Appendix B

Tri-State G&T

10-Year Transmission Projects

Table of Contents

Transmission Projects

The following projects are primarily bulk system electric projects that are intended to improve reliability, provide increased capacity, meet member requests for service, and in some instances meet regulatory requirements. Some projects may be constructed at the request of and in conjunction with other entities that require additional capacity or for reliability issues over a regional area that is not specifically served by TSGT but impact the overall capability and reliability of the bulk transmission system.

Big Sandy – Calhan 230 kV Project

Tri-State has identified some load-serving deficiencies and constraints associated with its member load located south of Denver, and north and east of Colorado Springs, in the Mountain View Electric Association (MVEA) member service territory. Projected future load growth in the area will result in an overload of Tri-State's existing 230-115 kV transformer at Colorado Springs Utilities' (CSU) Jackson Fuller substation. Additional constraints imposed upon Tri-State's serving present and future load in the MVEA service area include the bottleneck caused by the capacity limitation of Tri-State's existing 115 kV Midway-Geesen line (only rated for 80 MVA), along with the lack of any 'bulk' (i.e. 115 kV or higher) transmission source on the eastern side of MVEA's system.

To remedy these transmission service constraints, Tri-State is proposing to construct a 230 kV line from its Big Sandy 230-115 kV Substation (located northwest of Limon, Colorado) to its recently constructed 115 kV Calhan Substation. The primary function of the Big Sandy – Calhan 230 kV project are threefold: to mitigate the projected overloads of Tri-State's 100 MVA, 230-115 kV Fuller transformer; increase Tri-State's ability to deliver resources to MVEA and other of its southeastern members; and to provide a bulk transmission connection (i.e. 'strong' voltage source and increased power transfer capacity) to the eastern side of MVEA's service area.

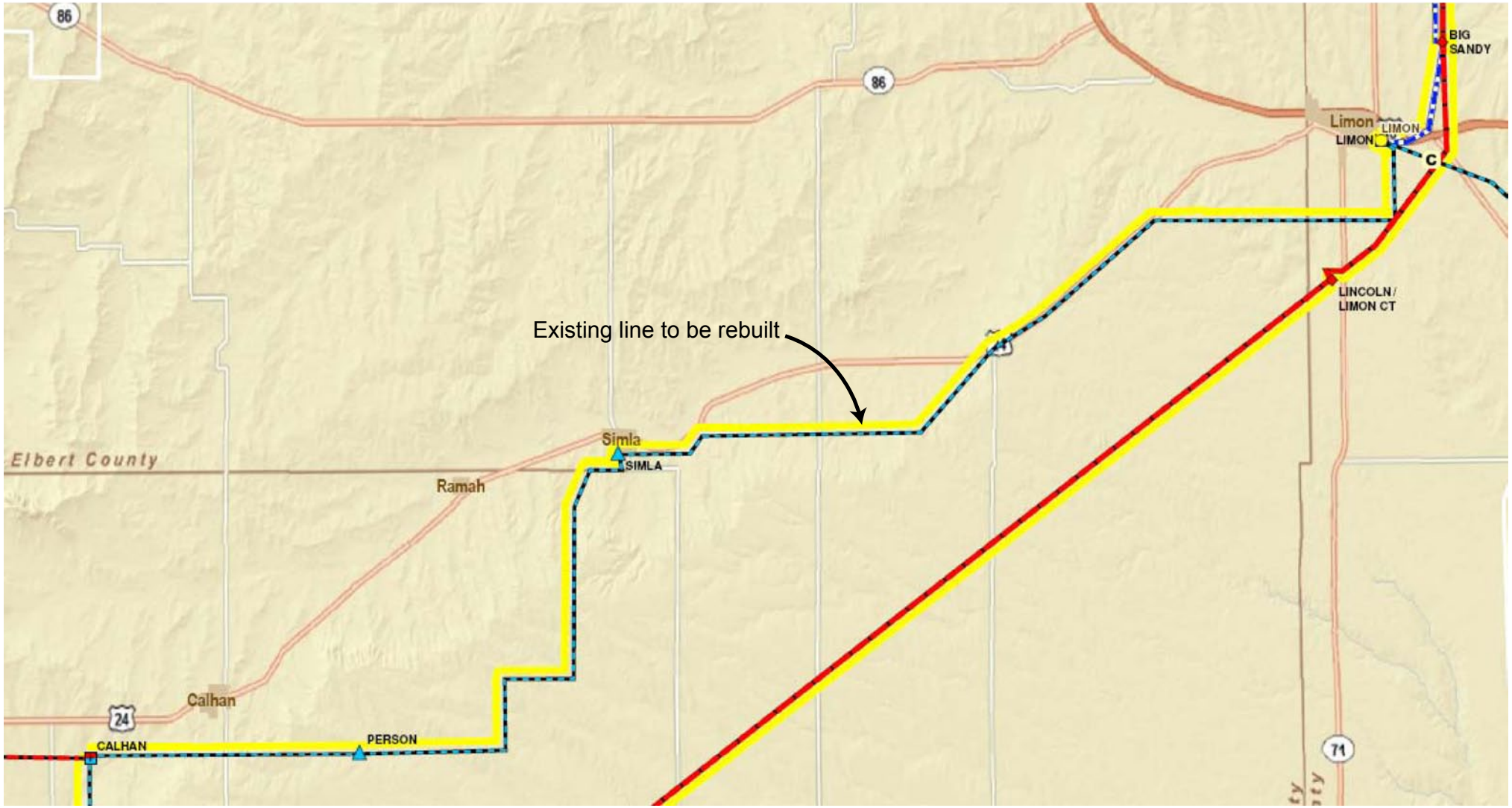
This project is presently planned to be financed and constructed solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

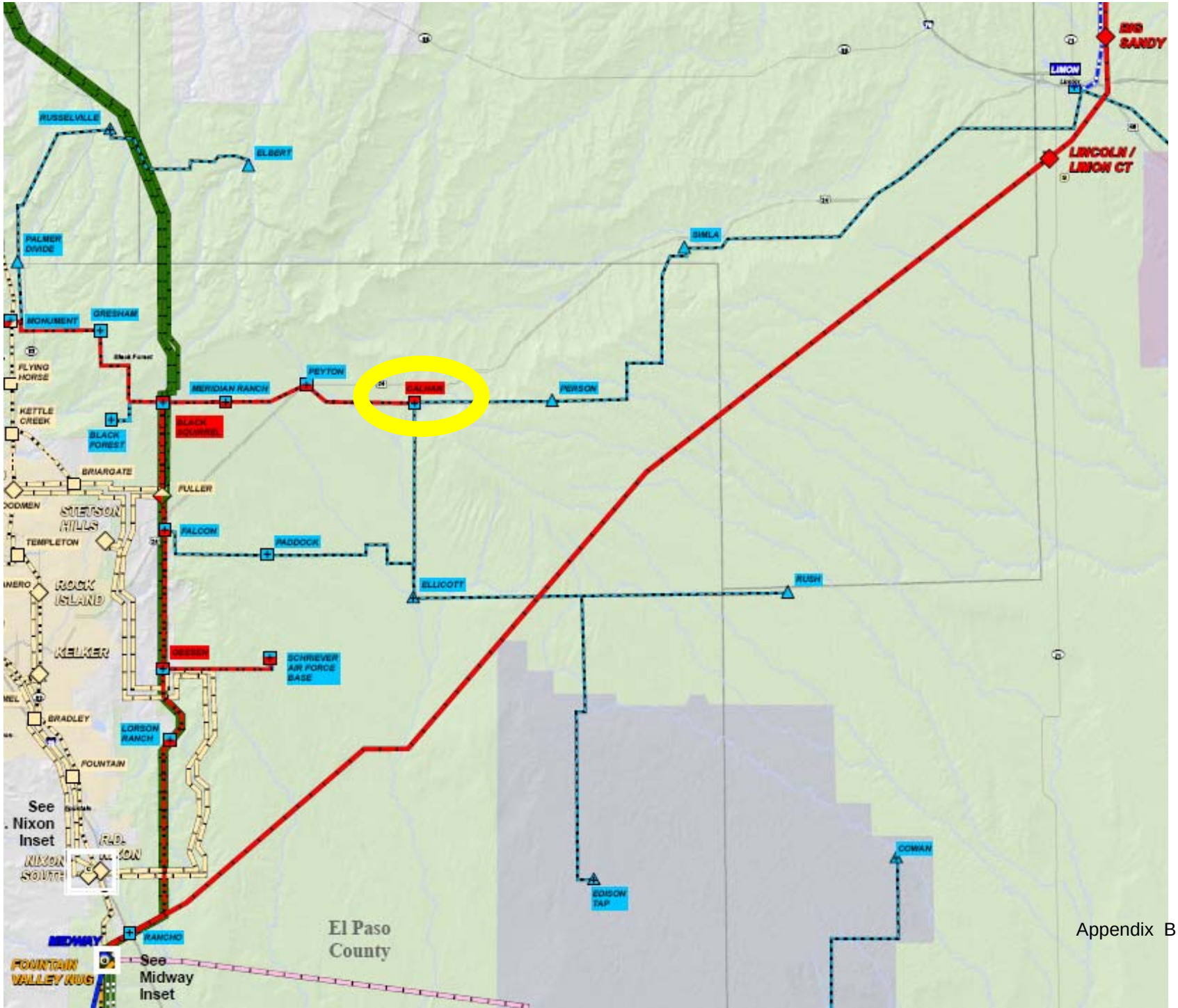
Big Sandy - Calhan 230 kV Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	Mountain View Electric Association
Project Description:	New 230 kV transmission line between the existing Big Sandy and Calhan Substations. Expand existing Calhan substation. Proposed rebuild of the Mountain View 69 line for the Limon to Calhan Substation section.
Voltage Class:	230 kV
Facility Rating:	612 MVA
Point of Origin/Location:	Big Sandy (near Limon, Colorado)
Point of Termination:	Calhan (West of Limon)
Intermediate Points:	
Length of Line (in Miles):	55
Type of Project:	Transmission Line and Substation
Development Status:	Planned
Routing:	West from Big Sandy to Calhan along CO highway 24
Subregional Planning Group:	CCPG
Purpose of Project:	Support Member load between Denver and Colorado Springs
Estimated Cost (in 2010 Dollars):	$52,875,000
Schedule:	
Construction Date:	2014
Planned In-Service Date:	2017
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	
Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	303-452-6111
Website Information	http://www.tristategt.org/transmissionPlanning/

Big Sandy-Calhan 230kV Line



Calhan 230kV Sub Expansion



Burlington – Wray 230 kV Line Project

The function of this project is to increase reliability in the area and remove restrictions on the Burlington area network resources, and increase the deliverability of Tri-State resources to Tri-State member loads. This would be accomplished by adding a new 230 kV line from the Burlington substation to the Wray substation.

The existing Burlington-Bonny Creek-South Fork – Idalia-Vernon Tap-Wray 115 kV line is currently a limiting element on Tri-State's system in Eastern Colorado. The existing line conductor, Hawk 477 ACSR, is rated for a maximum operating capacity of 704 amps which is further limited by other equipment (disconnect switches). The addition of the 230 kV line would add one new transmission line segment that would be constructed as a single circuit using 1272 MCM ACSR conductor with a maximum operating capacity of 1538 amps.

This additional capacity would alleviate congestion in the Burlington area, increase reliability, and allow the potential development of renewable generation resources In the Burlington and Wray areas which currently have existing wind resources.

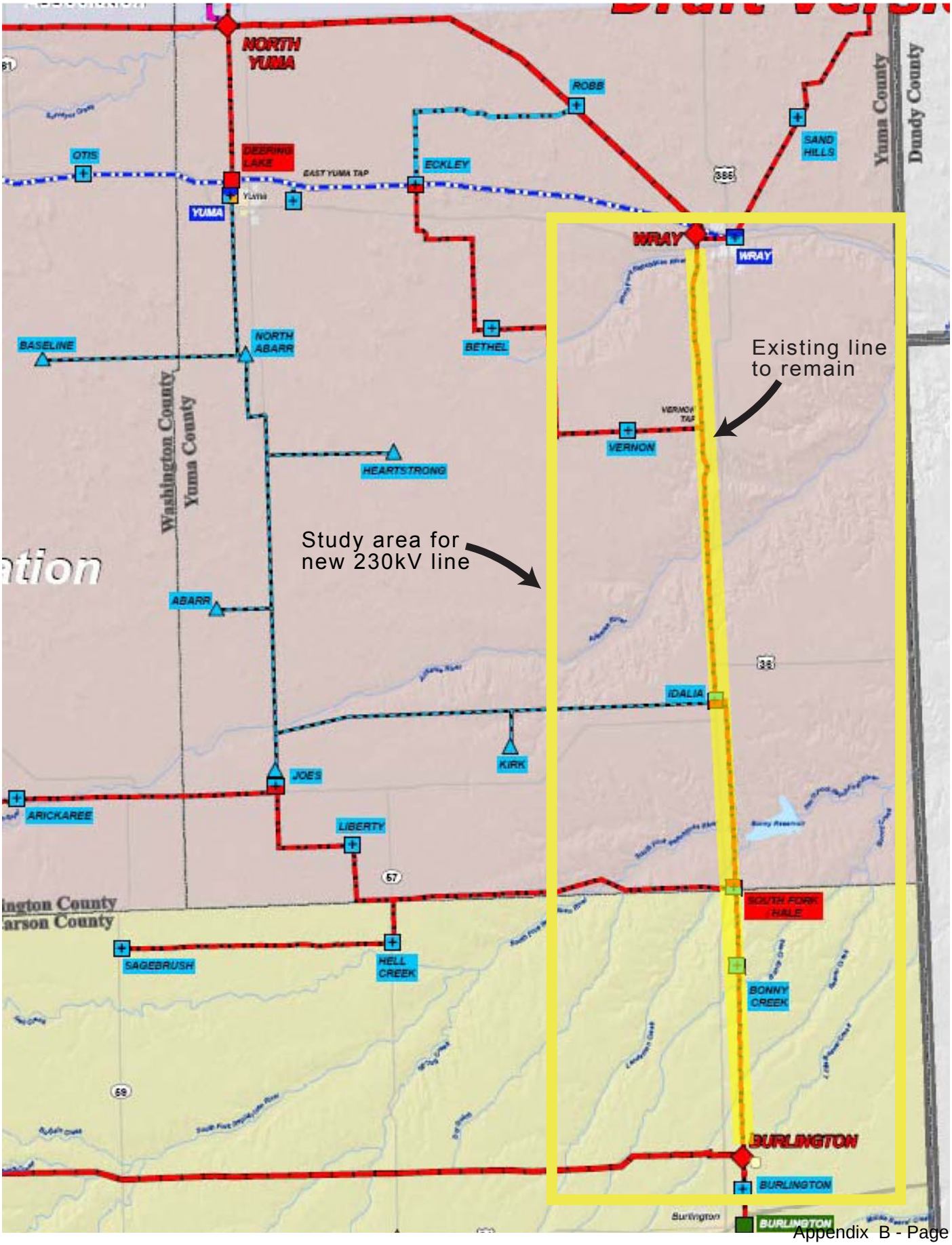
This project is presently planned to be financed and constructed solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Burlington - Wray 230kV Line Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	
Project Description:	Construct new 230kV line from the existing Burlington Substation to the existing Wray Substation.
Voltage Class:	230 kV
Facility Rating:	612 MVA
Point of Origin/Location:	Burlington, CO
Point of Termination:	Wray, CO
Intermediate Points:	
Length of Line (in Miles):	60
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG
Purpose of Project:	Improve load-serving capability, remove generation operating restirctions, and support renewable resource development in eastern Colorado.
Estimated Cost (in 2010 Dollars):	$40,265,000
Schedule:	
Construction Date:	2014
Planned In-Service Date:	2015
Regulatory Info:	CPCN granted
Regulatory Date:	
Permitting Info:	
Permitting Date:	
Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	(303) 254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/

Burlington – Wray 230kV Line



Falcon – Midway 115 kV Line Uprate Project

The function of this project is to uprate the 26.7 miles of Tri-State's 115 kV line between Midway and Falcon substations from 50° C to 75° C construction. The existing line was constructed in 1974 with 477 ACSR conductor at spacing that only allow for operation at a maximum of 50° C. Consequently, portions of this line are only rated for a static thermal rating of 95 MVA, which is limited only by the conductor capacity at 50° C construction spacing. Raising, moving, or rebuilding the structures along this line to achieve a 75° C operational rating will raise the overall line rating to 140 MVA will provide for an additional 45 MVA of capacity for Tri-State to serve MVEA's customer load from its transmission service rights at Midway.

According to recent transmission studies, Tri-State's 115 kV Falcon-Midway line was predicted to overload by the summer of 2018 for a single contingency line outage of Tri-State's 115 kV Falcon-Fuller line. The magnitude and onset of this overload condition can partially be offset and delayed by a combination of additional var support from capacitor banks installed along the line, or reduced future load forecasts. However, even with those measures, at some point within the next 10 years, this line will have to be either uprated (as proposed by this project), or rebuilt with larger conductor or additional circuits to achieve the greater capacity required for Tri-State to reliably serve MVEA's customer load.

This project is presently planned to be financed and constructed solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Falcon-Midway 115 kV Line Uprate Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	
Project Description:	Planned uprate of existing 115 kV line between Falcon and Midway.

Voltage Class:	115 kV
Facility Rating:	146 MVA
Point of Origin/Location:	Falcon
Point of Termination:	Midway
Intermediate Points:	
Length of Line (in Miles):	27
Type of Project:	Transmission
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG

Purpose of Project: Increase conductor thermal rating.

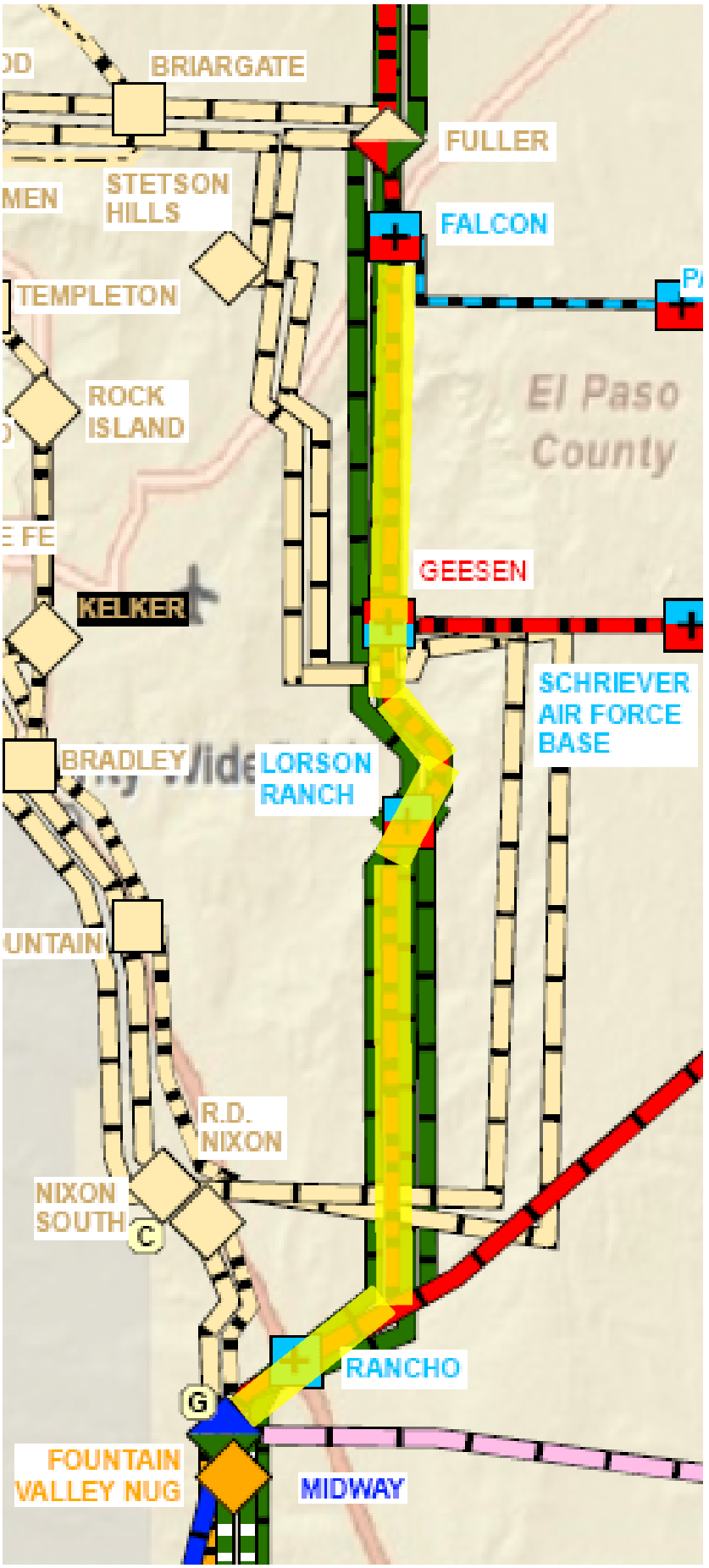
Estimated Cost (in 2010 Dollars): $5,616,000

Schedule:

Construction Date:	
Planned In-Service Date:	2016
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	

Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	303-254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/

Falcon-Midway 115kV Line Uprate



Lamar – Front Range Transmission Project

Tri-State and PSCo have jointly identified transmission constraints in eastern Colorado. In order to meet the present and future needs of both companies, major transmission infrastructure is needed in the Colorado Front Range. The Lamar-Front Range project improves Tri-State's operational flexibility as a regional power provider serving 44 Members across four states, including the ability to "rebalance" its system that relies on power imported into the eastern Colorado region. The project improves load-serving capability and reliability by providing connectivity to the bulk transmission system of Tri-State and PSCo, and providing strong "looped service" to areas with long radial transmission configurations. Additionally, Tri-State's Network Customers have identified a need for over 800 MW of new generation in this area in a 10 year planning horizon, with Tri-State taking a longer term view of a transmission system capable of at least a cumulative and unspecified 1200 MW of new generation in eastern and southeastern Colorado.

This project identifies the transmission element additions that are needed to meet both companies' needs, including delivery of future generation to loads in the Denver and Front Range areas. The present project involves double circuit 345 kV transmission lines connecting Lamar to the Pueblo area and Lamar to the Burlington and Big Sandy substations. Transmission connections in the Pueblo area and connections from Big Sandy to Missile Site, Story, and Pawnee are currently being evaluated.

This project is presently planned to be financed and constructed 60% by TSGT and 40% PSCo.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Lamar-Front Range Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	Public Service Company of Colorado/Xcel Energy
Project Description:	Two high voltage transmission paths from Lamar substation to Pueblo area and a second path from Lamar to substations near Brush and/or Deer Trail.
Voltage Class:	345 kV
Facility Rating:	2000 MW
Point of Origin/Location:	Lamar, CO
Point of Termination:	TBD: Comanche, Story, Pawnee, Avondale, Lamar, Lamar Energy Center, Burlington, Big Sandy, Missile Site
Intermediate Points:	Burlington, Big Sandy, Boone
Length of Line (in Miles):	500
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	Burlington, Big Sandy, Boone
Subregional Planning Group:	CCPG
Purpose of Project:	Tri-State reliability, system load-serving connectivity as regional power provider and future resources. Xcel Senate Bill 07-100 and reliability.
Estimated Cost (in 2011 Dollars):	$900,000,000
Schedule:	
Construction Date:	2017
Planned In-Service Date:	2019
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	
Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	(303) 254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/TransmissionPlanDoc.cfm

Lamar - Front Range Transmission Project

Plaza – Waverly 115 kV Loop Project

The function of this project is to provide looped 115 kV transmission service to Tri-State's member's (San Luis Valley Rural Electric Cooperative, or SLVREC) customer load, through SLVREC's Carmel, Zinzer, and Plaza substations, to prevent the loss of SLVREC's customer load under single contingency outage conditions on Tri-State's 115 kV system. SLVREC's existing 69 kV Waverly-Carmel-Zinzer-Plaza line can no longer support its customer load at these substations during such outages, and must therefore be rebuilt for 115 kV operation.

At Plaza Substation, Tri-State will construct a new 115 kV ring bus and install the existing 115-69 kV transformer that is to be moved from Tri-State's 115-69 kV Waverly substation. Tri-State will also construct two new 115 kV line terminations on the ring bus to sectionalize its existing San Luis Valley-Ramon line. In the 69 kV yard, two 69 kV line breakers will be installed to protect SLVREC's line to South Fork, La Garita, and also a 69-12.5 kV distribution transformer. At Waverly, Tri-State will construct a new 115 kV switching station configured as a ring bus to terminate the existing 115 kV line from San Luis Valley, the new line to Plaza, and an upgraded line serving Stockade and San Acacio. In conjunction with the scope of this 115 kV Plaza-Waverly Loop Project, SLVREC will also upgrade its existing radial 69 kV line serving Stockade and San Acacio to 115 kV, along with those distribution substation facilities.

This project is presently planned to be financed 50% by TSGT and 50% by SLVREC with construction solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Plaza-Waverly 115kV Loop Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	San Luis Valley Rural Electric Cooperative
Project Description:	Project consists of upgrading approximately 30.5 miles of 69 kV transmission line to 115 kV within the existing Plaza/Waverly right-of-way. The existing Plaza, Zinzer (previously Switch Rack), Carmel, and Waverly substations/switchyards will be upgraded or rebuilt for 115 kV service.

Voltage Class:	115 kV
Facility Rating:	166 MVA
Point of Origin/Location:	Plaza
Point of Termination:	Waverly
Intermediate Points:	Carmel, Zinzer
Length of Line (in Miles):	30
Type of Project:	Transmission
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG

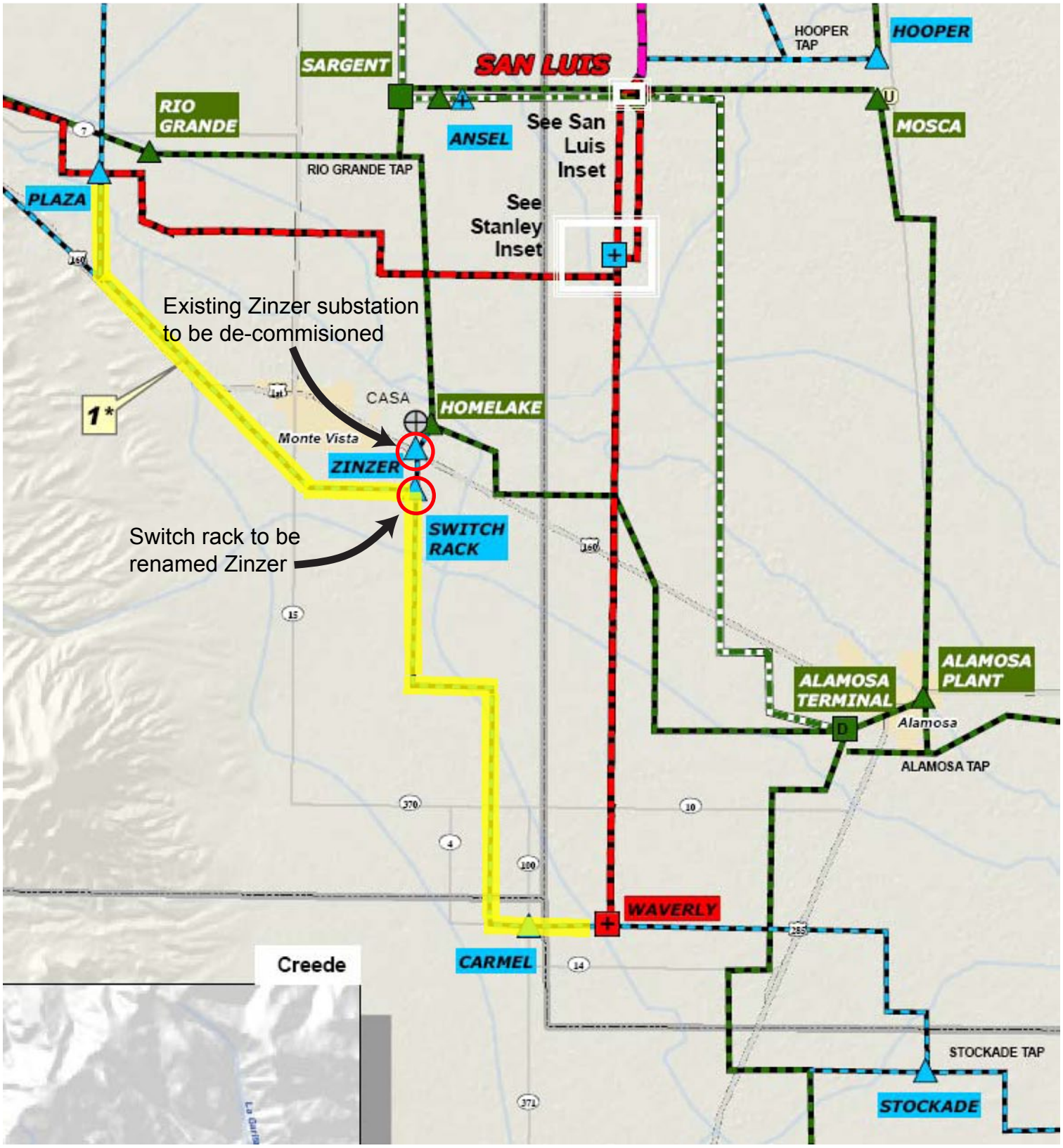
Purpose of Project:	Provide improved transmission service during single contingency outages to those customers served from SLVREC's Carmel, Zinzer, Plaza, Stockade, and San Acacio substations.
Estimated Cost (in 2010 Dollars):	$10,873,000

Schedule:

Construction Date:	2012
Planned In-Service Date:	2013
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	

Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	303-254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/

Plaza-Waverly 115kV Loop Project



San Juan Basin Energy Connect Project
(also known as Shiprock – SW Colorado (Iron Horse) 230 kV Project)

LPEA has the potential for substantial load growth in the area near Bayfield, Colorado in the next few years that will require transmission system infrastructure upgrades and additions. In September of 2007, LPEA formally requested modified or new points of delivery from Tri-State to accommodate this expected load growth. LPEA and several other Tri-State Members have service areas in the Southwestern Colorado region. Together these cooperatives form the load area in Southwestern Colorado served from TOT2A. With the projected load additions, the Southwest Colorado load could be as much as 351 MW in 2015 implying degradation of the transfer capacity on TOT2A for the peak load hour in Southwest Colorado.

In order to increase the load serving capability of the 115 kV loop and to avoid degrading the rated transfer capability on the limited TOT2A flowgate, an additional transmission line is required into the Bayfield area load center. Various transmission configurations were studied to serve the Southwest Colorado load requirements. At present, the preferred proposal to provide the necessary relief to the existing transmission system is a 230 kV transmission line originating at the Shiprock Substation 345 kV bus, going through a proposed new Kiffen Canyon Substation, in the Glade Tap area, and terminating on the LPEA 115 kV loop at a new 230 kV substation called Iron Horse near Ignacio, Colorado. Other high voltage options appear to either have multiple or a significant deficiency in terms of cost and power transfer capability relative to the preferred option.

This project is presently planned to be financed and constructed solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

San Juan Basin Energy Connect Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	
Project Description:	New 230 kV transmission line between existing WAPA Shiprock Substation in New Mexico to a new 230 kV Iron Horse Substation. A new 230 kV Kiffen Canyon Substation will also be required.

Voltage Class:	230 kV
Facility Rating:	600 MVA, 230kV Line, 300MVA PST
Point of Origin/Location:	Shiprock,New Mexico
Point of Termination:	Iron Horse (near Ignacio, CO)
Intermediate Points:	Kiffen Canyon, Coyote Gulch, La Boca
Length of Line (in Miles):	70
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	From Shiprock east to Kiffen Canyon north to Coyote Gulch, Iron Horse and other locations
Subregional Planning Group:	CCPG and SWAT

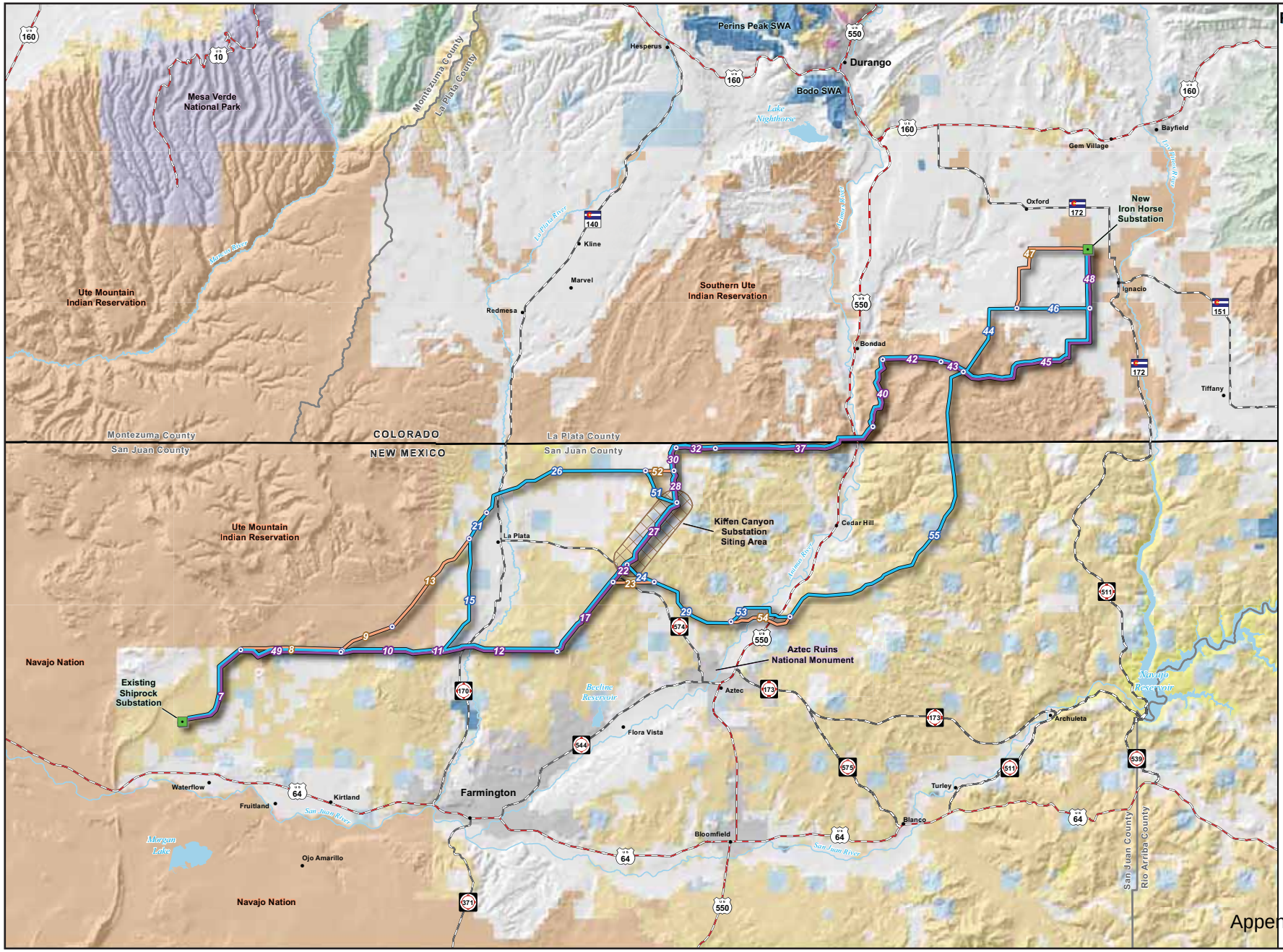
Purpose of Project:	To serve approximately 100 MW of new industrial load in SW Colorado.
Estimated Cost (in 2010 Dollars):	$129,504,000
Schedule:	

Construction Date:	2014
Planned In-Service Date:	2015
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	

Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	(303) 254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/

San Juan Basin Energy Connect

Shiprock-SW Colorado (Iron Horse) 230kV Project



Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

San Luis Valley - Calumet - Comanche Transmission Project

Project Sponsor:	Public Service Company of Colorado/ Xcel Energy
Additional Project Participants:	Tri-State
Project Description:	The project consists of two basic sections. The first section consists of approximately ninety-five (95) miles of new, double-circuit 230 kV transmission, built from the San Luis Valley Substation to a new Calumet Substation, which would be located approximately six (6) miles north of the existing Tri-State Walsenburg Substation. The second section consists of approximately forty-five (45) miles of 19 new double-circuit 345 kV transmission from Calumet Substation to the existing Comanche Station near Pueblo.

Voltage Class:	230/345 kV
Facility Rating:	1400
Point of Origin/Location:	San Luis Valley
Point of Termination:	Comanche
Intermediate Points:	Calumet
Length of Line (in Miles):	140
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG

Purpose of Project:	SB100 / Reliability. Improve system reliability and accommodate resources in Energy Resource Zones 4 and 5.
Estimated Cost (in 2010 Dollars):	$180,000,000

Schedule:

Construction Date:	
Planned In-Service Date:	TBD
Regulatory Info:	CPUC CPCN granted September 2011
Regulatory Date:	May, 2009
Permitting Info:	No
Permitting Date:	

Contact Information:	Tom Green
Email	thomas.green@xcelenergy.com
Phone	303-571-7223
Website Information	http://www.sb100transmission.com/

United Power System Improvement Project Phase III

This project is the final phase of three phases to provide adequate transmission service, voltage support, and capacity to the loads served from United's existing Bromley 34.5-13.2 kV Substation and the existing Reunion 230-12.5 kV and Prairie Center 115-13.2 kV Delivery Points. The first phase of the project was completed in 2005 and the second phase in 2011.

During recent years, the loads served from United's 34.5 kV sub-transmission systems in its Plains Area have experienced low voltages and overloads during peak summer demands. The Bromley delivery has experienced low voltage criteria violations during peak summer demand for the past several years. Bromley is incapable of serving the City of Brighton because of low voltages and overloads on their 34.5 kV and 13.2 kV systems for the outage of United's Platte Valley 34.5 kV Substation.

The third phase will provide transmission service between Bromley and Prairie Center by constructing a 115 kV overhead line, about 5.0 miles, using 795 kcmil ACSR designed for 100 deg C and a 48 fiber optics cable, from Bromley to Prairie Center. Providing service to Bromley and Prairie Center Substations at 115 kV and Reunion Substation at 230 kV instead of at 34.5 kV will reduce system losses.

The 115 kV loop needs to be normally open because under certain 230 kV single contingencies or fault conditions, this line's conductor and other 230 kV line sections of the PSCo system would overload, as has been verified by PSCo power system studies.

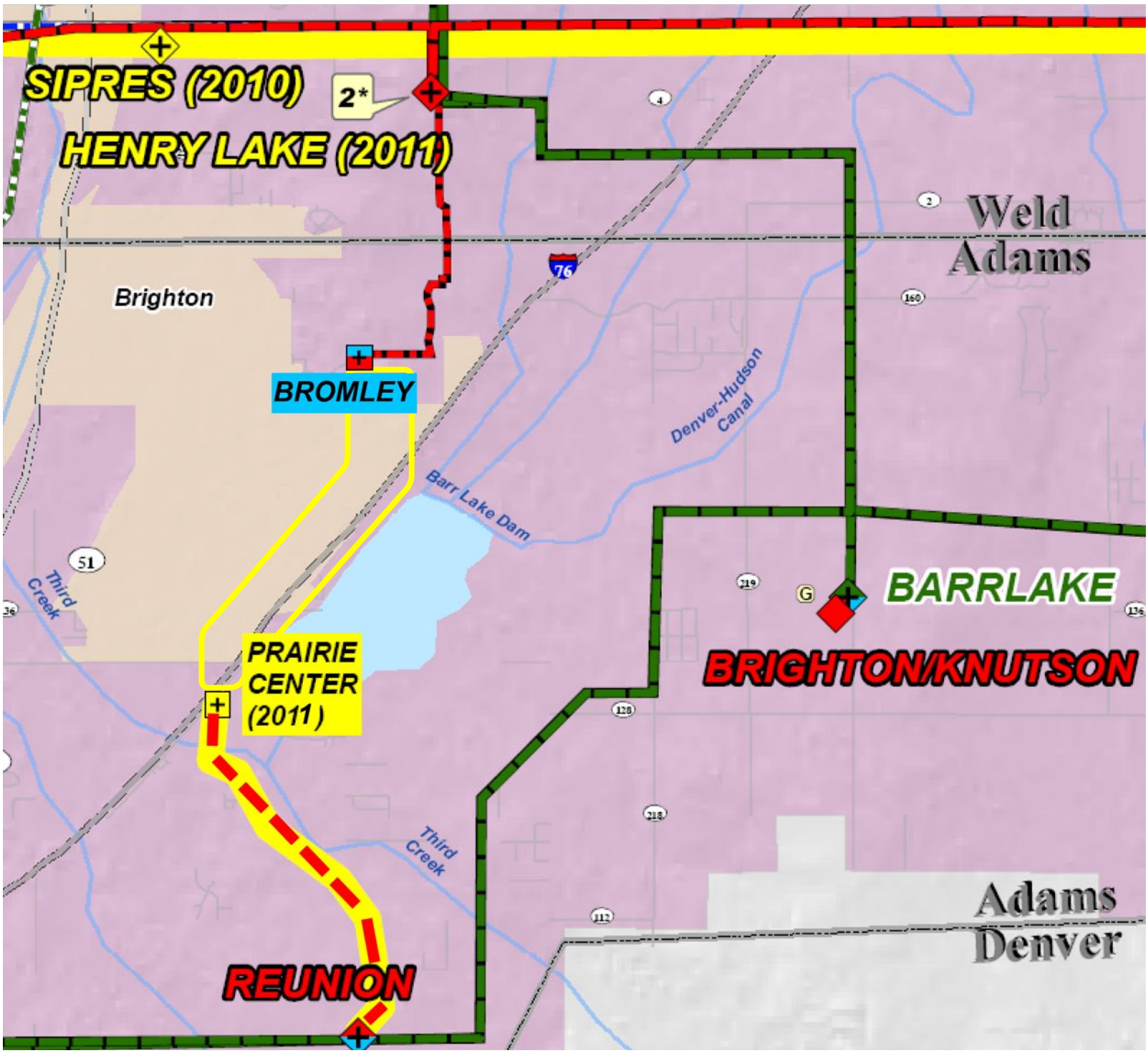
This project is presently planned to be financed 50% by TSGT and 50% by United Power with construction solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

United Power System Improvement Project Phase III

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	
Project Description:	New 115 kV transmission line between Bromley and Prairie Center Substations.
Voltage Class:	115 kV
Facility Rating:	232 MVA
Point of Origin/Location:	Bromley
Point of Termination:	Prairie Center
Intermediate Points:	
Length of Line (in Miles):	5
Type of Project:	Transmission
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG
Purpose of Project:	Provide transmission service between Bromley and Prairie Center.
Estimated Cost (in 2010 Dollars):	$4,826,000
Schedule:	
Construction Date:	2013
Planned In-Service Date:	2013
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	
Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	303-254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/

United Power System Improvement Project – Phase III
(Bromley-Prairie Center 115kV Line)



Substation Projects

The following projects involve the addition or expansion of a substation where the primary function is to improve reliability, provide increased capacity, meet member requests for service, and in some instances meet regulatory requirements. Some projects may be constructed at the request of and in conjunction with other entities that require additional capacity or for reliability issues over a regional area that is not specifically served by TSGT but impact the overall capability and reliability of the bulk transmission system.

Carey 230 kV Substation Project

The function of this project is to construct a new 230 kV tap and substation sectionalizing Platte River Power Authority's (PRPA) 230 kV Ault-Timberline transmission line for a new delivery point to Poudre Valley Rural Electric Association (PVREA) in Weld County. This new distribution substation will enable PVREA to serve its existing load, and also new load within its service territory in the vicinity of Severance, Windsor, and Timnath caused by the growth of these communities along the interstate corridor.

The proposed project will provide transmission system capacity, voltage support, and reliability to PVREA's existing customer load that currently must be served from a combination of five other distribution substations (Black Hollow, Boxelder, Airport, Trilby, and Windsor.

This project is presently planned to be financed and constructed solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Carey 230kV Substation Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	Poudre Valley Rural Electric Association (PVREA)
Project Description:	New 230 kV Substation on PRPA's existing Ault-Timberline line.

Voltage Class:	230 kV
Facility Rating:	40 MVA
Point of Origin/Location:	230 kV Ault-Timberline Line (owned by Platte River Power Authority)
Point of Termination:	Carey Substation
Intermediate Points:	
Length of Line (in Miles):	
Type of Project:	Substation
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG

Purpose of Project: Additional transmission source and load service to PVREA.

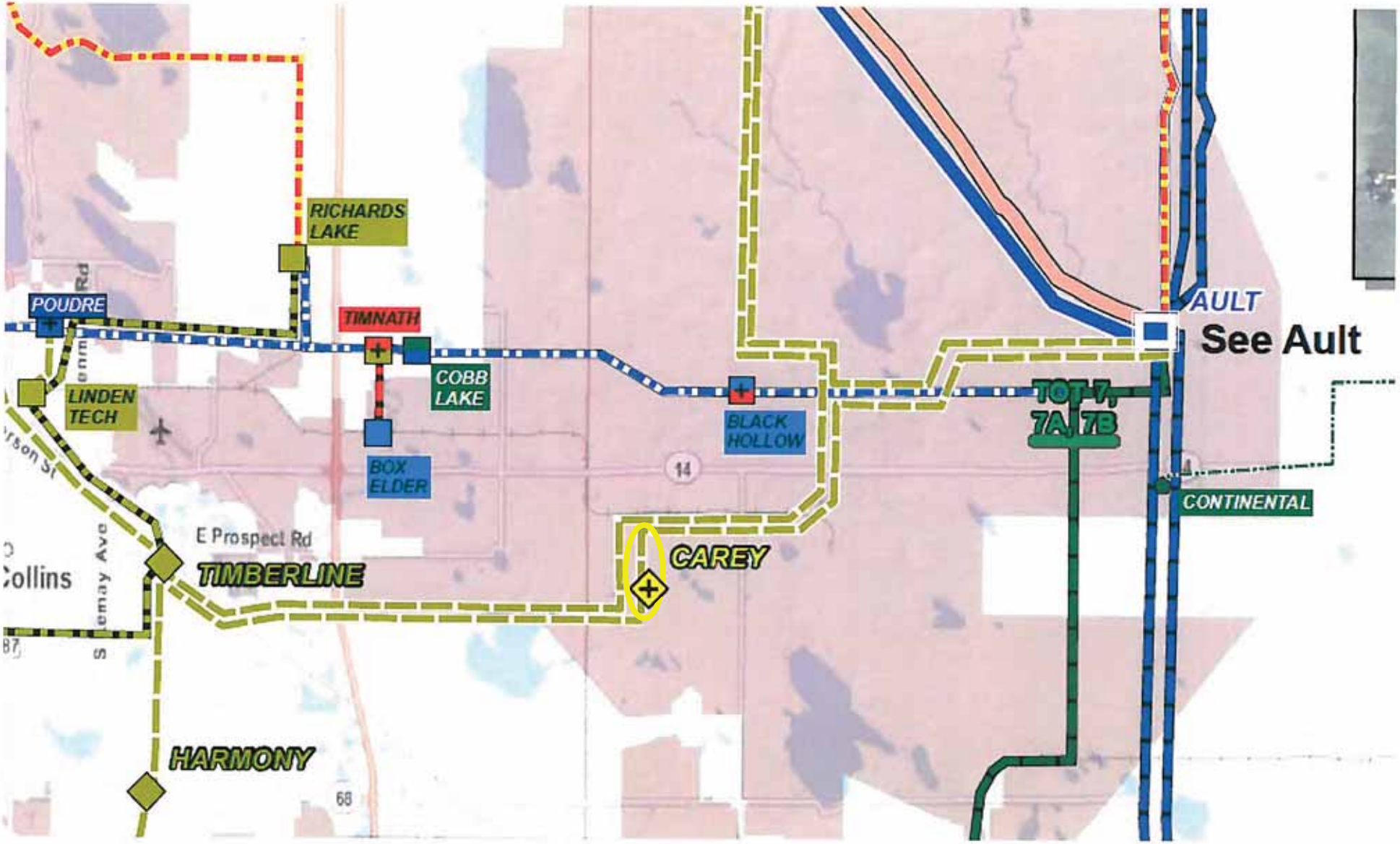
Estimated Cost (in 2010 Dollars): $6,807,000

Schedule:

Construction Date:	2012
Planned In-Service Date:	2013
Regulatory Info:	CPCN granted
Regulatory Date:	
Permitting Info:	
Permitting Date:	

Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	(303) 254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/

Carey 230 kV Substation



Promontory Park Project

The function of this project is for Tri-State to construct a new, 4 mile, 230 kV, 1272 ACSR line in Weld County by rerouting one of WAPA's 230 kV circuits from Ault (which currently terminate at the existing 230-115 kV Weld Substation) and instead building a new line termination for the circuit in the new 230-115 kV Promontory Park Substation, to be located in the vicinity of WAPA's existing 115-12.5 kV Windsor substation and the 115 kV Whitney line taps of WAPA's 115 kV Weld-Whitney-Airport line. Construction of Promontory Park will allow Tri-State to serve its member's (PVREA) existing load, and future load growth, more reliably and economically than is possible from WAPA's aged and overloaded 115 kV Weld-Whitney-Airport line. It will also enable construction of the line termination of 3 new short (less than 1 mile) 115 kV, 795 ACSR line extensions that will be built to allow Tri-State to more reliably serve PVREA's very large (60 MW) industrial and commercial load in the region from a 230 kV source using Tri-State resources.

In terms of improving the reliability of Tri-State's 115 kV transmission service to PVREA's load in the region, construction of the Promontory Park project will provide the additional benefit of alleviating the overload of the north-south portions of the 115 kV Weld-Whitney, and Whitney-Winsor Tap-Airport lines. By constructing the Promontory Park 230-115 kV substation and providing new line terminations on the 115 kV bus for each of these (2) 115 kV lines to Whitney, this project will serve to fulfill Tri-State's regulatory compliance obligations.

This project is presently planned to be financed and constructed solely by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Promontory Park Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	
Project Description:	Construct a new 230/115 kV substation in the vicinity of the existing East Kodak tap along WAPA's 115 kV Weld-Whitney line. Rebuild a portion of WAPA's 115 kV Weld-Whitney line and Xcel's 115 kV Weld-Johnstown line as a double circuit 230 kV line. Additional existing lines will also need to be rerouted and terminated at this new Promontory Park Substation.

Voltage Class:	230 kV
Facility Rating:	612 MVA
Point of Origin/Location:	Promontory
Point of Termination:	Weld
Intermediate Points:	
Length of Line (in Miles):	5
Type of Project:	Substation
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG

Purpose of Project: Transmission service to PVREA load area.

Estimated Cost (in 2010 Dollars): $22,394,000

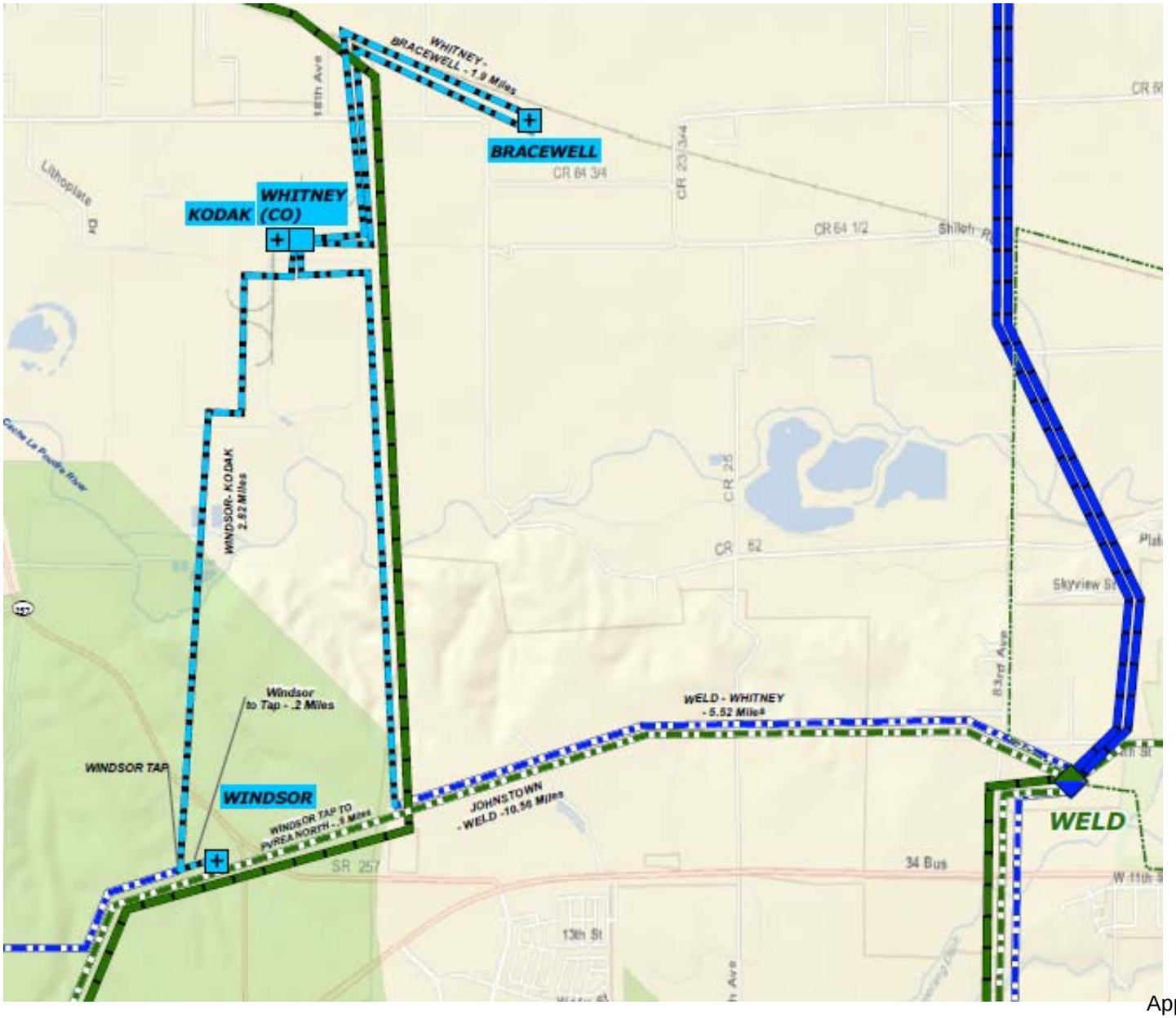
Schedule:

Construction Date:	2015
Planned In-Service Date:	2016
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	

Contact Information: Mark Stout

Email	mstout@tristategt.org
Phone	(303) 254 3412
Website Information	http://www.tristategt.org/transmissionPlanning/

Promontory Park Project: Promontory Park - Weld 230 kV Line
(Existing System)



Promontory Park Project: Promontory Park - Weld 230 kV Line

(Future System Configuration Showing Project Construction)

Distribution Projects

The following projects are delivery point projects that are primarily intended to meet member requests for additional service in their area. The projects are usually due to either an increase in load at an existing delivery point, or a large new commercial or industrial load that is to be constructed in the member service area of sufficient size and at a given location such that it exceeds the member's capacity to feasibly and reasonably serve through its existing distribution system. However, in other cases, the projects are necessary to improve the reliability of the bulk transmission system by alleviating various operating constraints, existing or foreseen overload conditions during normal and/or contingency operations, or to provide additional voltage support and/or looped transmission service to limit service interruptions to Tri-State's members' customers.

Burdett 115 kV Delivery Point Project

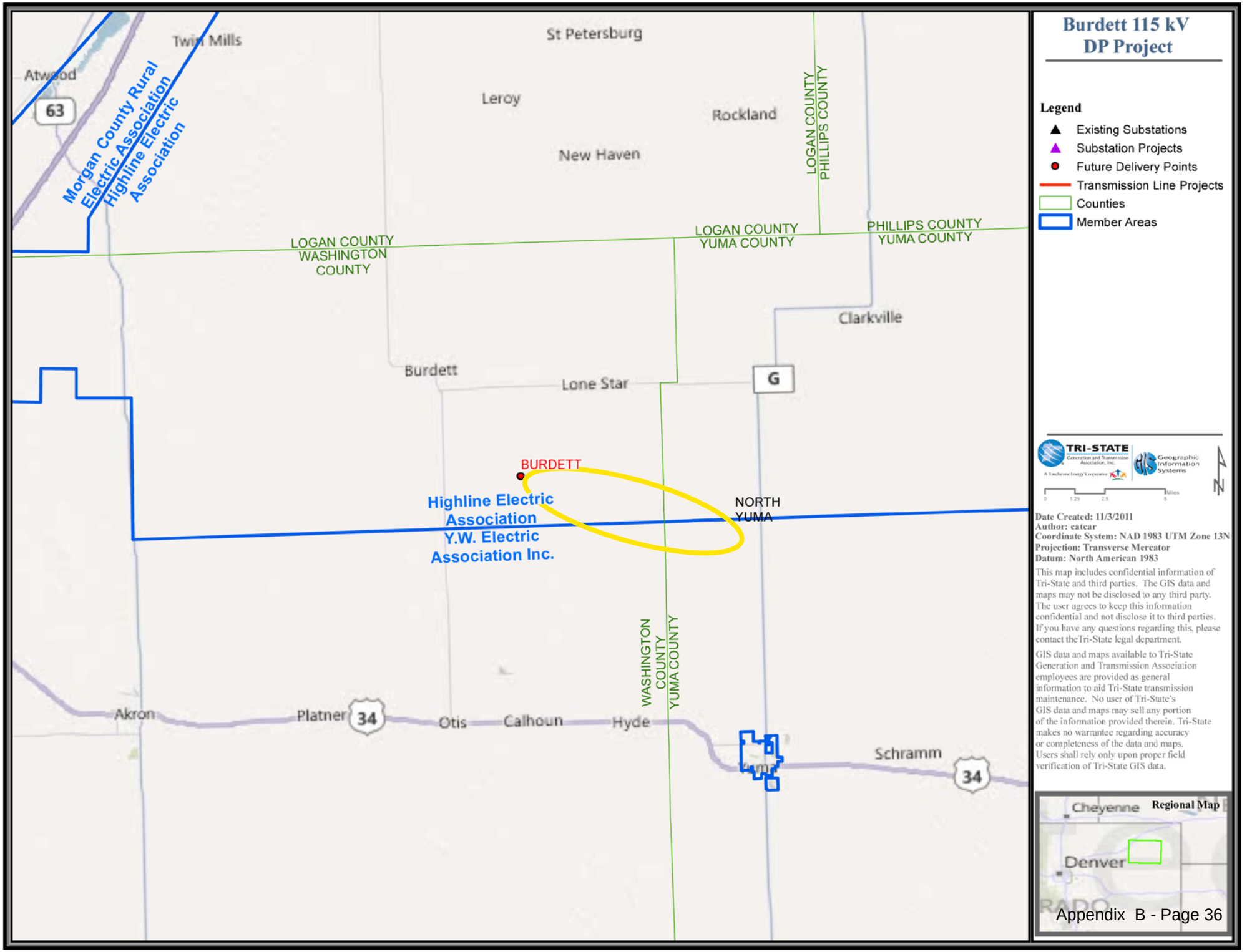
The purpose of this project is to provide new service to a Highline Electric Association (HEA) customer, which is constructing a natural gas liquid compressor station, with a motor-compressor set to pressurize its pipeline. Williams's 115-4.16 kV, 7.5 MVA Substation will be located approximately 12 miles westnorthwest of T/S's N. Yuma Substation, at Section 19, SW ¼, T4N, R49W.

This project is presently planned to be financed solely by HEA's customer and constructed by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Burdett 115 kV Delivery Point Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	
Project Description:	New 115 kV transmission line between Tri-State's existing North Yuma Substation to a new 115 kV Burdett substation.
Voltage Class:	115 kV
Facility Rating:	166 MVA
Point of Origin/Location:	North Yuma Substation
Point of Termination:	Near Burdett, CO
Intermediate Points:	
Length of Line (in Miles):	12
Type of Project:	Distribution
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG
Purpose of Project:	To serve pipeline compressor load.
Estimated Cost (in 2010 Dollars):	$4,772,000
Schedule:	
Construction Date:	2012
Planned In-Service Date:	2012
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	
Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	(303) 254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/



Burdett 115 kV DP Project

Legend

- Existing Substations
- Substation Projects
- Future Delivery Points
- Transmission Line Projects
- Counties
- Member Areas

TRI-STATE Generation and Transmission Association, Inc.
A Touchstone Energy® Cooperative
Geographic Information Systems

0 1.25 2.5 5 Miles

N

Date Created: 11/3/2011
Author: catcar
Coordinate System: NAD 1983 UTM Zone 13N
Projection: Transverse Mercator
Datum: North American 1983

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MXD Location: G:\Projects\Planning\maps\Burdett.mxd

DCP Midstream 115 kV DP (South Kersey)

The function of this project is for Tri-State to provide service to a Poudre Valley REA customer at South Kersey substation for the new LaSalle Natural Gas Processing Plant (to be owned and operated by DCP Midstream) by 'tapping' an existing 115 kV transmission line (Weld-Kiowa Creek) owned by the Western Area Power Administration (WAPA), and constructing a short (2 mile) radial transmission line extension of 795 ACSR conductor and single wood poles to serve a new substation (South Kersey), which is to be constructed adjacent to the gas plant. The new South Kersey substation will include a 115 kV breaker, 20 MVA 115-4.16 kV transformer, and 4.16 kV metering. It is to be located in Poudre Valley Rural Electric Association's (PVREA) service territory, in Weld County, about 2 miles southwest of the town of Kersey The gas plant load at startup in February, 2013 is expected to reach a peak of between 4 to 6 MW, after which it will rise to a peak demand of about 12 MW by the end of 2013, and 15 MW or more by the end of the following year, 2014.

Due to the extremely short notice that DCP provided to PVREA and Tri-State concerning its request for electric service, and the abbreviated schedule that is all that is available to permit, design, and construct this new transmission line extension and substation, Tri-State has secured WAPA's approval to construct a temporary tap of WAPA's 115 kV line until such time as WAPA can complete construction of a sectionalizing switching station (Kersey West). Once complete, Tri-State's radial 115 kV line to South Kersey will be fed from a breaker position at Kersey West.

This project is presently planned to be financed by PVREA's customer and constructed by TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

DCP Midstream 115 kV DP (South Kersey)

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	Poudre Valley Rural Electric Association (PVREA) Western Area Power Administration (WAPA)
Project Description:	New 115 kV South Kersey Substation and 115 kV transmission line to connect to existing WAPA 115 kV Weld-Kiowa Creek line at a new WAPA Kersey West Substation.

Voltage Class:	115 kV
Facility Rating:	40 MVA
Point of Origin/Location:	115 kV Weld-Kiowa Creek Line (Owned by WAPA)
Point of Termination:	South Kersey Substation
Intermediate Points:	Kersey Switching Station
Length of Line (in Miles):	2
Type of Project:	Distribution
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG

Purpose of Project: Additional transmission source and load service to PVREA.

Estimated Cost (in 2010 Dollars): $4,802,000

Schedule:

Construction Date:	2013
Planned In-Service Date:	2013
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	

Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	(303) 254 3412
Website Information	http://www.tristategt.org/transmissionPlanning/

DCP Midstream 115 kV DP
115 kV Kersey West - South Kersey Line and South Kersey Substation

Olive Creek 115 kV Delivery Point Project

The purpose of this project is to provide reliable transmission service to a natural gas liquid pumping station. The new load will has been approximated to be less than 5 MW. The Olive Creek 115 kV delivery point will be interconnected to a 115 kV line, approximately three miles in length, tapping Tri-State's existing Wray-Vernon Tap line. Williams's 115-4.16 kV, 7.5 MVA Substation will be located at Section 30, NE ¼, T1N, R43W. A new switching station located at Vernon Tap will also be built as part of the project and will replace the existing tap, which is located approximately 7 miles south of the Olive Creek tap point.

This project will be financed by the customer. The construction of the transmission line and switching station will be the responsibility of TSGT.

Tri-State Generation and Transmission Association
2012-2021 Transmission Plan

Olive Creek 115 kV Delivery Point Project

Project Sponsor:	Tri-State Generation and Transmission Association
Additional Project Participants:	
Project Description:	New 115 kV transmission line to a new 115 kV Olive Creek Substation. Project also includes new 115 kV Vernon Tap Switching Station approximately 7 miles south of Olive Creek Tap.

Voltage Class:	115 kV
Facility Rating:	166 MVA
Point of Origin/Location:	Olive Creek Tap, near Wray, CO.
Point of Termination:	Olive Creek, CO
Intermediate Points:	
Length of Line (in Miles):	3
Type of Project:	Distribution
Development Status:	Planned
Routing:	
Subregional Planning Group:	CCPG

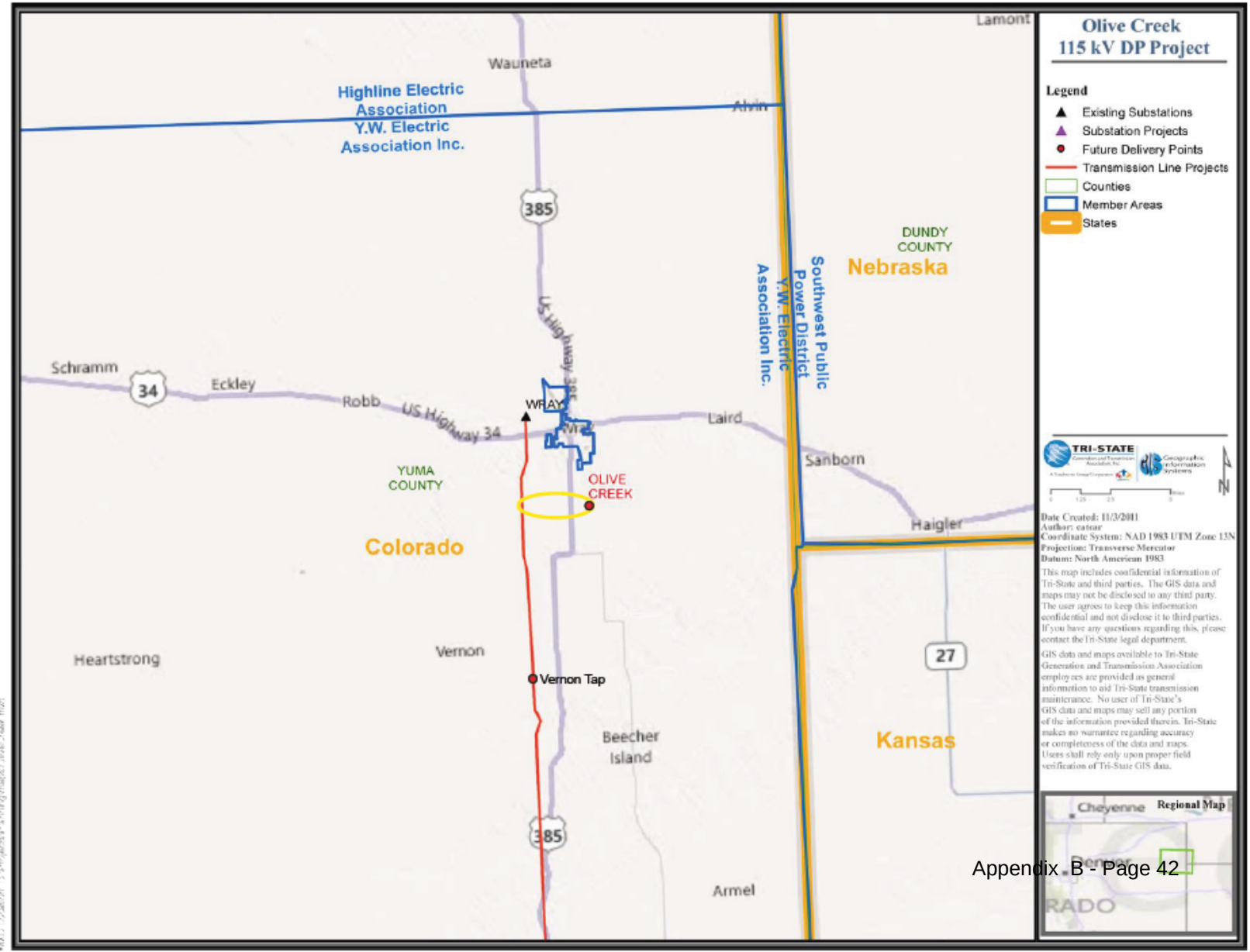
Purpose of Project: To serve pipeline compressor load

Estimated Cost (in 2011 Dollars): $4,073,000

Schedule:

Construction Date:	2012
Planned In-Service Date:	2013
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	

Contact Information:	Mark Stout
Email	mstout@tristategt.org
Phone	(303) 254-3412
Website Information	http://www.tristategt.org/transmissionPlanning/TransmissionPlanDoc.cfm


Olive Creek
115 kV DP Project
Legend
Existing Substations
Substation Projects
Future Delivery Points
Transmission Line Projects
Counties
Member Areas
States
Lamont
Wauneta
Highline Electric Association
Y.W. Electric Association Inc.
Alvin
385
DUNDY COUNTY
Nebraska
Southwest Public Power District
Y.W. Electric Association Inc.
US Highway 385
Schramm
34
Eckley
Robb
US Highway 34
WRAY
Laird
Sanborn
YUMA COUNTY
OLIVE CREEK
Colorado
Haigler
Heartstrong
Vernon
Vernon Tap
27
Beecher Island
Kansas
385
Armel
TRI-STATE
Date Created: 11/3/2011
Author: catsar
Coordinate System: NAD 1983 UTM Zone 13N
Projection: Transverse Mercator
Datum: North American 1983
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Cheyenne
Regional Map
Denver
RADO