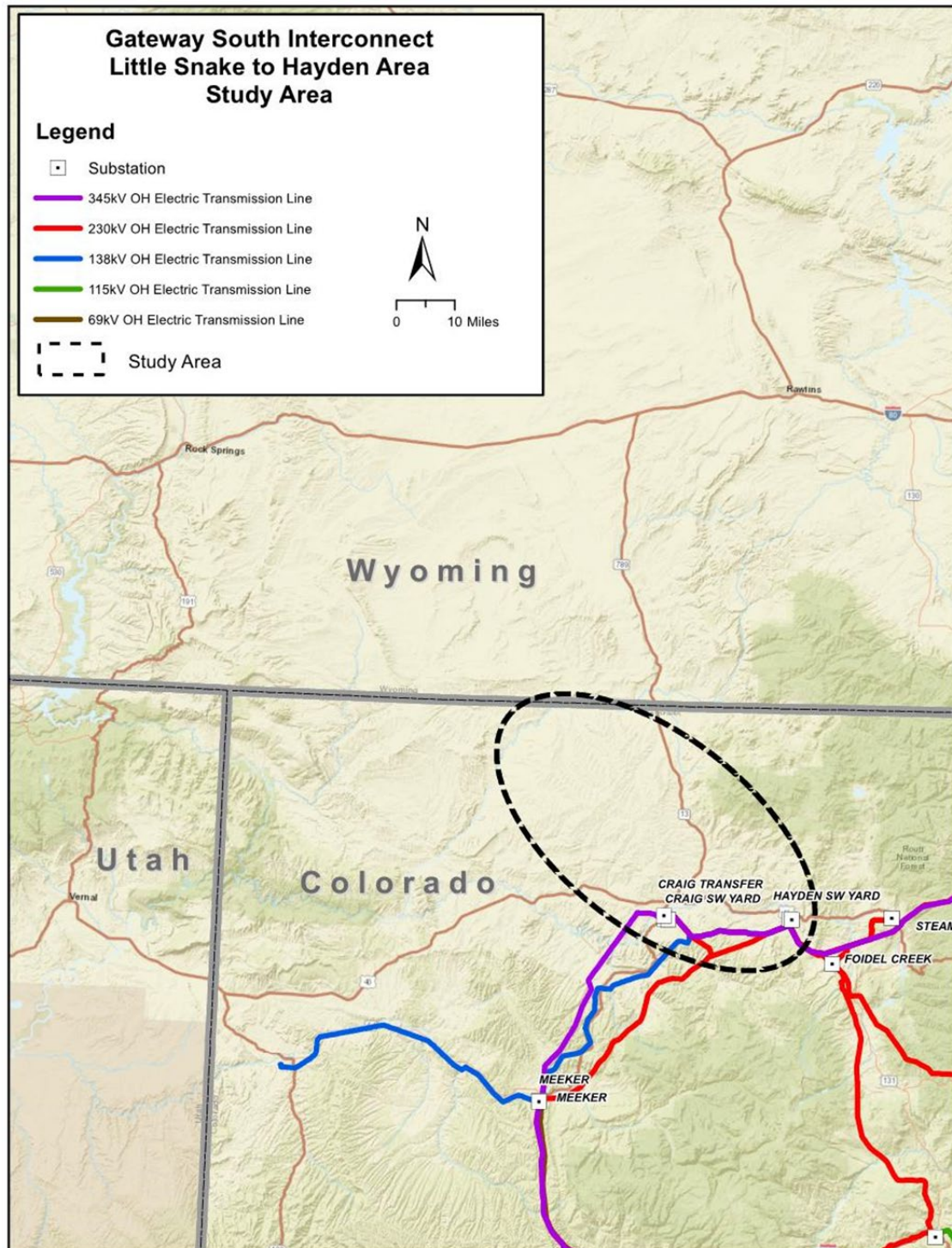
Construction Date: TBD

In-Service Date: TBD

Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com
 Phone:
 Website:



Glenwood – Rifle 115 kV Transmission

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Upgrade the Glenwood Springs – Rifle 69 kV transmission line to 115 kV.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load serving

Development Status: Conceptual

Voltage Class: 115 kV

Facility Rating: 248.6 MVA

Point of Origin/Location: Glenwood Springs Substation

Point of Termination: Rifle Substation

Intermediate Points: Mitchell Creek Substation and New Castle Substation

Length of Line (Miles): 26

Planning Study Status: TBD - Planning study not developed at this time.

Case Studied: TBD

BAA Peak Summer/Winter Demand (MW): TBD

Study Generation Assumptions: TBD

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

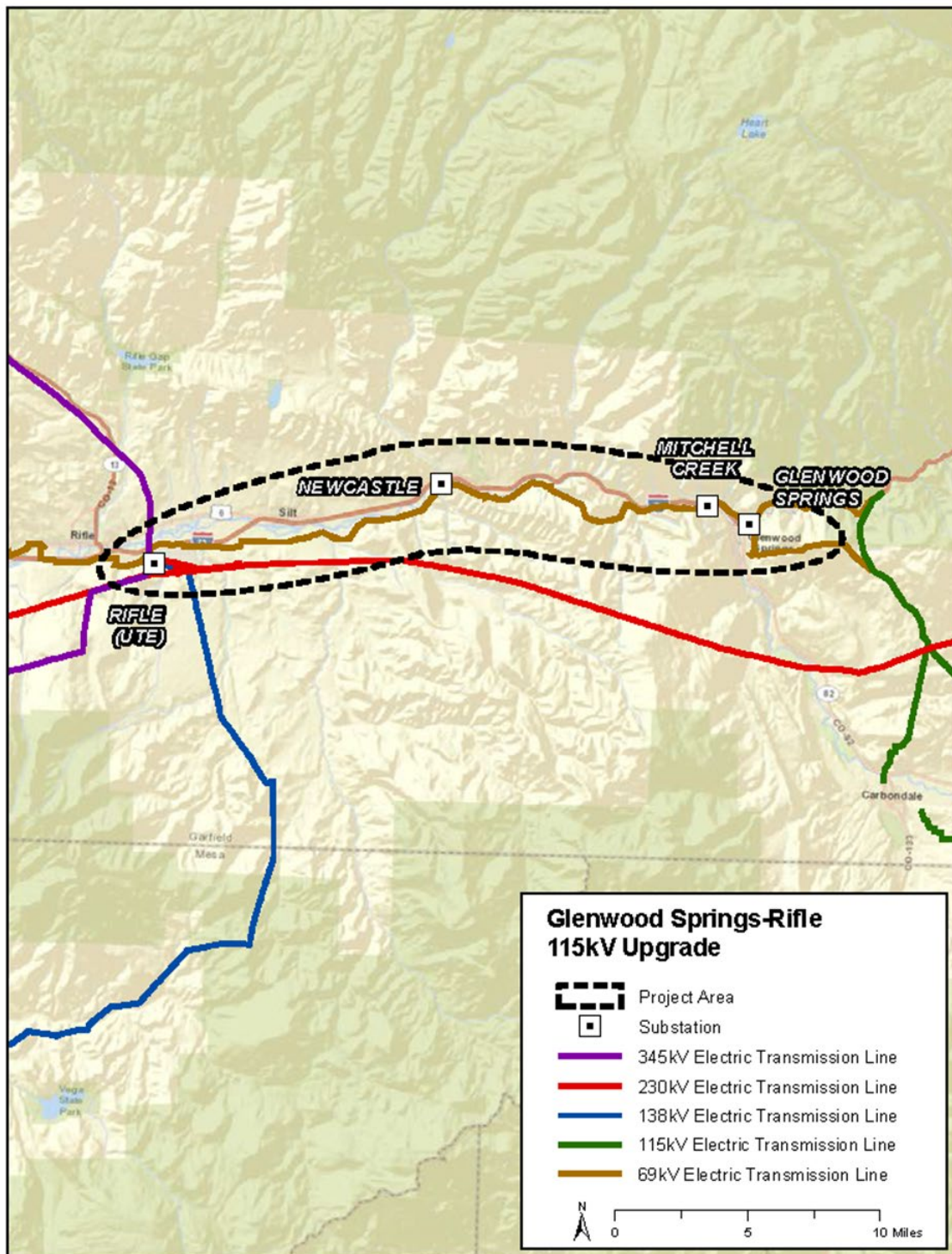
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Greenwood Substation Upgrades

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: This upgrade includes replacing the existing 1215-amp bus tie breaker with a new bus tie breaker rated at 2400 amps due to the increased flows from the south. Public Service evaluated other alternatives, but no alternatives were considered because the overloads can be mitigated through limited scope of directly replacing limiting elements identified within substations.

Type of Project: Transmission Line and Substations
 Project Drivers: Reliability, load-serving
 Development Status: Planned
 Voltage Class: 230 kV
 Facility Rating: 2400 A
 Point of Origin/Location: Greenwood Substation
 Point of Termination: N/A
 Intermediate Points: N/A
 Length of Line (Miles): N/A
 Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
 Case Studied: 2025HS, 2026HS, 2027HS, 2028HS
 BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)
 N/A Winter
 Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$1.2

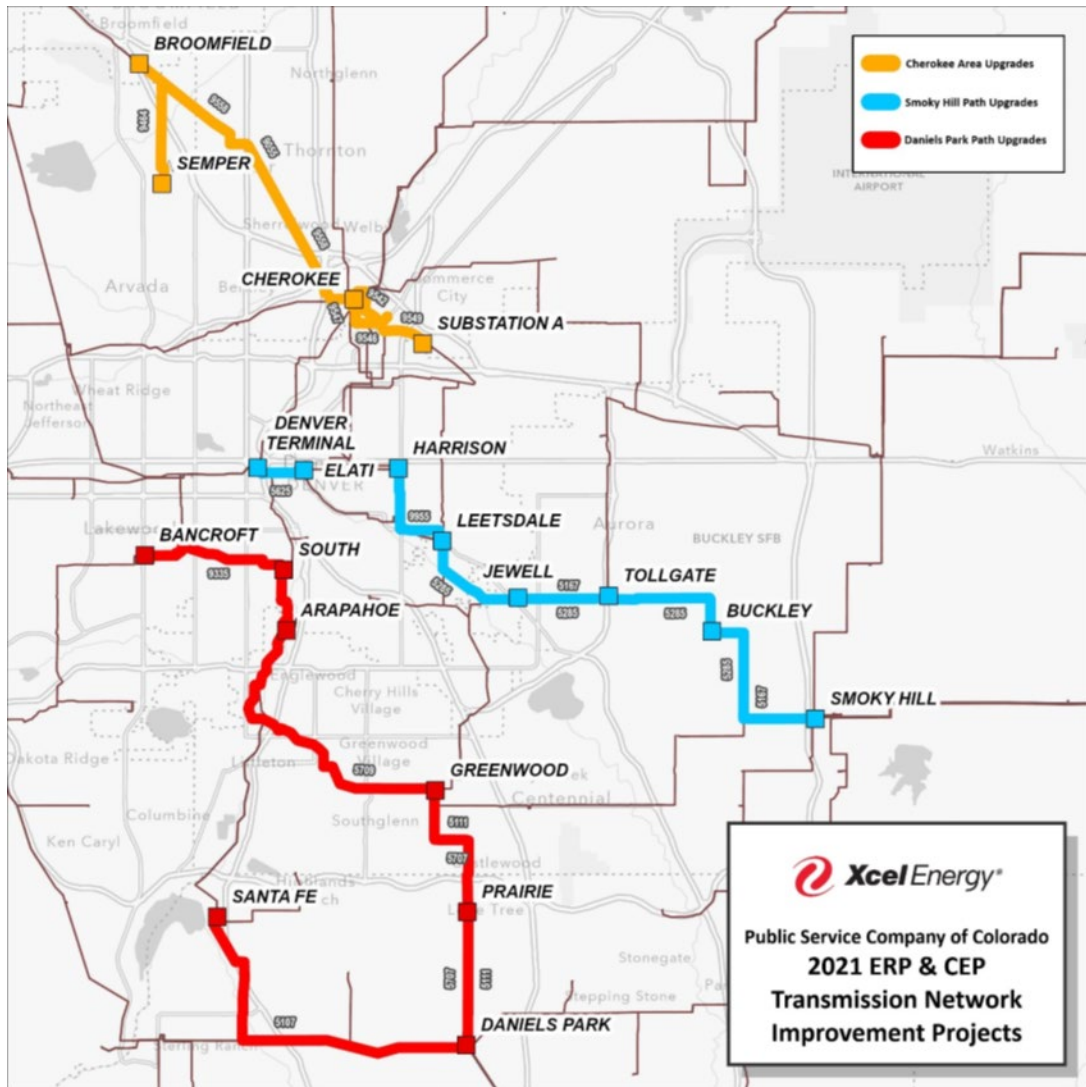
Schedule:

Construction Date: 2027
 In-Service Date: 2028
 Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com
 Phone:

Website:



Kestrel Substation

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

The Kestrel Substation project is a transmission line extension constructed to interconnect a large retail customer that requested transmission-level service from Public Service. Public Service will construct approximately 1.4 miles of double circuit 230 kV transmission from the midpoint of the existing Circuit 5185 transmission line that currently terminates at the Spruce and Chambers Substations, and a new 230 kV transmission switching station located adjacent to the customer's substation.

Type of Project: Transmission Line and Substations

Project Drivers: Load-serving

Development Status: Under Construction

Voltage Class: 230 kV

Facility Rating: 760 MVA

Point of Origin/Location: Circuit 5185

Point of Termination: Kestrel Substation

Intermediate Points: N/A

Length of Line (Miles): 2.8

Planning Study Status: Public Service's transmission planning organization conducted power flow analysis of the addition of the Kestrel Substation to the Public Service transmission system in the planning of the project, however a formal planning study report documenting the assumptions and analysis was not developed. This project is also included in the transmission models for all current and future transmission studies, allowing Public Service to continue to validate the performance of the transmission system with the inclusion of these new facilities.

Case Studied: N/A

BAA Peak Summer/Winter Demand (MW): N/A

Study Generation Assumptions: N/A

Estimated Cost (\$ millions): \$30.9

Schedule:

Construction Date: Under Construction

In-Service Date: 2026

Regulatory Info: CPCN granted by Decision No. C24-0378 in Proceeding No. 23A-0330E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Lamar DC Tie Replacement

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

The existing Lamar DC Tie is being evaluated for replacement due to several subsystems reaching or exceeding their expected useful life. As part of the replacement, Public Service is also evaluating opportunities to expand the capacity of the DC tie to take advantage of greater interregional connections and broader access to energy markets in the Eastern Interconnection.

Type of Project: Substation

Project Drivers: Import/Export Capability

Development Status: Conceptual

Voltage Class: TBD

Facility Rating: TBD

Point of Origin/Location: Lamar Substation

Point of Termination: N/A

Intermediate Points: N/A

Length of Line (Miles): N/A

Planning Study Status: TBD - Planning study not developed at this time; expected to be studied with CCPG and SPP planning region.

Case Studied: TBD

BAA Peak Summer/Winter Demand (MW): TBD

Study Generation Assumptions: TBD

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

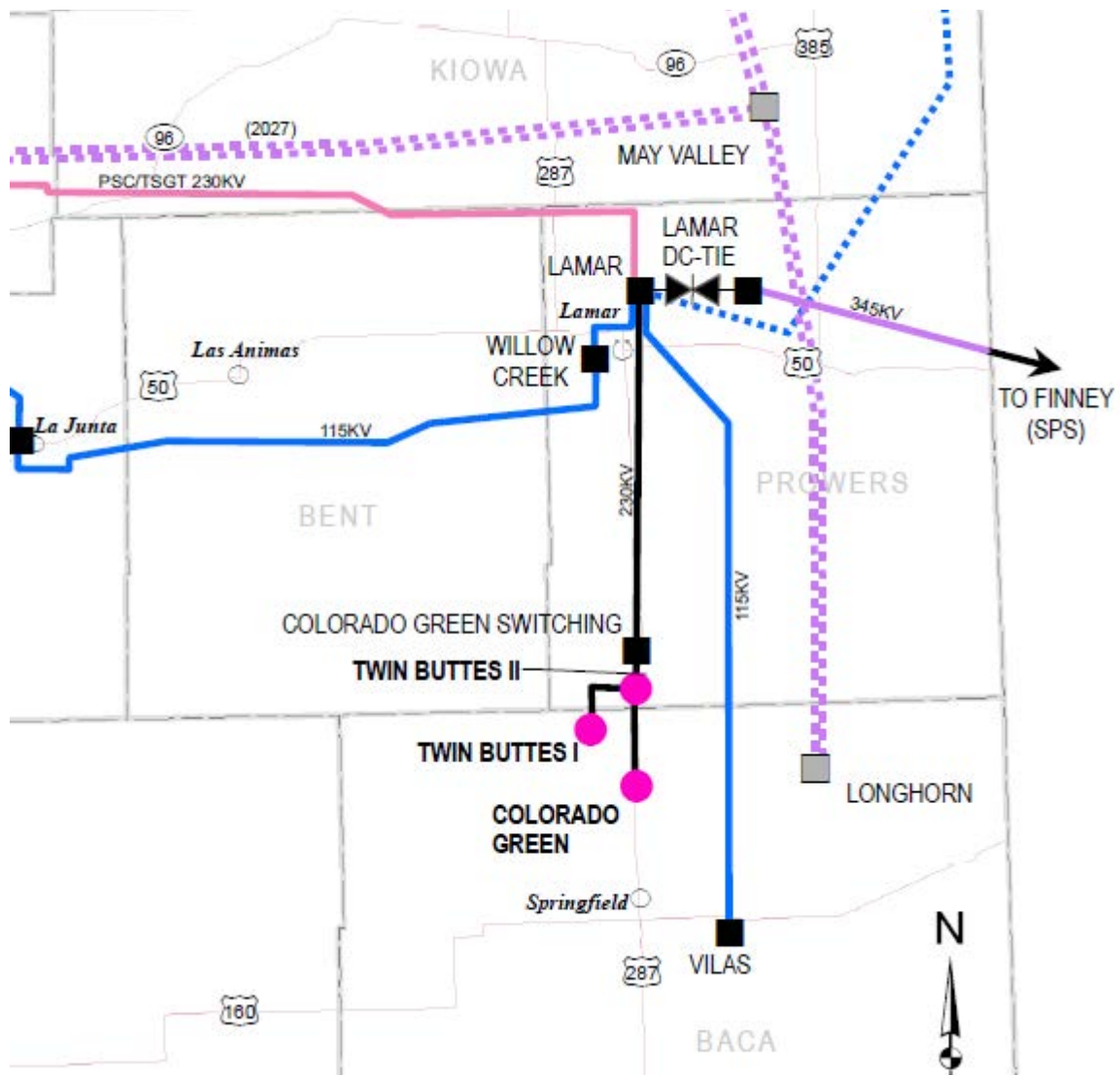
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Metro Water Recovery Substation

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: This project included tapping and looping (approximately 0.2 miles) the existing 115kV overhead line 9548 in-and-out of a new switching station. The transmission taps will be rated at 159.3 MVA to match the rating of the existing circuit. The new switching station is a 115kV four (4) breaker ring switching station constructed by Public Service to provide transmission service to this customer. This installation included remote end line terminal upgrades of Line 9548 at the existing Cherokee and Thornton Substations as well as extending optical ground wire from Cherokee to Line 9548.

Type of Project: Transmission Line and Substations

Project Drivers: Load-serving

Development Status: In Service

Voltage Class: 115 kV

Facility Rating: 159.3 MVA

Point of Origin/Location: Metro Water Recovery Substation

Point of Termination: Line 9548

Intermediate Points: N/A

Length of Line (Miles): 0.2

Planning Study Status: Public Service's transmission planning organization conducted power flow analysis of the addition of the Metro Water Recovery Substation to the Public Service transmission system in the planning of the project, however a formal planning study report documenting the assumptions and analysis was not developed. This project is also included in the transmission models for all current and future transmission studies, allowing Public Service to continue to validate the performance of the transmission system with the inclusion of these new facilities.

Case Studied: N/A

BAA Peak Summer/Winter Demand (MW): N/A

Study Generation Assumptions: N/A

Estimated Cost (\$ millions): \$12.4

Schedule:

Construction Date: 2023

In-Service Date: 2025

Regulatory Info:

CPCN not required by Decision No. C23-0810 in Proceeding No. 23M-0005E.

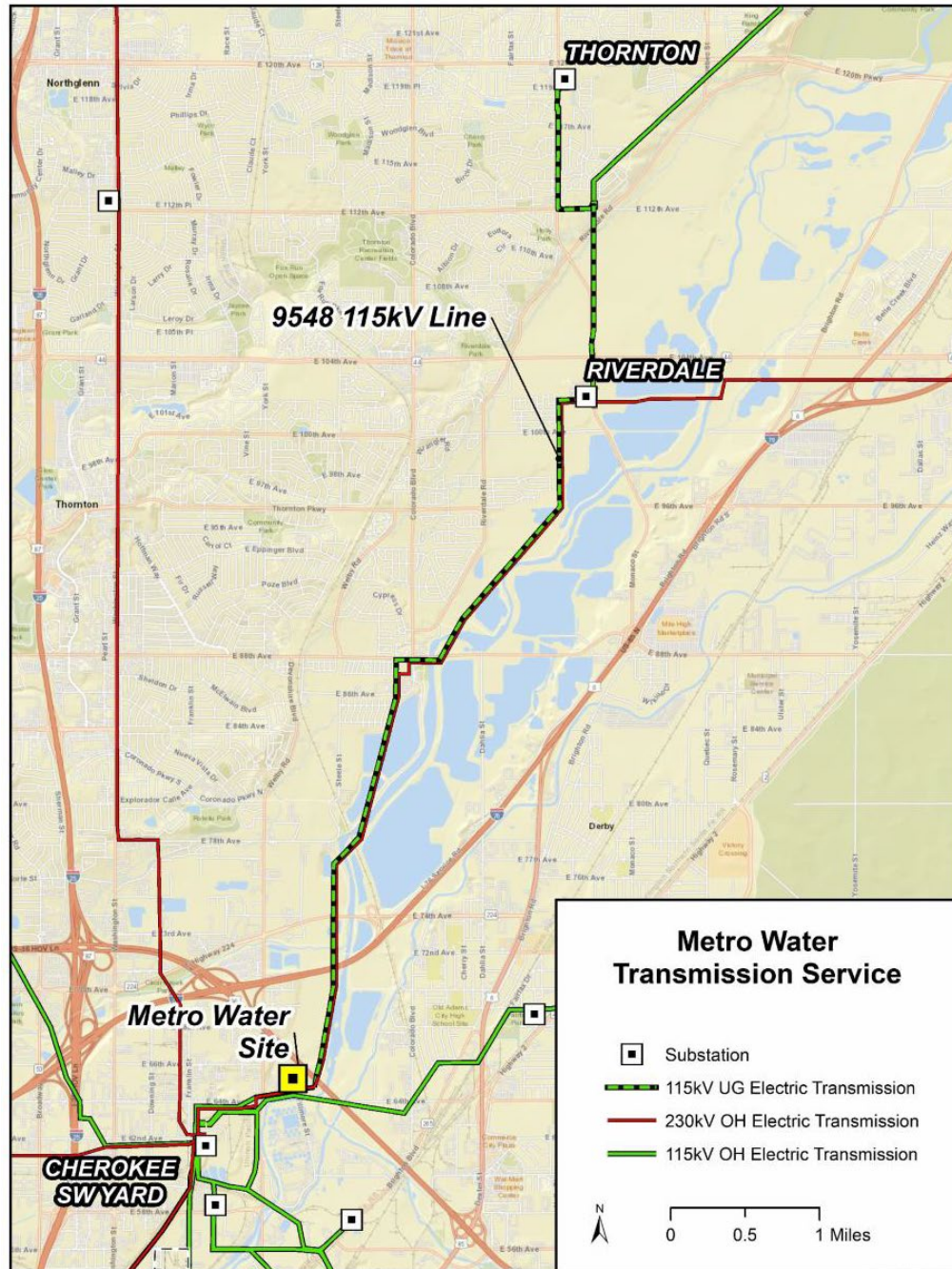
Contact Information:

Email:

PSCoPlanning@xcelenergy.com

Phone:

Website:



New Substation A

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

There are a variety of N-1 outages on lines and transformers around Cherokee that occur under different dispatch scenarios. After consideration for multiple alternatives to the Cherokee bus-tie, a greenfield solution was chosen. This includes the addition of a new 115 kV switching station approximately two miles southeast of the existing Cherokee substation which will include in and out taps of lines 9542, 9546, and 9549. The other alternatives not selected would either not fully mitigate the overloads or were significantly larger and more complex than the chosen alternative.

Type of Project:	Transmission Line and Substations
Project Drivers:	Reliability, load-serving
Development Status:	Planned
Voltage Class:	115 kV
Facility Rating:	2000 A
Point of Origin/Location:	New Substation A
Point of Termination:	N/A
Intermediate Points:	N/A
Length of Line (Miles):	N/A
Planning Study Status:	Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
Case Studied:	2025HS, 2026HS, 2027HS, 2028HS
BAA Peak Summer/Winter Demand (MW):	10,119 Summer (2028) N/A Winter
Study Generation Assumptions:	Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$113.0

Schedule:

Construction Date:	2029
In-Service Date:	2031
Regulatory Info:	CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com
 Phone:
 Website:



New 115 kV Transmission Line: Cherokee - New Substation A

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: To mitigate overloads on the transmission paths in and out of the Cherokee Substation, Public Service will need to add a two-mile new 1600 A rated 115 kV transmission line between the new 115 kV Substation A and Cherokee. Other alternatives were evaluated but were eliminated as they were more expansive and less beneficial than the chosen alternative.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 115 kV

Facility Rating: 1600 A

Point of Origin/Location: Cherokee Substation

Point of Termination: New Substation A

Intermediate Points: N/A

Length of Line (Miles): 3.1

Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.

Case Studied: 2025HS, 2026HS, 2027HS, 2028HS

BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)

N/A Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$4.1

Schedule:

Construction Date: 2029

In-Service Date: 2030

Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Northern Colorado Area Plan Project

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Build approximately 20 miles of new 230/115 kV transmission, two new substations, and upgrades to two existing substations to replace portions of Public Service's existing 44 kV transmission network in Weld County to increase reliability, load-serving capability, and generation interconnection capability in northern Colorado.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load serving, and generation

Development Status: Under Construction

Voltage Class: 230/115 kV

Facility Rating: 220 MVA

Point of Origin/Location: Ault Substation (Western Area Power Administration)

Point of Termination: Cloverly Substation

Intermediate Points: Husky Substation and Collins Street (formerly Graham Creek) Substation

Length of Line (Miles): 20

Planning Study Status: Northern Greeley Area Transmission Plan System Impact Study Report was completed by CCPG Northeast Colorado ("NECO") Subcommittee on 2/3/2017, available at: https://www.rmao.com/public/wtpp/Operating_Studies/02_03_17_Northern_Greeley_Final_Study_Report.pdf

Case Studied: 2026HS2

BAA Peak Summer/Winter Demand (MW): 9,103 Summer
N/A Winter

Study Generation Assumptions: Benchmark generation tables are available as Appendix D to the Northern Greeley Area Transmission Plan System Impact Study Report, linked above.

Estimated Cost (\$ millions): \$125.7

Schedule:

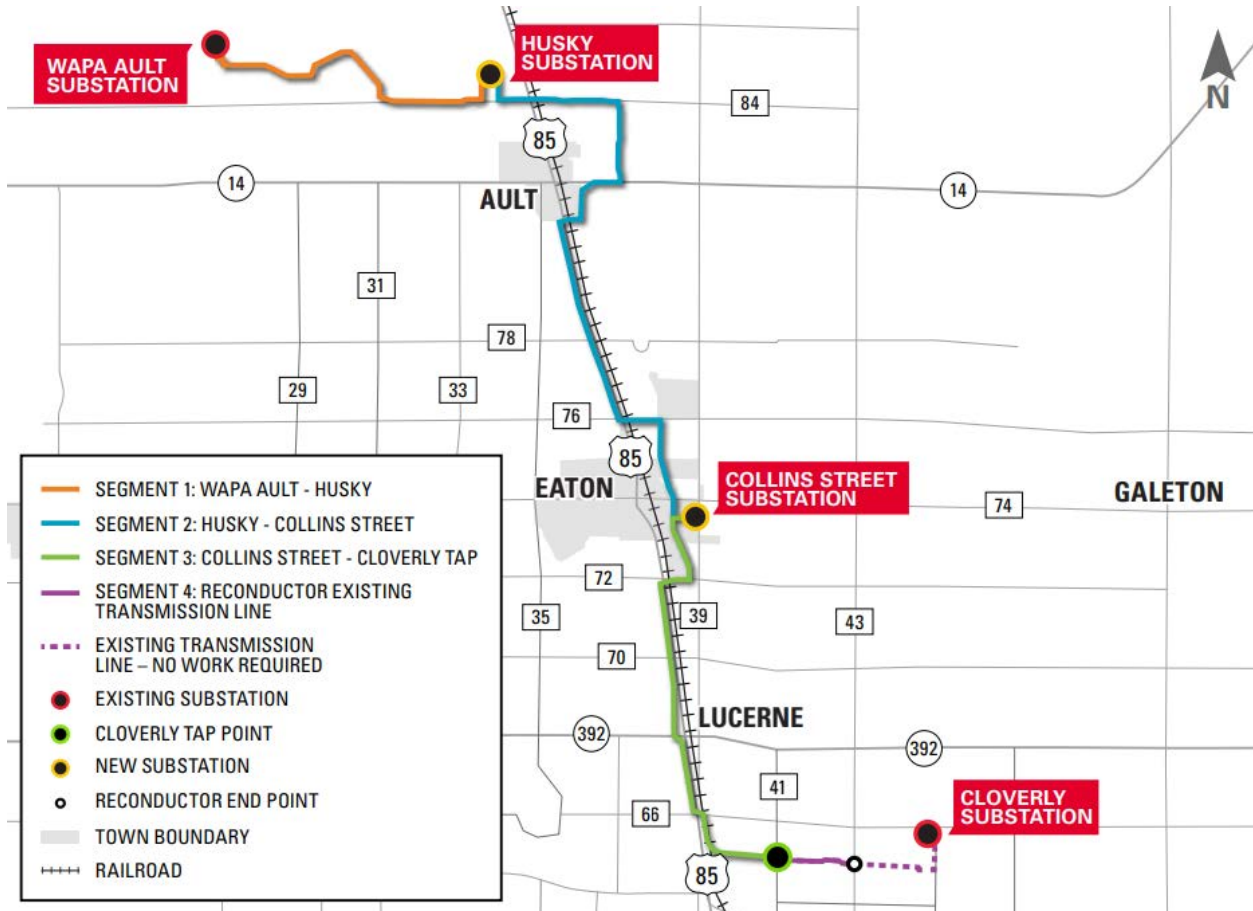
Construction Date: 2023

In-Service Date: 2024

Regulatory Info: CPCN granted by Decision Nos. R18-0153 and C19-0080, Proceeding No. 17A-0146E

Contact Information:

Email: NorthernColorado@xcelenergy.com
 Phone: 888-678-7640
 Website: <https://www.xcelenergynortherncoloradoareaplan.com/>



Northern Colorado Transmission

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Expanding transmission service to the northern border to improve bi-directional transfer capability with neighboring entities.

Type of Project: Transmission Lines

Project Drivers: Import/Export Capability

Development Status: Conceptual

Voltage Class: TBD

Facility Rating: TBD

Point of Origin/Location: TBD

Point of Termination: TBD

Intermediate Points: TBD

Length of Line (Miles): TBD

Planning Study Status: TBD – Planning study not developed at this time; expected to be studied within the CCPG Foothills Subcommittee.

Case Studied: TBD

BAA Peak Summer/Winter Demand (MW): TBD

Study Generation Assumptions: TBD

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

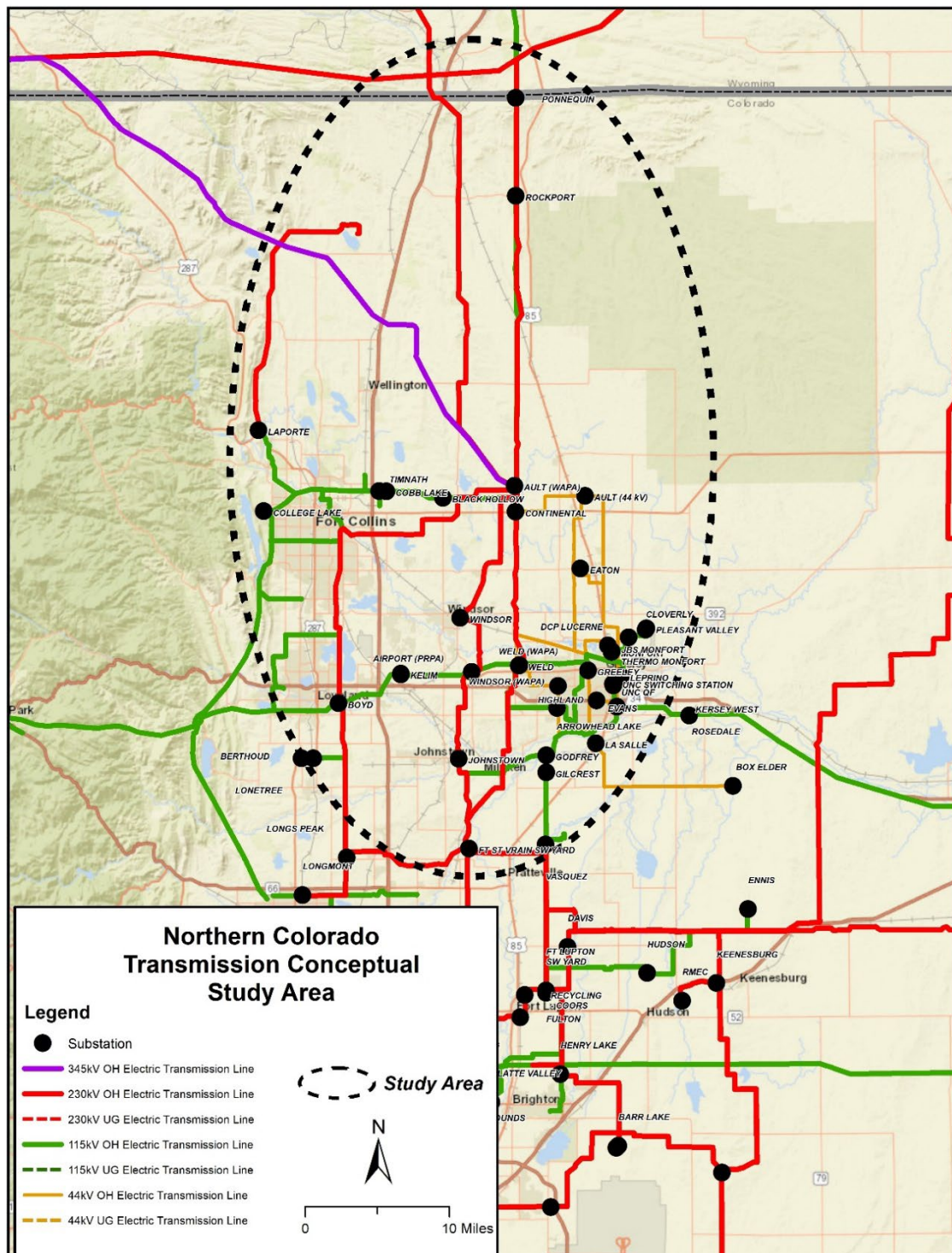
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



PI-2024-06 Generation Interconnection Substation

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

A generation developer has entered into a Provisional Large Generator Interconnection Agreement ("PLGIA") with Public Service to obtain interconnection to Public Service's transmission system. The interconnection request, which was studied as PI-2024-6, requires Public Service to construct a new 345 kV switching station in Crowley County, Colorado that taps one circuit of Segment 4 of the Pathway Project between the May Valley and Sandstone Switching Stations.

Type of Project: Substation

Project Drivers: Generation

Development Status: Planned

Voltage Class: 345 kV

Facility Rating: N/A

Point of Origin/Location: New intermediate substation on Colorado's Power Pathway Segment 4

Point of Termination: N/A

Intermediate Points: N/A

Length of Line (Miles): N/A

Planning Study Status: Provisional Interconnection Study Report completed, available at:
https://www.rmao.com/public/wtpp/Final_Studies/Provisional%20Study%20Report%20for%20PI-2024-6.pdf

Case Studied: 2029HS2a

BAA Peak Summer/Winter: 10,450 Summer

Demand (MW): N/A Winter

Study Generation Assumptions: See Provisional Interconnection Study Report for PI-2024-6 for study generation dispatch assumptions.

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: 2028

Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com



Poder (formerly Stock Show) Distribution Substation

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

This project consists of constructing the new Poder distribution substation in Denver. The Poder Substation, which has previously been identified in Company reporting as DCP Stock Show, includes the installation of a 115/13.8 kV, 50 MVA distribution transformer. The new substation will be located near the National Western Complex and is needed to provide additional capacity for load growth and redundancy in the area. The transmission portion of this project consists of extending a 115 kV transmission line to the new substation site and installing the substation transmission facilities required to supply power to the new 115/13.8 kV, 50 MVA distribution transformer and associated equipment.

Type of Project: Transmission Line and Substations

Project Drivers: Load-serving

Development Status: Planned

Voltage Class: 115 kV

Facility Rating: TBD

Point of Origin/Location: Circuit 9547

Point of Termination: Poder Substation

Intermediate Points: N/A

Length of Line (Miles): >1

Planning Study Status: Public Service's transmission planning organization conducted power flow analysis of the addition of the Poder Substation to the Public Service transmission system in the planning of the project, however a formal planning study report documenting the assumptions and analysis was not developed. This project is also included in the transmission models for all current and future transmission studies, allowing Public Service to continue to validate the performance of the transmission system with the inclusion of these new facilities.

Case Studied: N/A

BAA Peak Summer/Winter Demand (MW): N/A

Study Generation Assumptions: N/A

Estimated Cost (\$ millions): \$6.6

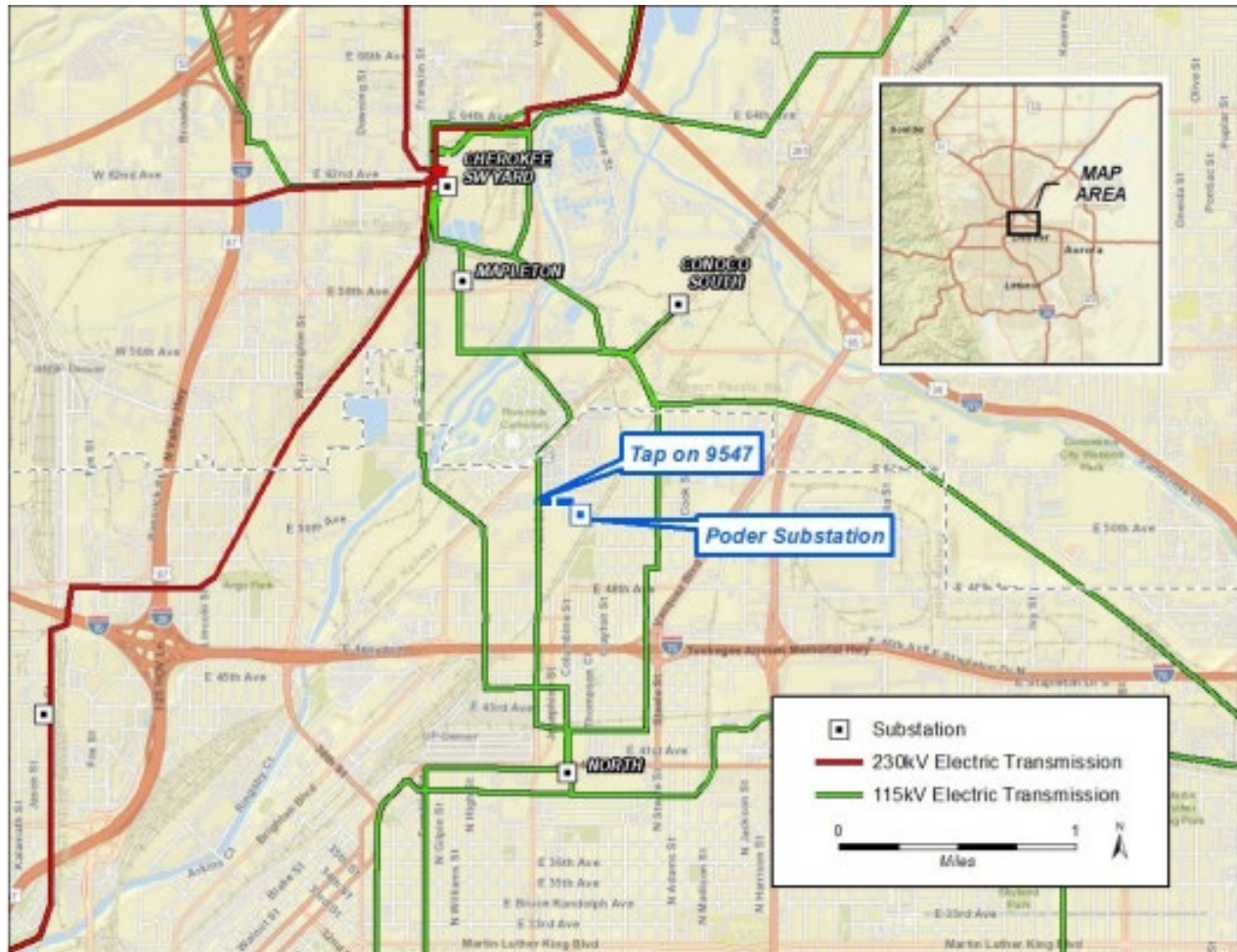
Schedule:

Construction Date: 2025

In-Service Date: 2027
Regulatory Info: CPCN not required by Decision No. C18-0843 in Proceeding No. 18M-0005E.

Contact Information:

Email: podersubstation@xcelenergy.com
Phone: 800-957-9048
Website: <https://xcelenergypodersubstation.com/>



Poncha – Front Range 230 kV Transmission Line

Project Sponsor: Public Service Company of Colorado
Additional Project Participants: Tri-State Generation and Transmission

Project Description and Purpose: Construct a 230 kV transmission line from the Poncha Substation to terminate at a location in the Front Range to improve reliability, load serving capabilities, and generation interconnection capabilities in the San Luis Valley area.

Type of Project: Transmission Line

Project Drivers: Reliability, load serving, and generation interconnection

Development Status: Conceptual

Voltage Class: 230 kV

Facility Rating: TBD

Point of Origin/Location: Poncha

Point of Termination: TBD, in the Front Range area

Intermediate Points: TBD

Length of Line (Miles): TBD

Planning Study Status: San Luis Valley Subcommittee Phase II Transmission Study Export Capability completed by CCPG on 2/16/2017, available at: https://www.rmao.com/public/wtpp/Operating_Studies/02_02_17_San_Luis_Valley_Phase_II_Final_Report.pdf

Case Studied: 2026HS

BAA Peak Summer/Winter Demand (MW): 9,103 Summer
 N/A Winter

Study Generation Assumptions: Benchmark Case Generation Tables included as Appendix E to the transmission study linked above. A generator was added to the San Luis 230 kV bus in order to perform the Transfer Capability Study

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

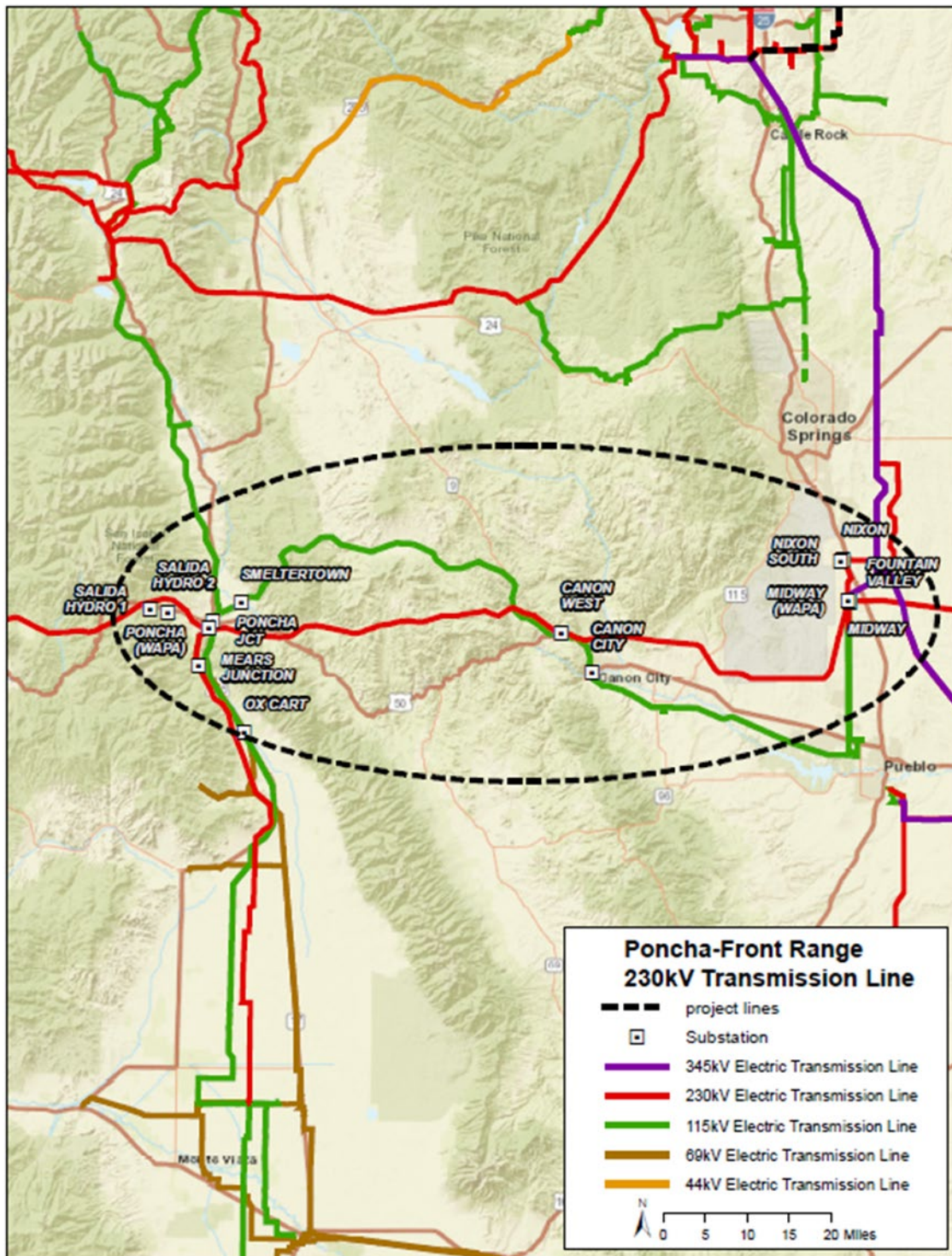
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



San Luis Valley Network Upgrades

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose:

Public Service, working with the CCPG SLV Subcommittee, is evaluating potential transmission network upgrade projects located in the San Luis Valley. In its 2024 Rule 3627 Ten-Year Transmission Plan, Public Service identified several conceptual transmission projects located in the San Luis Valley that were driven by transmission plans associated with Public Service's Preferred Portfolio in the 2021 ERP & CEP. While generation bid failures in the San Luis Valley have resulted in the need for some of these projects no longer being driven by the 2021 ERP & CEP, Public Service is continuing to evaluate transmission system upgrades within the San Luis Valley to achieve greater reliability and address planned generation retirements. Retirement of the existing CTs in the San Luis Valley has been extended to 2030 due to failed bids. Public Service expects that some elements of the transmission upgrades that had previously been identified through studies in Phase II of the 2021 ERP & CEP may be re-identified as planned projects to address reliability and future capacity expansion needs, despite their need no longer being driven specifically by the resource portfolio acquired in the 2021 ERP & CEP.

Type of Project: Transmission Lines and Substations

Project Drivers: Reliability, load serving, and generation

Development Status: Conceptual

Voltage Class: Various

Facility Rating: Various

Point of Origin/Location: Various

Point of Termination: Various

Intermediate Points: Various

Length of Line (Miles): TBD

Planning Study Status: Planning analysis underway by the CCPG SLV Subcommittee.

Case Studied: TBD

BAA Peak Summer/Winter Demand (MW): TBD

Study Generation Assumptions: TBD

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

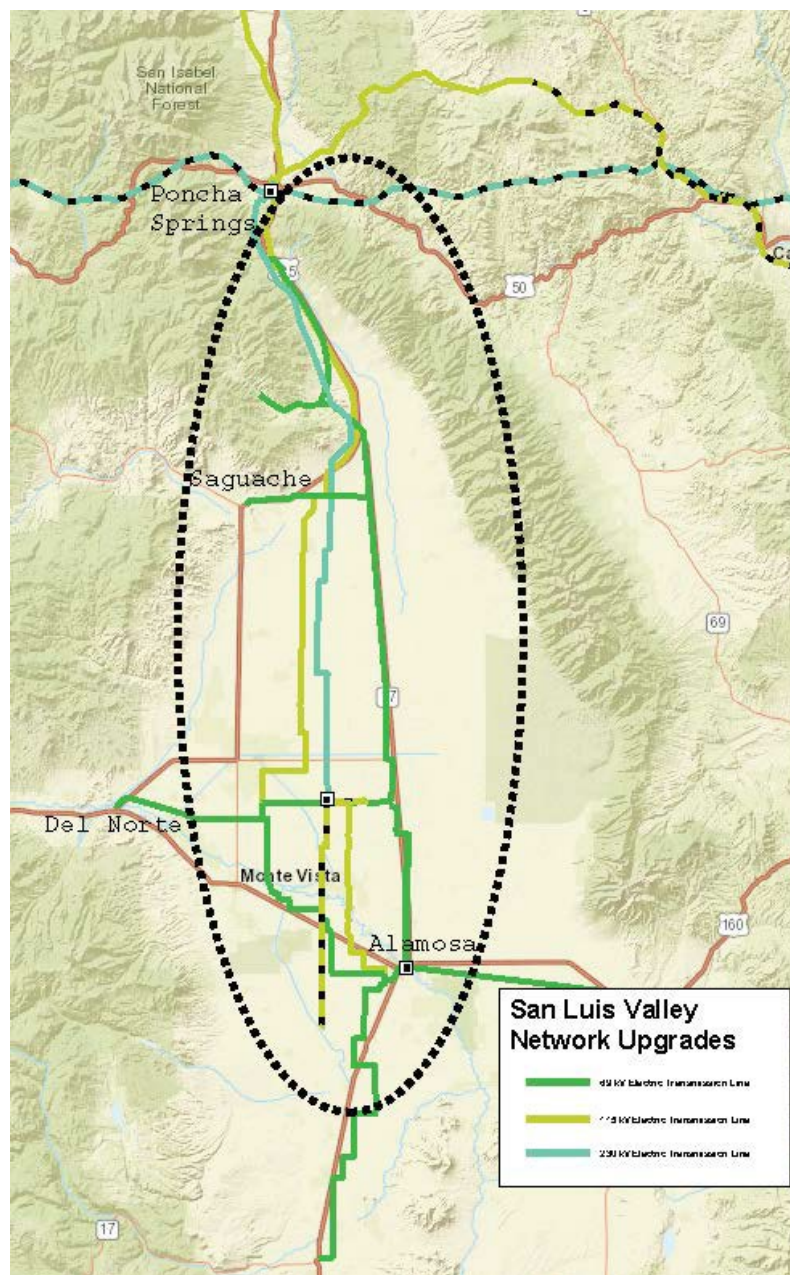
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



San Luis Valley-Poncha 230 kV Line

Project Sponsor: Tri-State Generation and Transmission Association

Additional Project Participants: Public Service Company of Colorado

Project Description and Purpose: Construct a second 230 kV transmission line from the San Luis Valley Substation to the Poncha Substation.

Type of Project: Transmission Line

Project Drivers: Reliability, load serving, and generation

Development Status: Conceptual

Voltage Class: 230 kV

Facility Rating: 631 MVA

Point of Origin/Location: San Luis Valley Substation

Point of Termination: Poncha Substation

Intermediate Points: N/A

Length of Line (Miles): 62

Planning Study Status: San Luis Valley Phase I Transmission Study completed by CCPG on 1/28/2016, available at: https://www.rmao.com/public/wtpp/Operating_Studies/01_28_16_San_Luis_Valley_Phase_I_Report.pdf.

Case Studied: 2020HS2

BAA Peak Summer/Winter Demand (MW): 8,387 Summer
 N/A Winter

Study Generation Assumptions: Generation assumptions are identified in the study report linked above.

Estimated Cost (\$ millions): TBD

Schedule:

Construction Date: TBD

In-Service Date: TBD

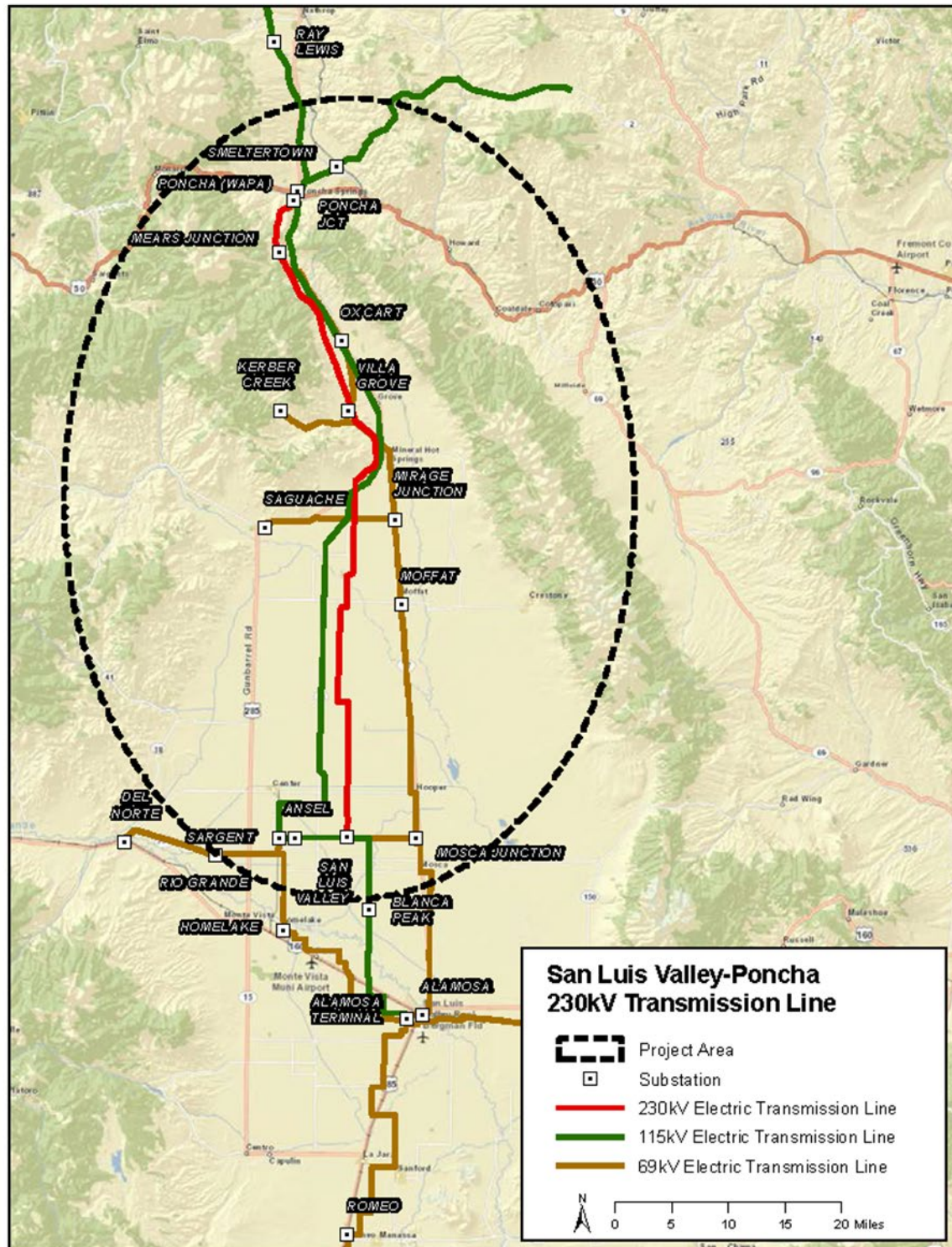
Regulatory Info: TBD

Contact Information:

Email: PSCoPlanning@xcelenergy.com

Phone:

Website:



Smoky Hill Substation Upgrade

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: With additional flows through the Smoky Hill Substation onto the 230 kV system, loss of either of the 345/230 kV transformers at the Smoky Hill Substation results in overloads to the remaining transformer. To mitigate the overloads Public Service identified the addition of a third 345/230 kV transformer to the Smoky Hill Substation as the preferred alternative. Energy storage was considered as an alternative, but an infeasible amount of energy storage would be needed to mitigate the overloads. Additionally, power flow controller devices cannot manage the levels of power flow at the Smoky Hill Substation.

Type of Project: Transmission Line and Substations

Project Drivers: Reliability, load-serving

Development Status: Planned

Voltage Class: 345/230 kV

Facility Rating: 560 MVA

Point of Origin/Location: Smoky Hill Substation

Point of Termination: N/A

Intermediate Points: N/A

Length of Line (Miles): N/A

Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.

Case Studied: 2025HS, 2026HS, 2027HS, 2028HS

BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)
 N/A Winter

Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$32.6

Schedule:

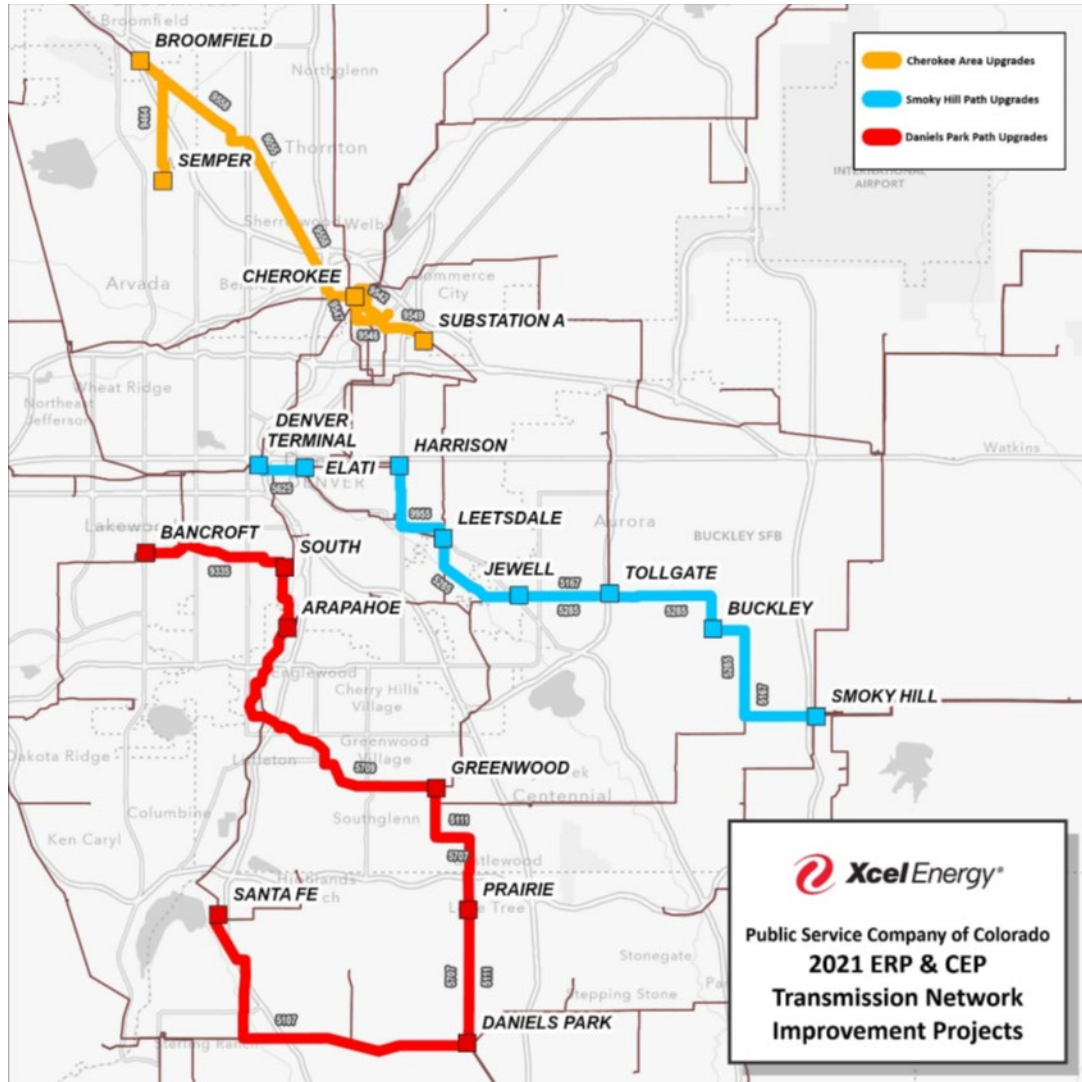
Construction Date: 2027

In-Service Date: 2029

Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

Email: PSCoPlanning@xcelenergy.com
 Phone:
 Website:



South Substation Upgrade

Project Sponsor: Public Service Company of Colorado

Additional Project Participants:

Project Description and Purpose: Public Service plans to expand its existing 115 kV South Substation through by using an in and out tap on the 230 kV Arapahoe to Dakota Circuit 5623 and add a 230/115 kV, 280 MVA transformer at the newly expanded South Substation. This single upgrade addresses overloads identified by adding greater power transformation capacity in this part of the Denver Metro area.

Type of Project: Transmission Line and Substations
 Project Drivers: Reliability, load-serving
 Development Status: Planned
 Voltage Class: 230 kV/115 kV
 Facility Rating: 280 MVA
 Point of Origin/Location: South Substation
 Point of Termination: N/A
 Intermediate Points: N/A
 Length of Line (Miles): N/A
 Planning Study Status: Planning study report filed with the Commission in Proceeding No. 24A-0560E as Hearing Exhibit 103, Attachments AWS-1, Rev. 1.
 Case Studied: 2025HS, 2026HS, 2027HS, 2028HS
 BAA Peak Summer/Winter Demand (MW): 10,119 Summer (2028)
 N/A Winter
 Study Generation Assumptions: Generation assumptions are detailed in the planning study report filed in Proceeding No. 24A-0560E.

Estimated Cost (\$ millions): \$95.2

Schedule:

Construction Date: 2027
 In-Service Date: 2030
 Regulatory Info: CPCN granted by Decision No. R26-0001 in Proceeding No. 24A-0560E.

Contact Information:

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