TRI-STATE G&T

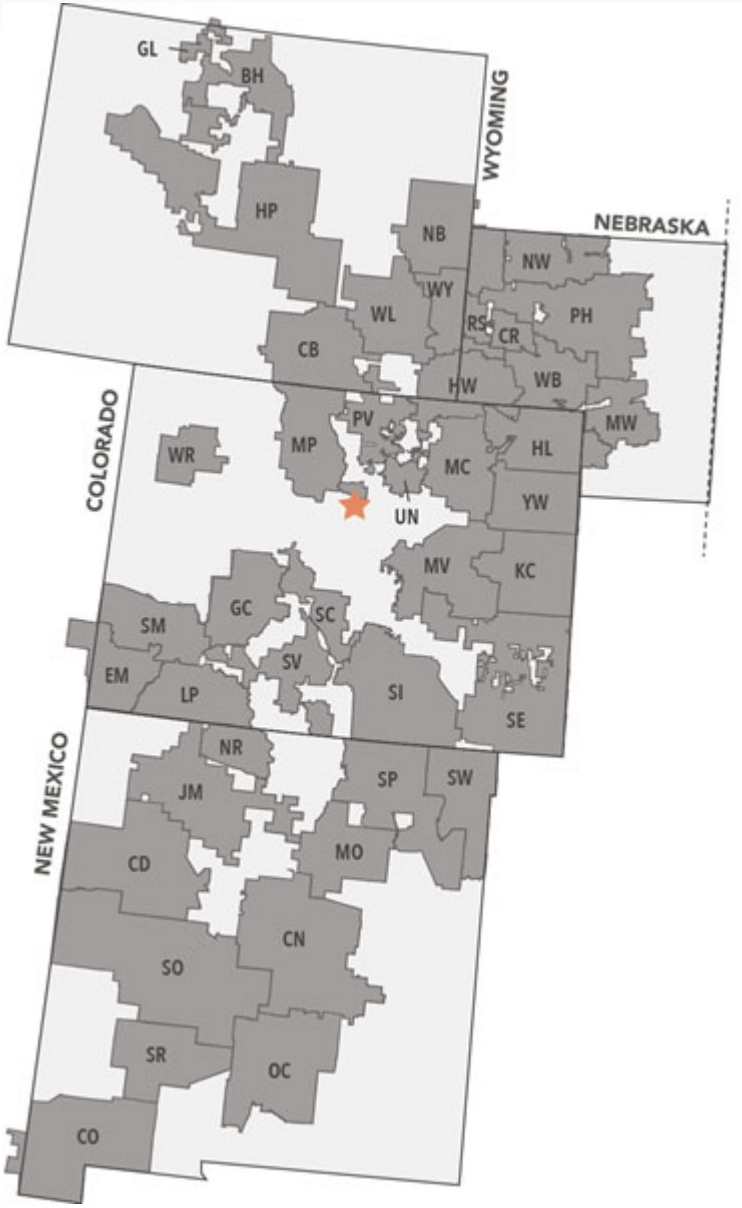
A Touchstone Energy® Cooperative

Colorado Rule 3627 & FERC Order 890 Stakeholder Meeting

October 15, 2021

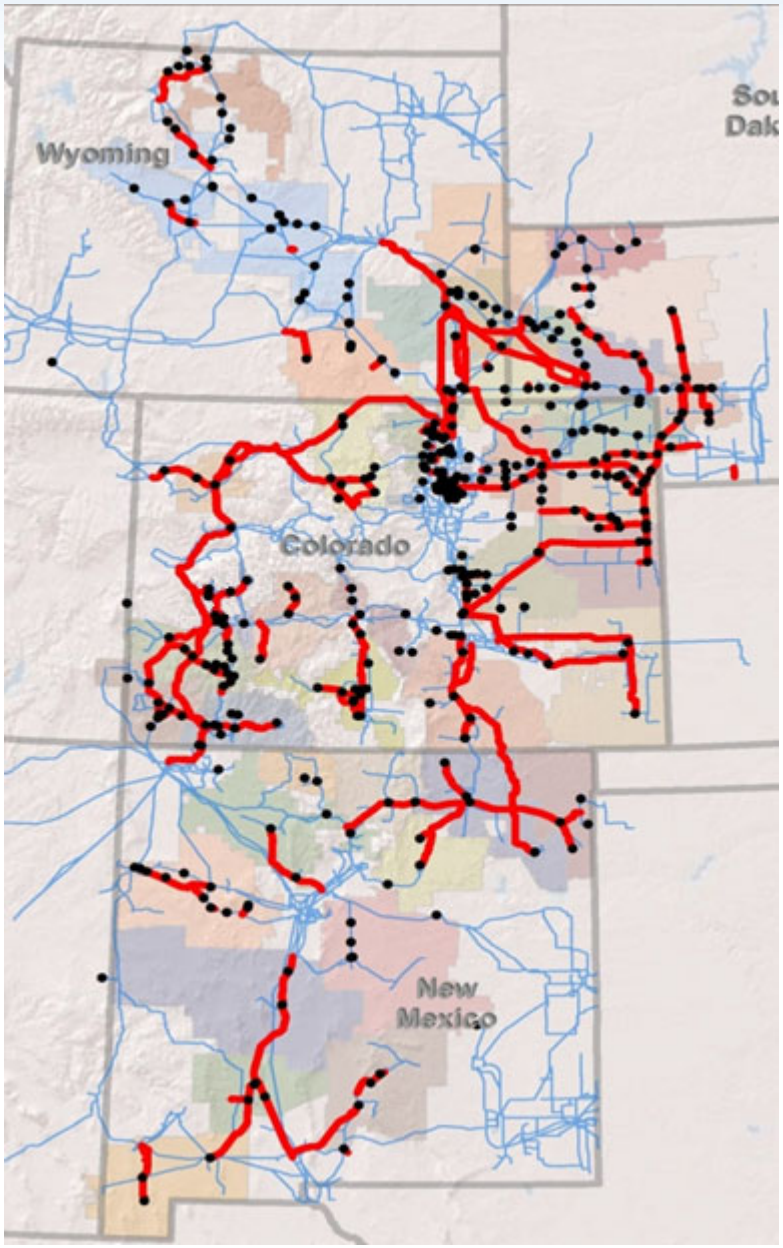
About Tri-State

Incorporated in 1952, Tri-State is a generation and transmission cooperative ("G&T") operating on a not-for-profit basis. Tri-State was formed by its Member Systems for the purpose of providing wholesale power and energy to its Members for resale to their retail consumers. Tri-State is controlled by a 40+ seat Board of Directors, with each of Tri-State's Members occupying one seat on the Board.



Our mission is to provide our members a reliable, affordable and responsible supply of electricity in accordance with cooperative principles.

Tri-State's Transmission System



Tri-State delivers reliable power to communities across nearly 200,000 square miles of the west, from the eastern plains through the Rocky Mountains and down to the southern deserts. We own or operate more than 5,665 miles of high-voltage lines, supported by our system of 220 substations and telecommunications sites.

This Meeting

- Participation in Tri-State's local planning process is open to all interested parties, including but not limited to, all network and point-to-point transmission service customers, interconnecting neighboring transmission providers, regulatory agencies, and other stakeholders.

- Promote discussion of all aspects of the Tri-State transmission planning activities, including, but not limited to, methodology, study inputs, public policy requirements, study results, and alternative solutions.

- Provide a forum for Tri-State to better understand the specific electric transmission interests of all stakeholders.

Scope

- Review Tri-State's transmission planning process and current study plan.
- Summarize the status of Tri-State's generator interconnection and transmission service queue.
- Provide updates on its developing and planned projects.
- Receive transmission study requests from stakeholders for review and discussion.
- Solicit information from its Transmission Customers on loads and resources and other needs, such as public policy requirements, for the preparation of its ten-year plan.

Note

- This is not the only forum to be involved.

- This meeting will be supplemented by additional stakeholder outreach activities in connection with individual transmission projects or overall programmatic needs, as necessary.

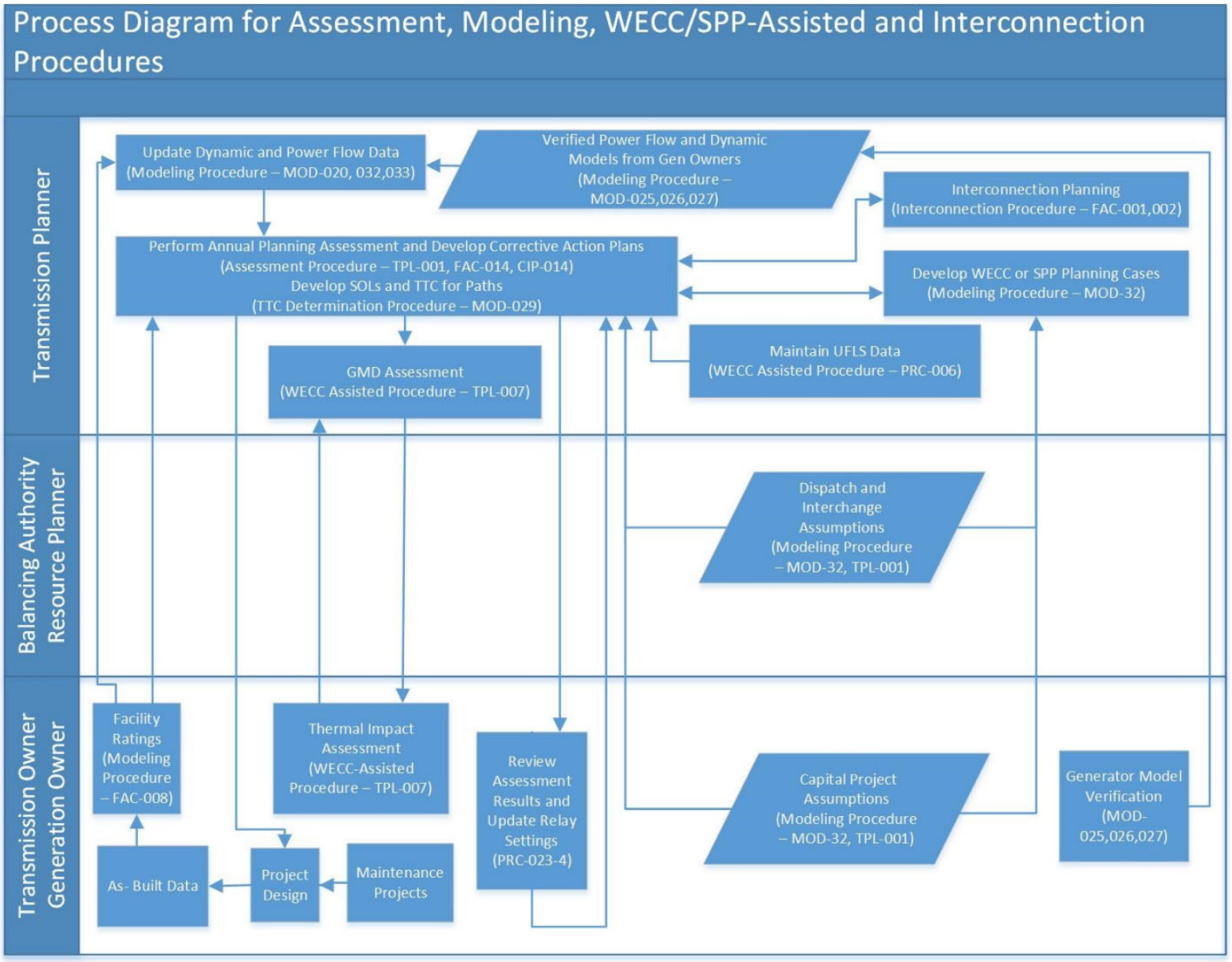
- Colorado Coordinated Planning Group (CCPG)
  - Voluntary, open transmission planning forum.
  - Membership is open to all interested stakeholders.
  - Includes all Colorado transmission utilities
  - http://regplanning.westconnect.com/ccpg.htm

Planning Processes

Planning Considerations

- Tri-State endeavors to conduct transmission planning with the goal of achieving best-cost solutions that balance numerous factors and result in optimal transmission projects:
  - Load projections
  - New delivery points
  - NERC reliability standards
  - Generation resources and interconnections
  - Project partnership opportunities
  - Regional congestion
  - Transmission corridors
  - City and county zoning
  - Geographic features
  - Societal and environmental impacts
  - Operational and maintenance requirements
  - Consistency with short-term and long-term planning opportunities
  - Initial construction cost

Planning Processes: NERC Compliance

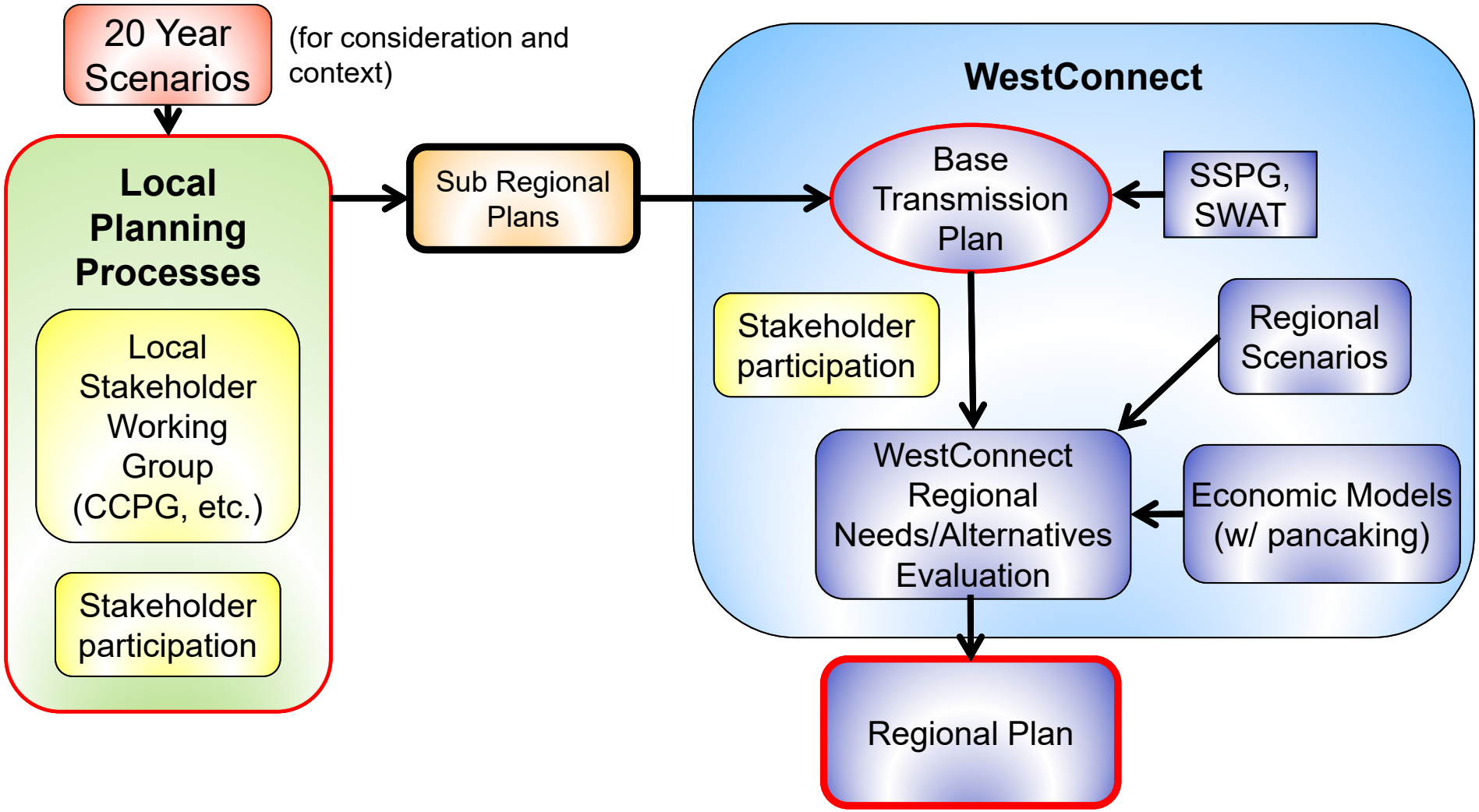


Study Process and/or Methodology for Other Studies

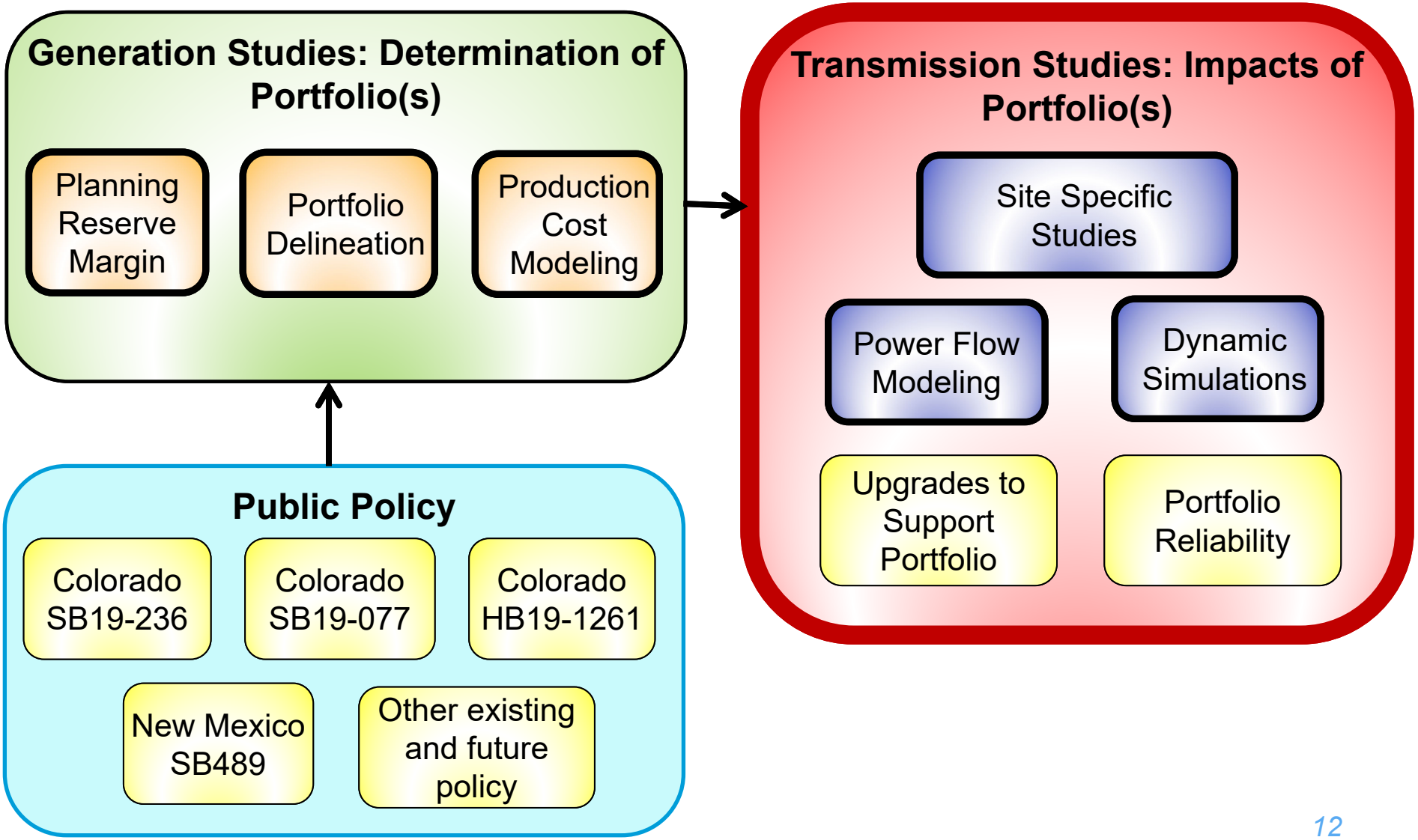
- Tri-State Oasis Site: https://www.oasis.oati.com/tsgt/index.html
  - Transmission Planning Process
    - → Open Access Transmission Tariff (OATT)
      - Attachment K of OATT
  - Large Generator Interconnection Procedures
    - → Open Access Transmission Tariff (OATT)
      - Attachment N of OATT
  - Small Generator Interconnection Procedures
    - → Open Access Transmission Tariff (OATT)
      - Attachment O of OATT
  - Engineering Standards Bulletin (Transmission Planning Criteria, etc.)
    - → Open Access Transmission Tariff
      - → Transmission Planning
        - → Engineering Standards Bulletin
  - EMTP Modeling Guidelines
    - → Open Access Transmission Tariff
      - → Transmission Planning
        - → EMTP Model Guidelines

Local vs Regional Planning

Relationship between local and regional planning processes:



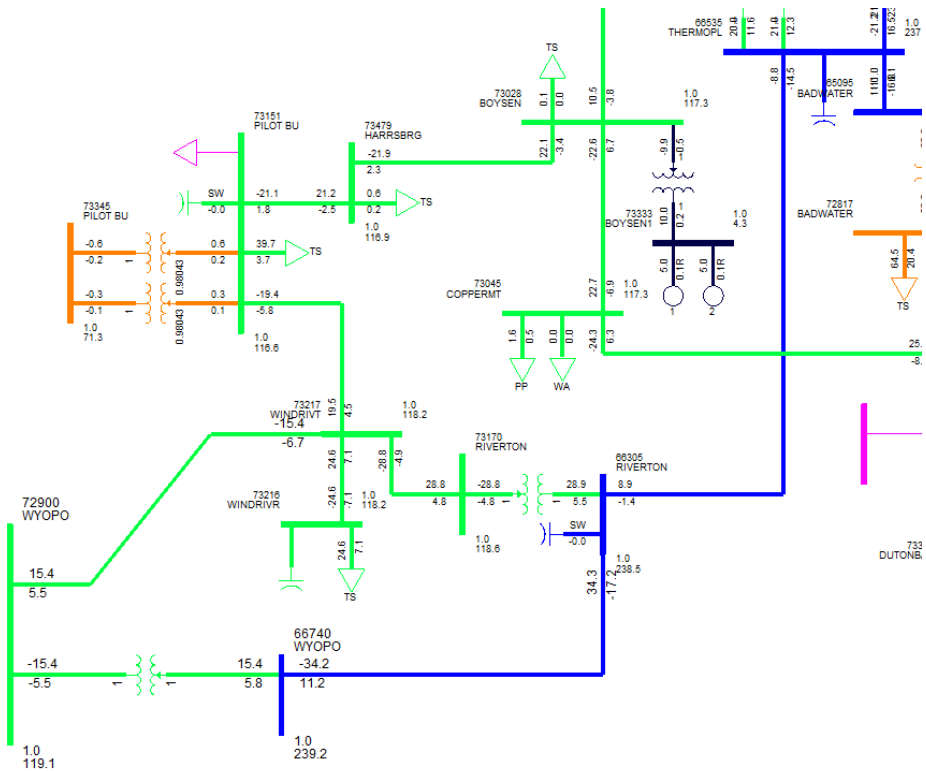
Resource Portfolios vs Transmission Planning



Required Studies

Power Flow Studies

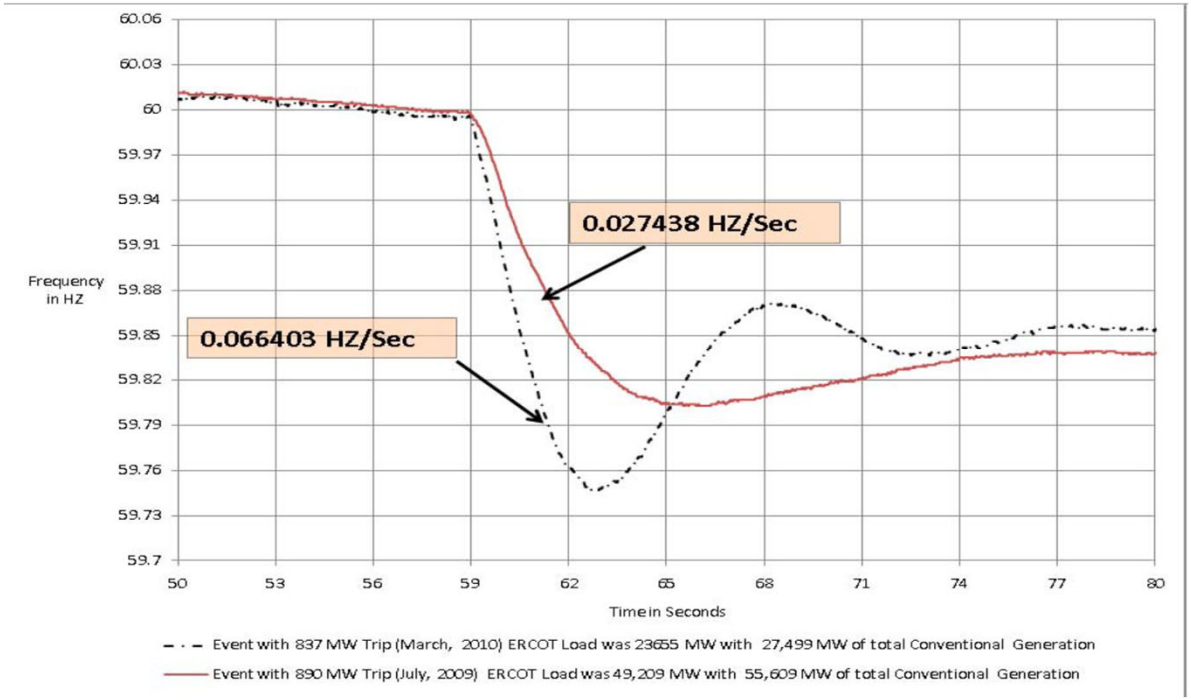
- Contingency analysis (P0-P7 & Extreme Events per NERC TPL-001-4)
- Monitor for overloads and voltage issues
- Identify areas for local, site-specific studies



Required Studies

Dynamic Simulations

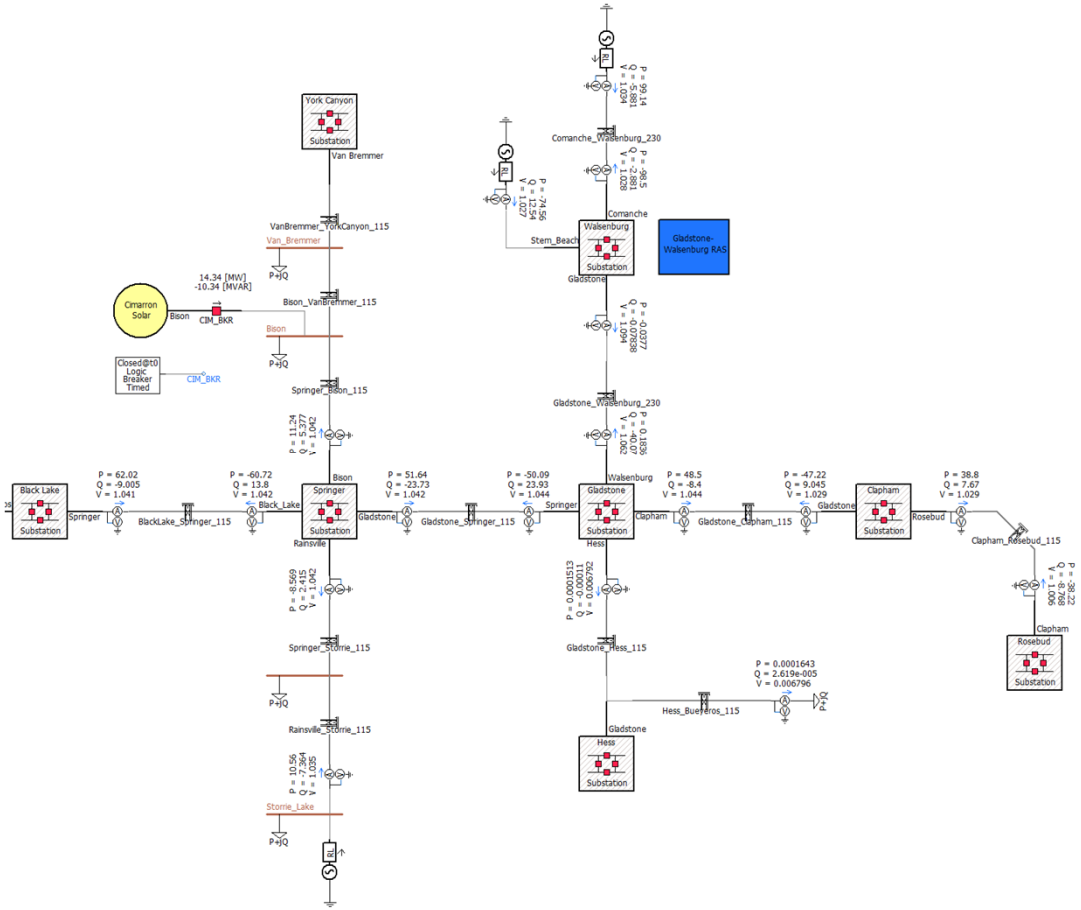
- Monitor frequency response
- Monitor governor response, rotor angle stability, out of step
- Voltage instability and ride through
- Dynamic VARS



Required Studies

Localized (Electromagnetic Transient) Studies

- Controller interactions
- Flicker
- Harmonics
- Weak Grid



Generator Interconnection Queue

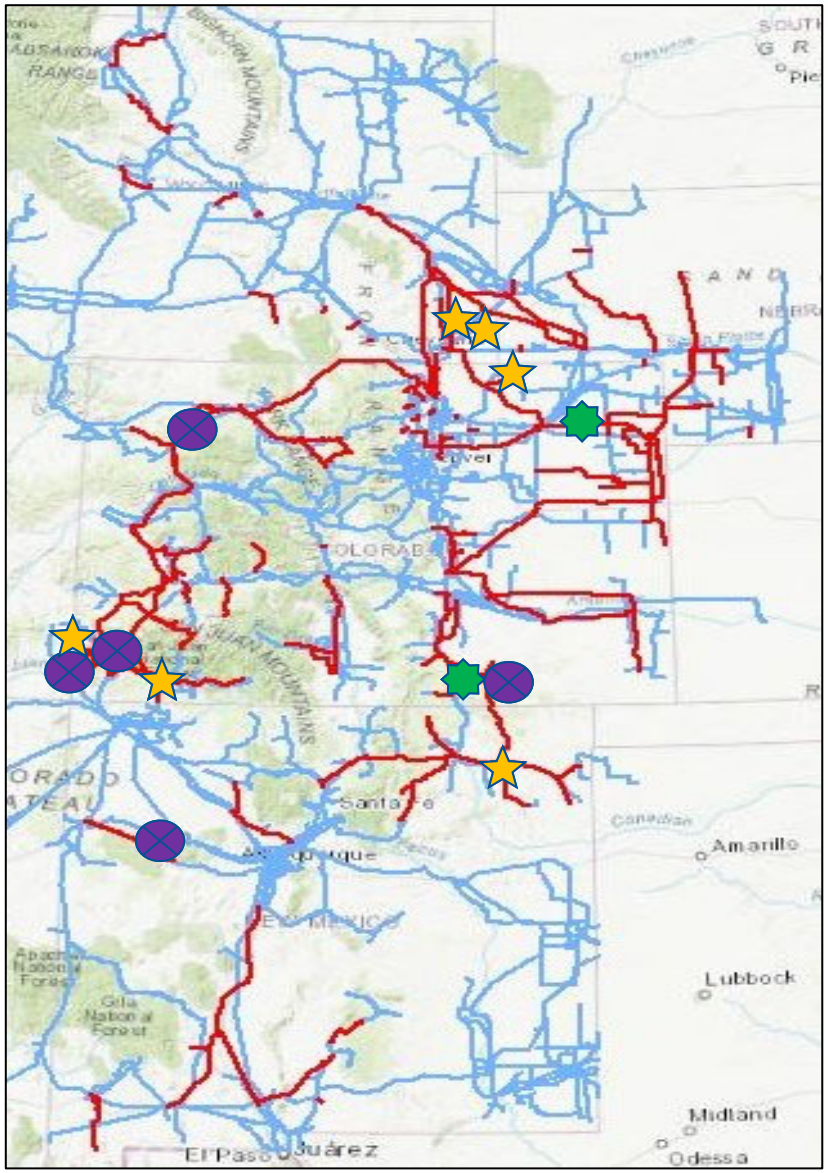
- Generator Interconnection Request Queue
  - https://www.oasis.oati.com/woa/docs/TSGT/TSGTdocs/Active_Interconnection_Request_Queue.pdf

- Large Generator Interconnection Requests
  - Sixteen (16) Interconnection Requests
    - Transitional Cluster Projects (6)
    - 2021 DISIS Cluster (10)

    - **Totals**
      - 399 MW of Wind
      - 2,103 MW of Solar
      - 734 MW of Battery Storage
      - 49.9 MW of Gas

- Small Generator Interconnection Requests
  - None

Interconnection & Transmission Service Projects



Filed Interconnection Agreement

Approved Transmission Service Request

Signed Interconnection Agreement w/ Approved Transmission Service

Interconnection & Transmission Service Queues

Generator Interconnection Requests with LGIAs:

- https://www.oasis.oati.com/woa/docs/TSGT/TSGTdocs/LGIA_Interconnection_Request_Queue_10-11-21.pdf

Request Number	Date Received	Point of Interconnection	LOCATION	Service Type	MW Capacity	Initial Requested ISD	GIA ISD	GIA Suspended	Status / Comments
PROJECTS WITH COMPLETED or UNEXECUTED GIA/LGIA									
TI-08-0312	3/12/2008	Springer to Van Bremmer 115kV	Colfax Couty, New Mexico	Network Resource	30 MW Solar	6/1/2010	7/10/2010	N/A	Completed
TI-08-0502	5/2/2008	Burlington to Big Sandy 230kV	Kit Carson County, Colorado	Network Resource	51 MW Wind	12/31/2010	10/15/2010	N/A	Completed
TI-12-0217	2/17/2012	South Canal to Dallas Creek 115kV Line	Ouray County, Colorado	Network Resource	7.2 MW Solar	3/1/2014	11/1/2013	N/A	Completed
TI-08-0204	2/4/2008	Burlington 230 kV Bus	Kit Carson County, Colorado	Network Resource	150 MW Wind	11/30/2009	11/30/2015	N/A	Completed
TI-15-0227	2/27/2015	Mimbres 115kV	Luna County, New Mexico	Network Resource	25 MW Solar	6/30/2016	10/31/2016	N/A	Completed
TI-15-0612	6/17/2015	Ludlow-Pinon Canyon 115kV	Las Animas County, Colorado	Network Resource	30 MW Solar	9/15/2016	9/15/2016	N/A	Completed
TI-17-0224	2/24/2017	Burlington-Big Sandy 230kV Line	Kit Carson/Cheyenne Counties, Colorado	Network Resource	104 MW Wind	6/1/2020	9/2/2020	N/A	Completed
TI-18-0827	8/27/2018	Redtail 115 kV Substation	Weld County, Colorado	Network Resource	145 MW Wind	10/01/2020	09/01/2021	No	Executed LGIA
TI-18-0227C	2/27/2018	Round Top Switching Station	Banner County, Nebraska	Network Resource	103 MW Wind	10/1/2021	9/1/2023	Yes	Suspended LGIA
TI-19-0828	8/28/2019	N. Yuma-Story Substation	Logan County, Colorado	NRIS	200 MW Wind	10/31/2021	8/15/2021	No	Executed PLGIA
TI-18-0809	8/9/2018	Walsenburg-Gladstone 230 kV Line	Las Animas County, Colorado	Network Resource	100 MW Solar	10/31/2020	10/1/2023	No	Executed LGIA
TI-17-0228	9/11/2019	Gladstone Sub/Gladstone-Hess 115kV Line	Union County, New Mexico	Network Resource	78 MW Wind	12/31/2020	4/15/2028	Yes	Suspended LGIA
TI-17-0225	9/5/2019	LRS-Story	Platte/Goshen Counties, Wyoming	Network Resource	248.4 MW Wind	12/31/2022	02/01/2024	Yes	Suspended LGIA
TI-19-0227	3/15/2021	Hesperus 115kV Substation	La Plata County, Colorado	NRIS	155 MW Solar+155 MW Storage	10/29/2023	8/1/2024	No	Executed LGIA
TI-18-0831B	4/16/2021	Yellow Jacket 115kV Switch Station	Montezuma County, Colorado	NRIS	127 MW Solar	10/1/2021	9/16/2024	No	Executed LGIA

Interconnection & Transmission Service Queues

Active Generator Interconnection Requests:

- https://www.oasis.oati.com/woa/docs/TSGT/TSGTdocs/Active_Interconnection_Request_Queue.pdf

Generation Interconnection Number	Current Cluster	Date of Interconnection Request	Point of Interconnection	LOCATION	Service Type Requested	MW Capacity	Projected COD	Status / Comments	Available Studies	Explanation why IR not completed
TRANSITIONAL CLUSTER (TC-2021)										
GI-TC-2021-01	TC-2021	3/15/2021	Craig-Meeker 345kV Line	Moffat & Rio Blanco Counties, Colorado	NRIS	145 MW Solar	3/15/2023	TC-Combined Study		
GI-TC-2021-02	TC-2021	3/15/2021	Main Switch 115 kV	Montezuma County, Colorado	NRIS	140 MW Solar	3/1/2023	TC-Combined Study		Withdrawn
GI-TC-2021-03	TC-2021	3/15/2021	Cahone	Dolores County, Colorado	NRIS	110 MW Solar	2/1/2023	TC-Combined Study		
GI-TC-2021-04	TC-2021	3/15/2021	Walsenburg-Gladstone 230 kV Line	Las Animas County, Colorado	NRIS	40 MW Solar	10/15/2022	TC-Combined Study		
GI-TC-2021-05	TC-2021	3/15/2021	PEGS 230kV Station	McKinley County, New Mexico	NRIS	200 MW Solar	4/1/2023	TC-Combined Study		
GI-TC-2021-06	TC-2021	3/15/2021	N. Yuma-Story 230kV Line	Logan County, Colorado	NRIS	200 MW Wind	9/2/2021	TC-Combined Study		
GI-TC-2021-07	TC-2021	3/15/2021	Garnet Mesa 115kV Substation	Delta County, Colorado	NRIS	80 MW Solar	9/01/2022	TC-Combined Study		
DEFINITIVE INTERCONNECTION SYSTEM IMPACT STUDY CLUSTER (DISIS-2021)										
GI-DISIS-2021-01	DISIS-2021	4/15/2021	Gladstone-Bravo Dome West 115kV Line	Harding County, New Mexico	NRIS/ERIS	120 MW Solar	12/31/2023	DISIS Phase 1		
GI-DISIS-2021-02	DISIS-2021	5/21/2021	Story 345kV Substation	Morgan County, Colorado	NRIS/ERIS	400 MW Solar+200 MW Storage	12/1/2023	DISIS Phase 1		
GI-DISIS-2021-03	DISIS-2021	5/25/2021	Keota 345 kV Substation	Weld County, Colorado	NRIS/ERIS	170 MW Solar+85 MW Storage	12/1/2023	DISIS Phase 1		
GI-DISIS-2021-04	DISIS-2021	5/26/2021	Alamogordo-Dona Ana 115kV Line	Otero County, New Mexico	NRIS	100 MW Solar+50 MW Storage	6/28/2024	DISIS Phase 1		
GI-DISIS-2021-05	DISIS-2021	5/27/2021	Liberty 115kV Substation	Yuma County, Colorado	NRIS/ERIS	100 MW Solar+50 MW Storage	1/12/2023	Withdrawn		Withdrawn
GI-DISIS-2021-06	DISIS-2021	5/27/2021	Main Switch 115kV Substation	Montezuma County, Colorado	NRIS/ERIS	140 MW Solar	12/31/2023	DISIS Phase 1		
GI-DISIS-2021-07	DISIS-2021	5/28/2021	Lamar 230kV Substation	Prowers County, Colorado	NRIS/ERIS	199 MW Wind	6/1/2025	DISIS Phase 1		
GI-DISIS-2021-08	DISIS-2021	5/28/2021	Bravo Dome 115kV Substation	Union County, New Mexico	NRIS	100 MW Solar+50 MW Storage	6/28/2024	Withdrawn		Withdrawn
GI-DISIS-2021-09	DISIS-2021	5/28/2021	El Paso 115kV Tap	La Plata County, Colorado	NRIS/ERIS	49.9 MW Gas	1/1/2024	DISIS Phase 1		
GI-DISIS-2021-10	DISIS-2021	5/28/2021	DJ-LRS 230kV Line	Converse County, Wyoming	NRIS	199 MW Solar+199 MW Storage	6/1/2023	DISIS Phase 1		
GI-DISIS-2021-11	DISIS-2021	5/28/2021	Walsenburg-Gladstone 230kV Line	Las Animas County, Colorado	NRIS/ERIS	200 MW Solar+100 MW Storage	6/15/2024	DISIS Phase 1		
GI-DISIS-2021-12	DISIS-2021	6/1/2021	Peach Valley 115kV Switching Station	Montrose County, Colorado	NRIS/ERIS	199 MW Solar+100 MW Storage	12/1/2025	DISIS Phase 1		

Interconnection & Transmission Service Queues

Transmission Service Request Queue

- https://www.oasis.oati.com/woa/docs/TSGT/TSGTdocs/TRANSMISSION_SERVICE_Queue_10-5-2021.pdf

Network Service Transmission Requests

Request Number	Application/Submission Completion Date	Oasis Reservation or Status Change	Location or POR / POD	Service Type	MW Capacity Requested (Granted)	In-service Date	Status / Comments	Study	Agreement Executed	Study Completed	Network Service Granted
TSR-15-0319	3/19/2015	TSR # 81269893	Lamar 230 kV to Midway 230 kV	Network Service	75 (75)	12/1/2017	Evaluation Complete	N/A			Declared acceptable for Network Resource Designation
	12/19/2018	TSR# TSWALTCOMA	Walsenburg 230kV to Gladstone 230kV	Network Service	100	11/1/2023	Evaluation Complete	N/A			Declared acceptable for Network Resource Designation
	2/15/2019	TSR # TSBURLBSAN	Landsman Creek to Big Sandy 230kV	Network Service	104	12/18/2020	Evaluation Complete	N/A			Declared acceptable for Network Resource Designation
TSOA-19-0025	10/18/2019	NITS Application	Southeastern Colorado	Network Service	63	1/1/2020	Network Integration Transmission Service Agreement Executed	N/A		N/A	
TSOA-19-0063	12/10/2019	TSR # TSAXBASINSOLAR	Moffat County, Colorado	Network Service	145	1/1/2023	Evaluation Complete	SIS		3/18/2020	Declared acceptable for Network Resource Designation
TSOA-19-0064	12/10/2019	TSR # TSDOLOCANSOLAR	Cahone 115kV	Network Service	110	1/1/2023	Evaluation Complete	SIS		3/18/2020	Declared acceptable for Network Resource Designation
TSOA-19-0065	12/10/2019	TSR # TSESCALANTESOLAR	PEGS TO AMBROSIA 230kV	Network Service	200	10/1/2023	Evaluation Complete	SIS		3/12/2020	Declared acceptable for Network Resource Designation
TSOA-19-0006	12/10/2019	TSR # TSSPANPEAKSII	Las Animas County, Colorado	Network Service	40	1/1/2023	Evaluation Complete	SIS		3/23/2020	Declared acceptable for Network Resource Designation
TSOA-19-0067	12/18/2019	TSR # TSNIYOLWIND	Logan and Washington Counties, Colorado	Network Service	201 201	8/18/2021	Evaluation Complete	SIS		3/13/2020	Declared acceptable for Network Resource Designation
TSOA-20-0007	1/7/2020	NITS Application TSOA-20-0007	Montrose, Colorado	Network Service	99	5/1/2020	Evaluation Complete	SIS		3/13/2020	Declared acceptable for Network Integration Transmission Service
TSOA-20-0004	1/13/2020	TSR # TSCGULSOLAR	Southwestern Colorado	Network Service	120	1/1/2023	Evaluation Complete	SIS		3/24/2020	Withdrawn
TSR-20-1203	12/17/2020	TSR# TSCGULSOLAR	Southwestern Colorado	Network Service	140 140	9/15/2023	Network Upgrades Required	SIS/FACS		7/6/2021	Declared acceptable for Network Resource Designation dependent on Network Upgrades
TSR-21-0719	7/19/2021		Redtail to Story, Lamar230kV to Midway	Network Service	52	6/1/2022	Application Incomplete- Evaluation Phase to Determine Completeness				
TSR-21-0729	7/29/2021		Redtail to Story, Lamar230kV to Midway	Network Service	27	6/1/2022	Application Incomplete- Deficiencies not corrected				Withdrawn

Interconnection & Transmission Service Queues

Transmission Service Request Queue

- https://www.oasis.oati.com/woa/docs/TSGT/TSGTdocs/TRANSMISSION_SERVICE_Queue_10-5-2021.pdf

Point-to-Point Transmission Service Requests

Request Number	Application Submission/Submission Completion Date	Oasis Reservation or Status Change	Location or POR / POD	Service Type	MW Capacity Requested (Granted)	In-service Date	Status / Comments	Study	Agreement Executed	Study Completed	Transmission Service Agreement Exectued
TSR-21-0908	9/8/2021	94936658	Gladstone 230kV to Ojo 345kV	Pt. to Pt. long term firm transmission service	104	1/1/2022	Evaluation Complete	N/A			
TSR-21-0707B	7/7/2021	94428573	San Juan345kV to Four Corners 345kV Path 2	Pt. to Pt. long term firm transmission service	25 25	1/1/2022	Transmission Service Agreement Executed	N/A	8/13/2021		Agreement Executed
TSR-21-0707	7/7/2021	94428494	San Juan345kV to Four Corners 345kV	Pt. to Pt. long term firm transmission service	50 50	1/1/2022	Transmission Service Agreement Executed	N/A	8/13/2021		Agreement Executed
TSR-21-0624	6/24/2021	TSR #94318063	Montrose 115kV to San Juan 345kV	Pt. to Pt. long term firm transmission service	27 27	6/1/2022	Transmission Service Agreement Executed	N/A	9/2/2021		Agreement Executed
TSR-21-0524	6/3/2021	TSR #94182966	Ault to Calamity Ridge 138kV	Pt. to Pt. long term firm transmission service	120	10/1/2024	System Impact Study Agreement Executed TSOA-21-0025	SIS	6/23/2021		
TSR-21-0402	4/2/2021	TSR #93529784	Laramie River Station 345kV to Ault	Pt. to Pt. long term firm transmission service	150 129	6/1/2022	System Impact Study Completed	SIS	5/3/2021	7/29/2021	Agreement Executed
TSR-20-1216	12/16/2020	TSR #92823403	Laramie River Station 345kV to Ault	Pt. to Pt. long term firm transmission service	120 (0)	6/1/2021	System Impact Study Complete (SISA TSOA-20-0062) Request has been REFUSED due to SIS findings.	SIS		4/2/2021	
TSOA-19-0057		TSR# 90541456	Ambrosia to Fort Wingate/Mendoza	Pt. to Pt. long term firm transmission service	8 (8)	1/1/2020	Transmission Service Agreement Executed	N/A			12/18/2019
TSOA-19-0057		TSR# 90541456	Ambrosia to Fort Wingate/Mendoza	Pt. to Pt. long term firm transmission service	8 (8)	1/1/2020	Transmission Service Agreement Executed	N/A			12/18/2019
TSR-17-1018	10/18/2017	TSR #85694125	Story 345 kV to Dave Johnston	Pt. to Pt. long term firm transmission service	214	10/31/2020	Evaluation Phase to Determine Need for System Impact Study				
TI-04-1208	5/1/2005	Met Network Resource Qualification	Willow Creek	Upgraded Network Resource for Existing Network Customer	14 (14)	4/1/2008	Plant testing and Emissions qualification	SIS FAC	4/19/2007	6/20/2005 6/15/2007	Pending Commercial Operation of Plant
TSR-08-0229	2/29/2008	TSR Application Letter	Playas to Hidalgo 115 kV	Pt. to Pt. long term firm transmission service	11 (11)	11/1/2012	Transmission Service Agreement Executed	SIS N/A		6/20/2008	12/19/2008 (11 MW)
TSR-09-0708	7/8/2009	TSR# 73220095	Burlington to Big Sandy 230kV	Network Service	51 (51)	1/1/2011	Evaluation Completed: No System Impact Study(SIS) required.				Declared acceptable for Network Resource Designation
TSR-14-0102	1/2/2014	Met Network Resource Qualification	Burlington 230KV	Network Service	150 (150)	21/1/2015	Evaluation Phase complete				Declared acceptable for Network Resource Designation
TSR-14-0623	6/23/2014	TSR # 79820792	Ambrosia to Fort Wingate/Mendoza	Pt. to Pt. long term firm transmission service	10 (10)	1/1/2015	Transmission Service Agreement Executed	N/A			1/1/2015 (10 MW)

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Study Requests

Study/Information Requests

- Transmission Study Requests
  - None received outside of the sub-regional planning groups (CCPG, SWAT)
  - Any new requests for discussion?

- Economic Study Requests
  - None received outside of regional study process (Westconnect)
    - Due to Tri-State by Sept 1 each year for discussion at this annual meeting
  - Submit any requests to Tri-State at: transmissionplanning@tristategt.org

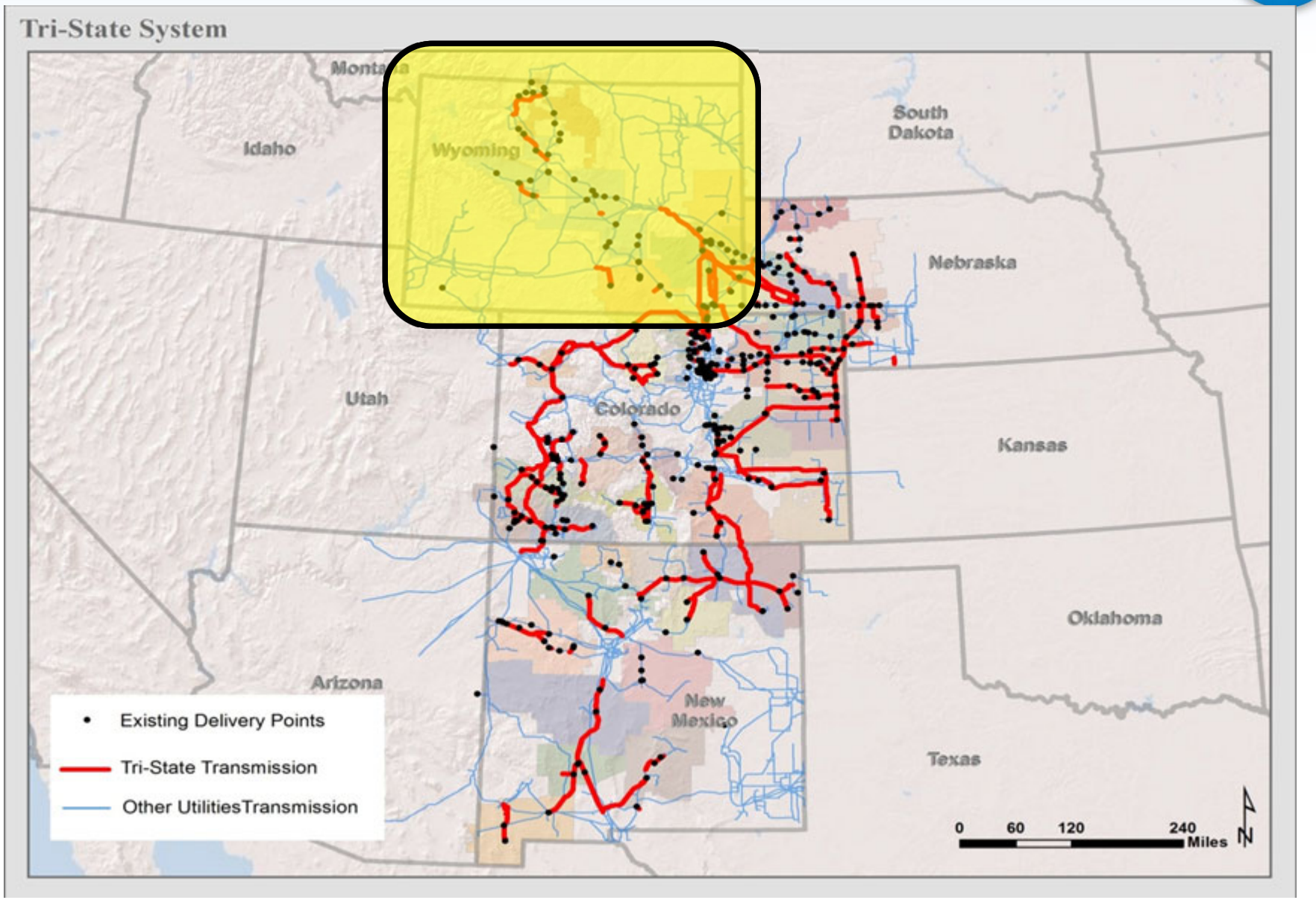
- Information Requests
  - Load and Resource information requests have been sent to Network Customers
    - Tri-State requests Network Customers continue to provide updates to Load and Resource information, as well as other modeling information, to assist in preparation of our ten-year transmission plan

Projects

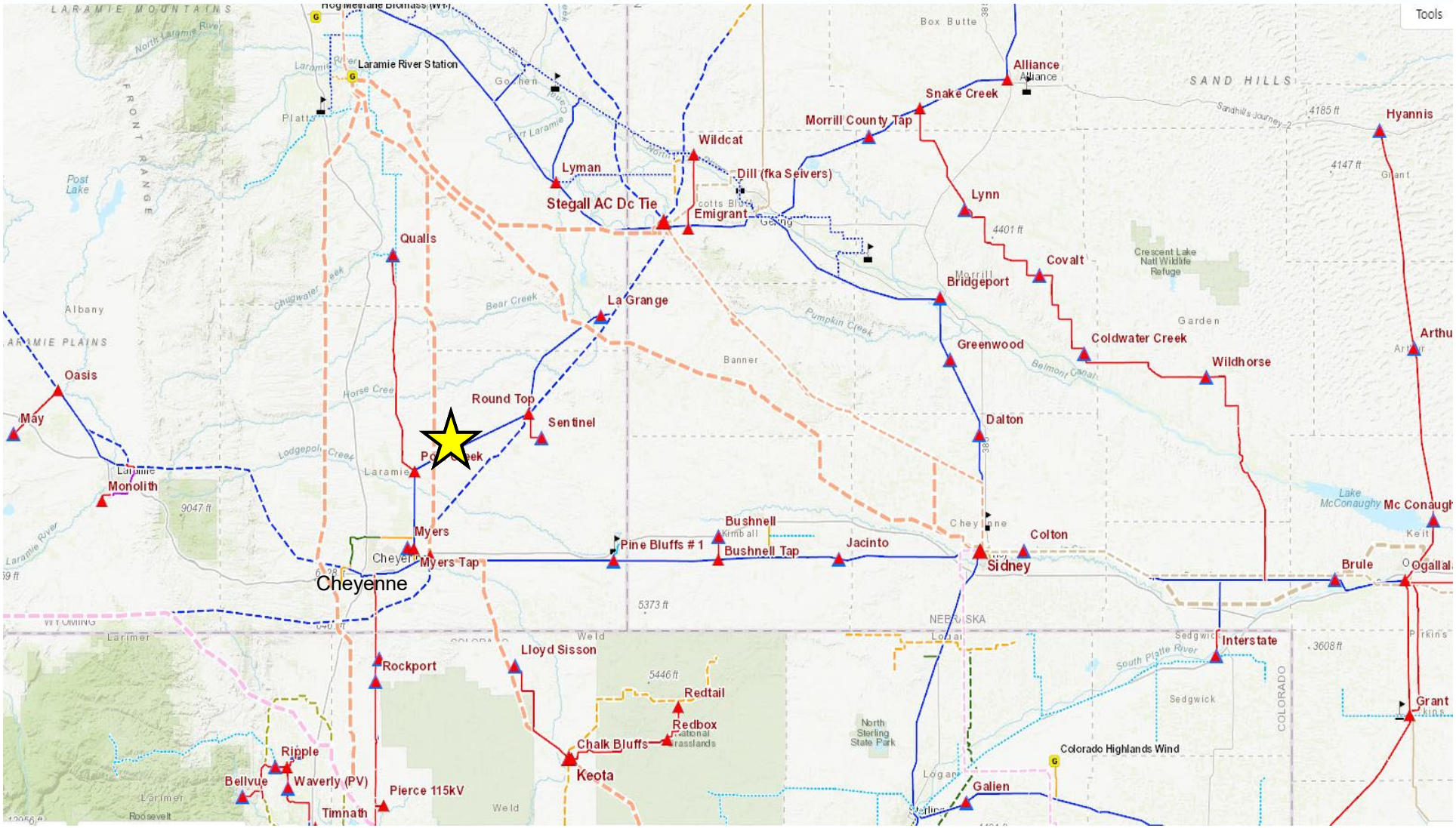
Project Status Categories

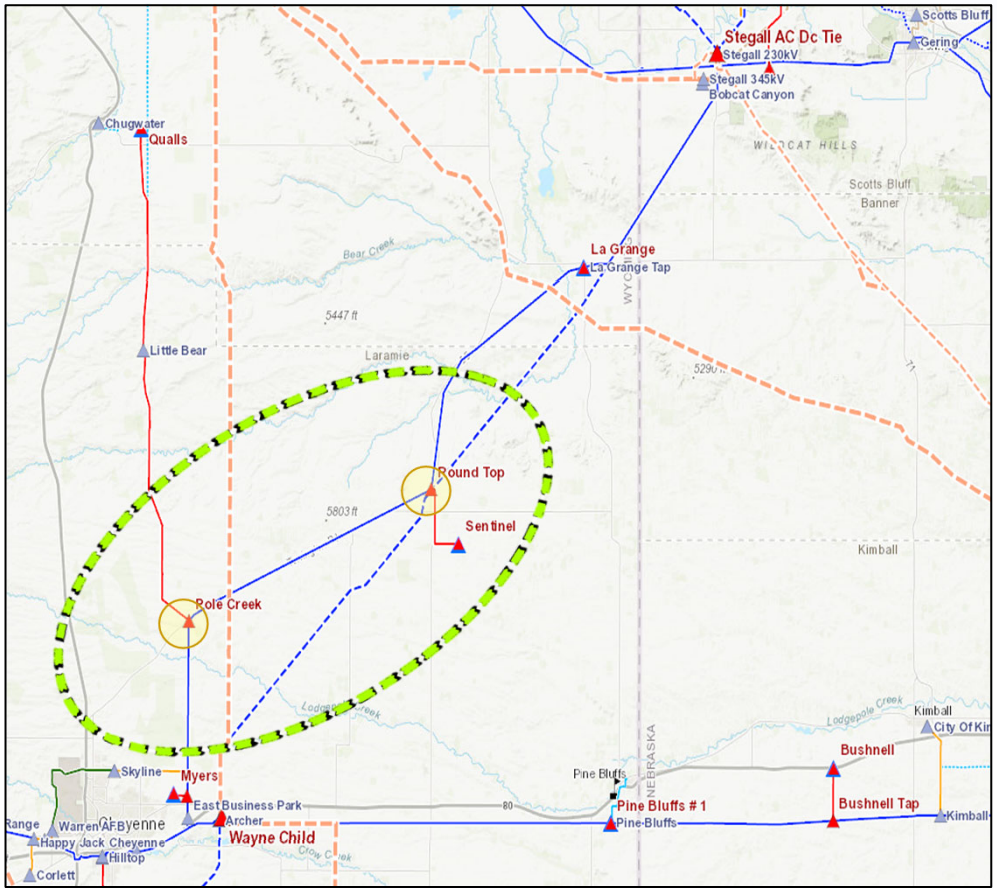
- Developing
  - Some objectives and needs have been identified. Some alternatives have or are being considered, but stakeholder proposed alternatives are also requested.
- Conceptual
  - Conceptual/hypothetical objectives and needs. Alternative(s) has been decided. Project drivers are uncertain.
- Planned
  - Objectives and needs are more clear at the current time, but are subject to change. Preferred alternative(s) has been identified. Project drivers have more certainty than Conceptual projects.
- Under-Construction
  - Board approved project. Project has started accruing costs due to preliminary activities (i.e. design, routing, permitting, regulatory activities), and/or actual construction.
- Energized
- Canceled

Projects: Wyoming (5)



Archer - Stegall Sectionalizing Project

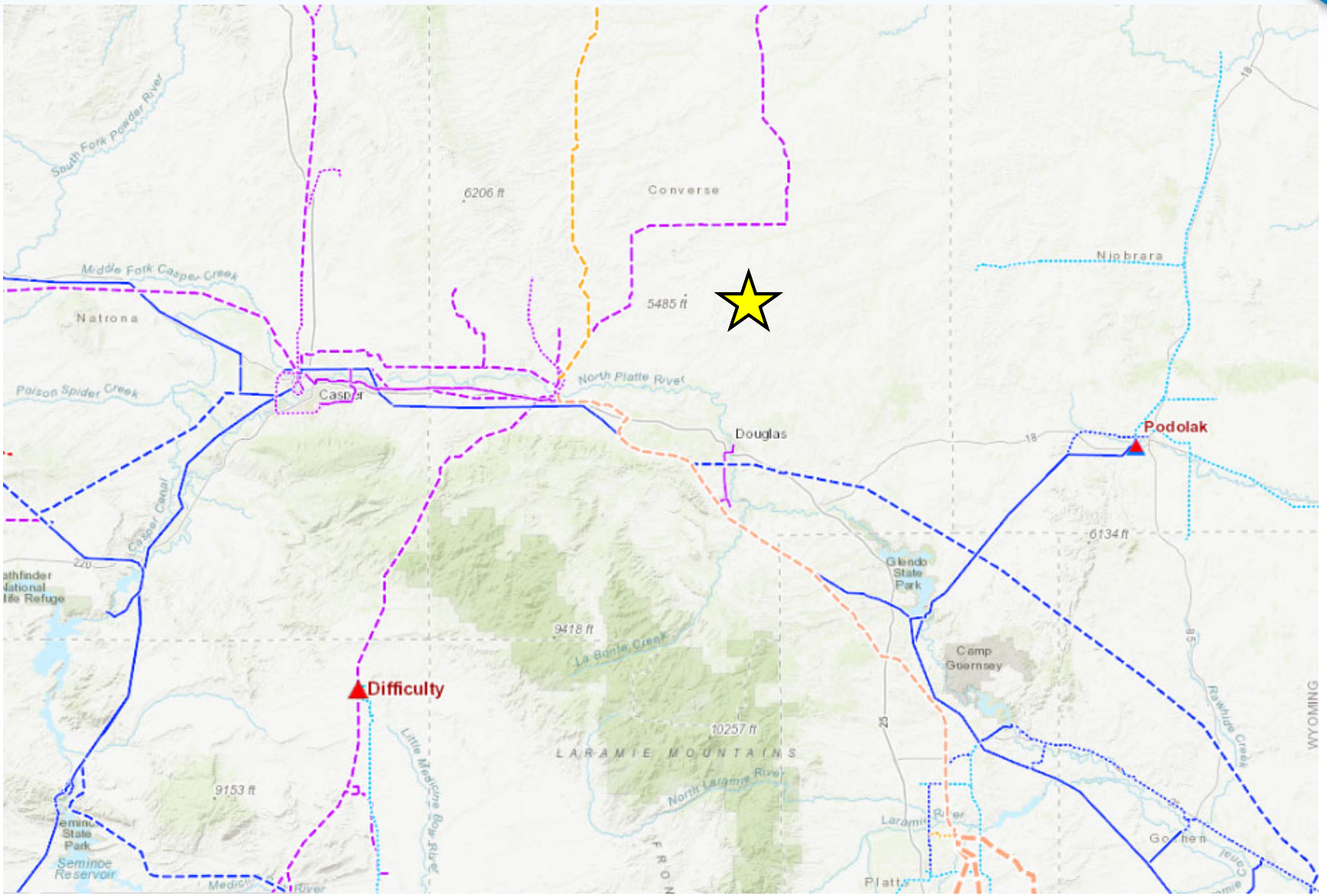


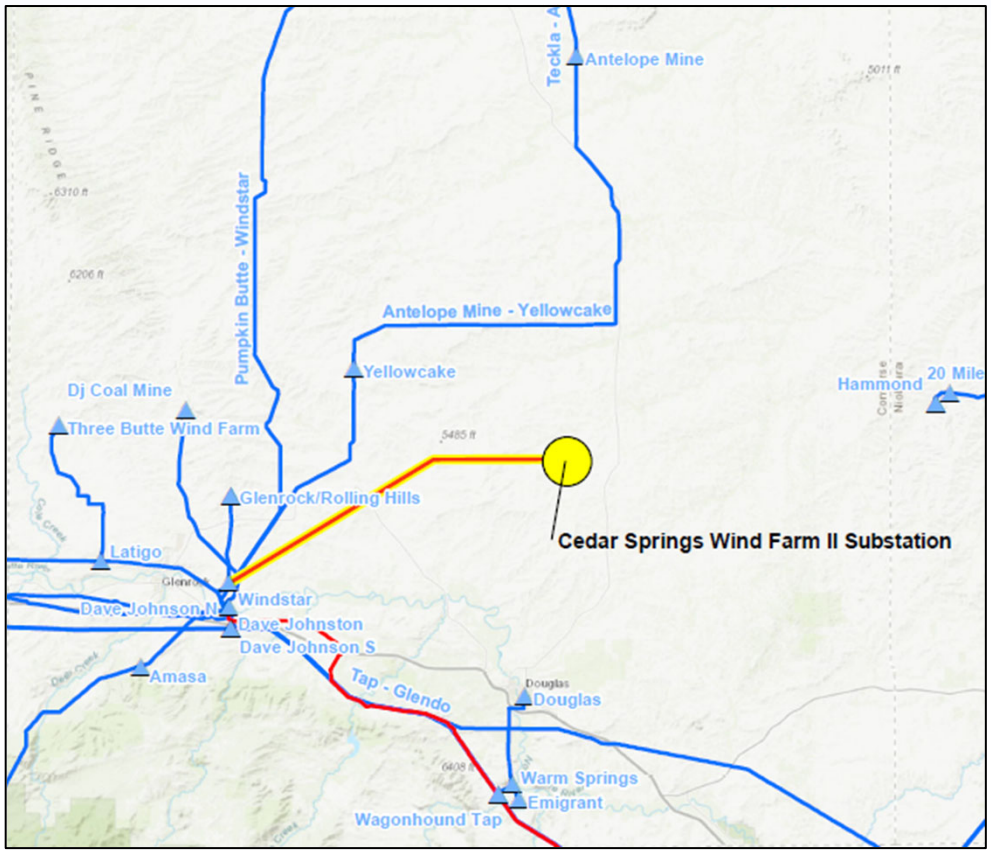


Archer - Stegall Sectionalizing Project

Description:	Sectionalize Archer – Stegall 115 kV line with a new 115 kV three breaker ring bus (expandable to four) at Pole Creek and three 115 kV breakers in a star bus configuration at Round Top
Voltage:	115 kV
Length:	0 miles
Type:	Substation
Status:	Planned
Planned ISD:	2024
Purpose:	Reliability

Converse County Oil Development

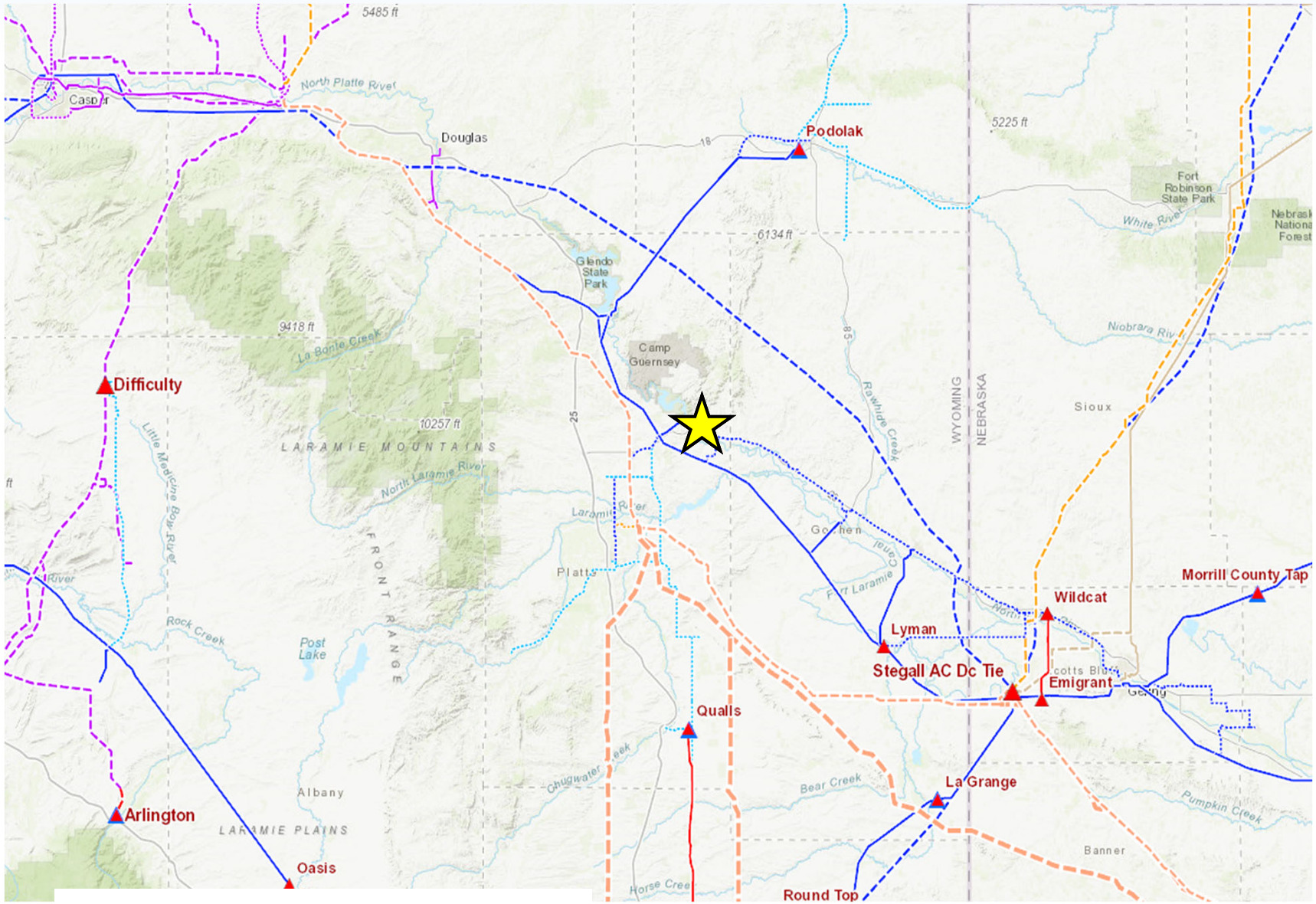


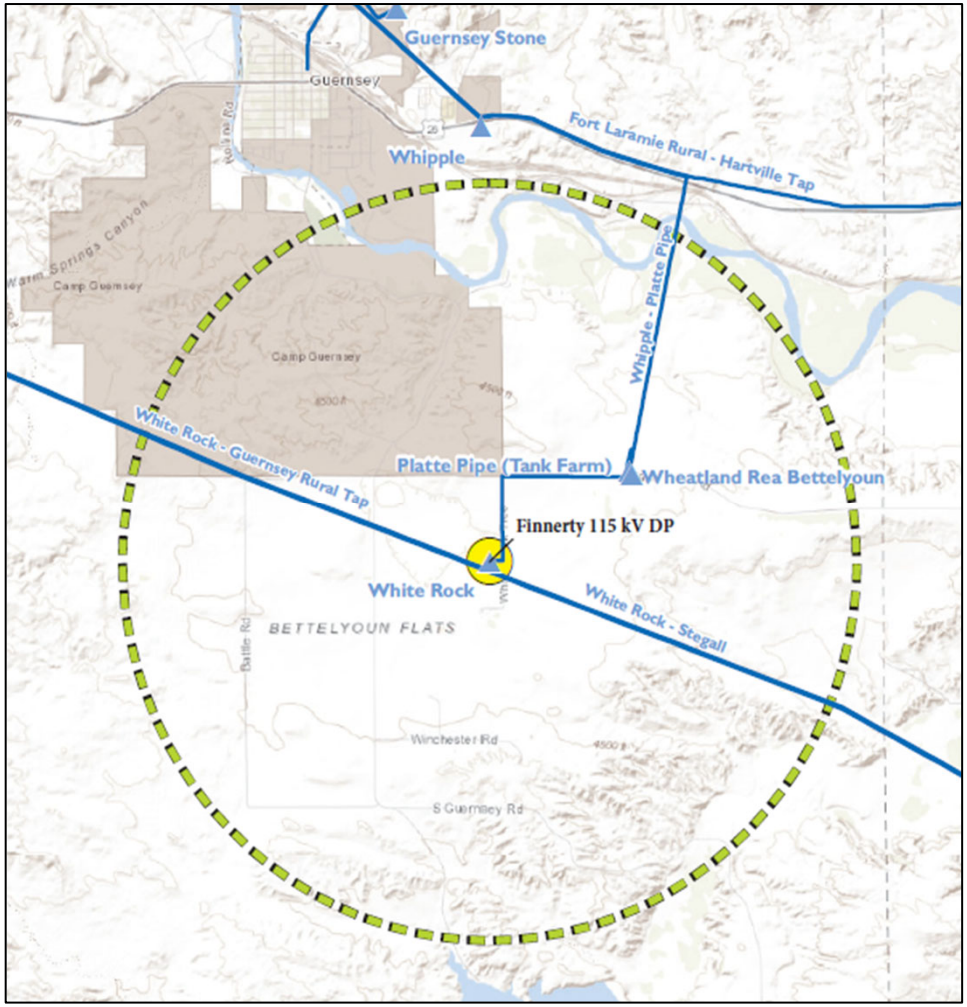


Converse County Oil Development

Purpose:	Completed a joint planning effort between PACE, Tri-State, Petroleum Association of Wyoming (PAW) and Wyoming Legislature to meet oil and gas development requirements without duplicative transmission facilities
History:	Tri-State approved Southeast Wyoming Transmission Project (SEWP) to provide second transmission source to member NEA in 2014. SEWP could also serve anticipated oil exploration load. SEWP was cancelled in 2020 due to inability to acquire 115 kV transmission line right-of-way. Rocky Mountain Power acquired ownership interest in Windstar-Cedar Springs II Windfarm 230 kV line and Cedar Springs II 230-34.5 kV substation
Status:	Cancelled
ISD:	-
Purpose	Load Serving

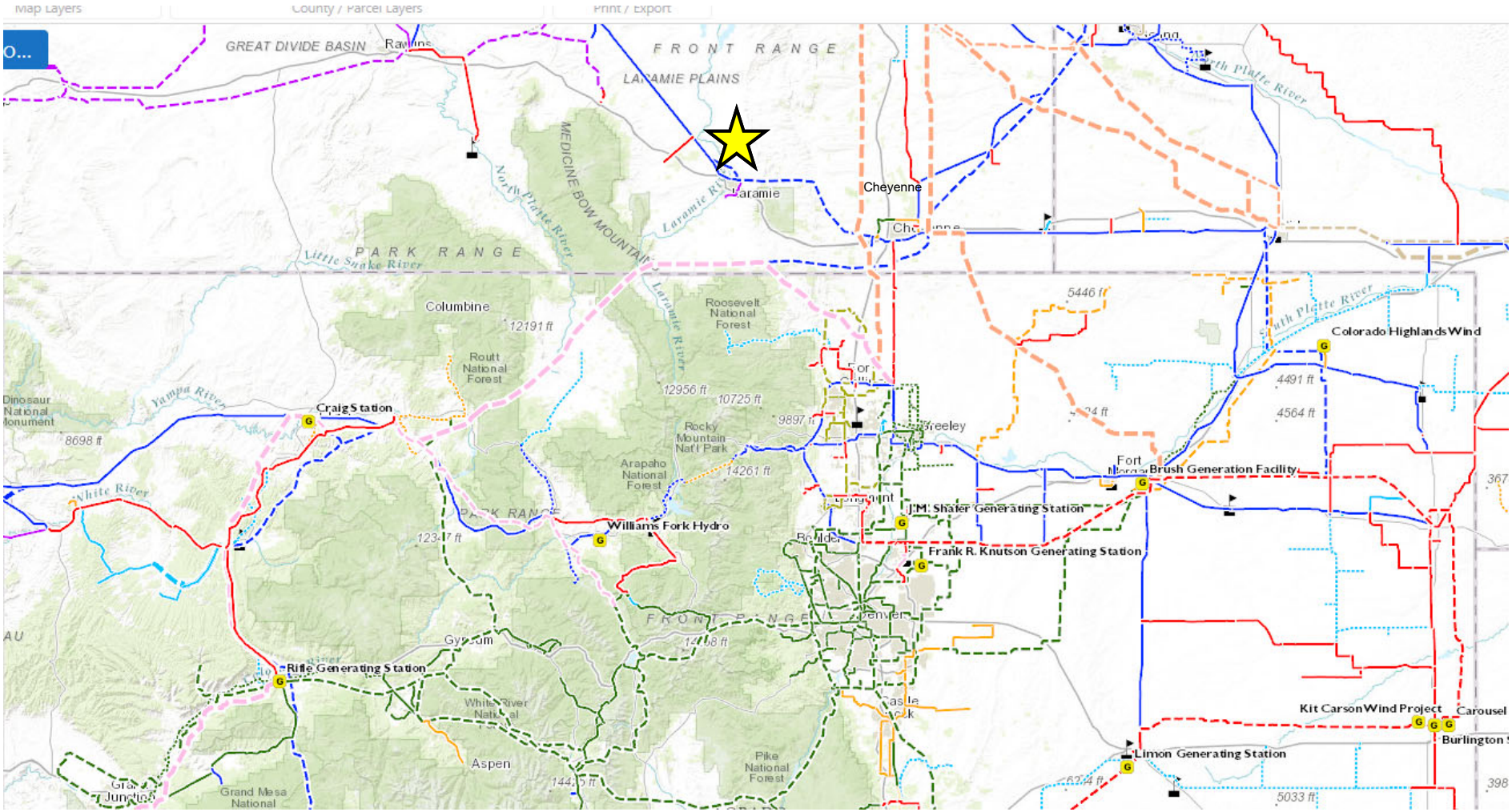
Finnerty 115 kV DP

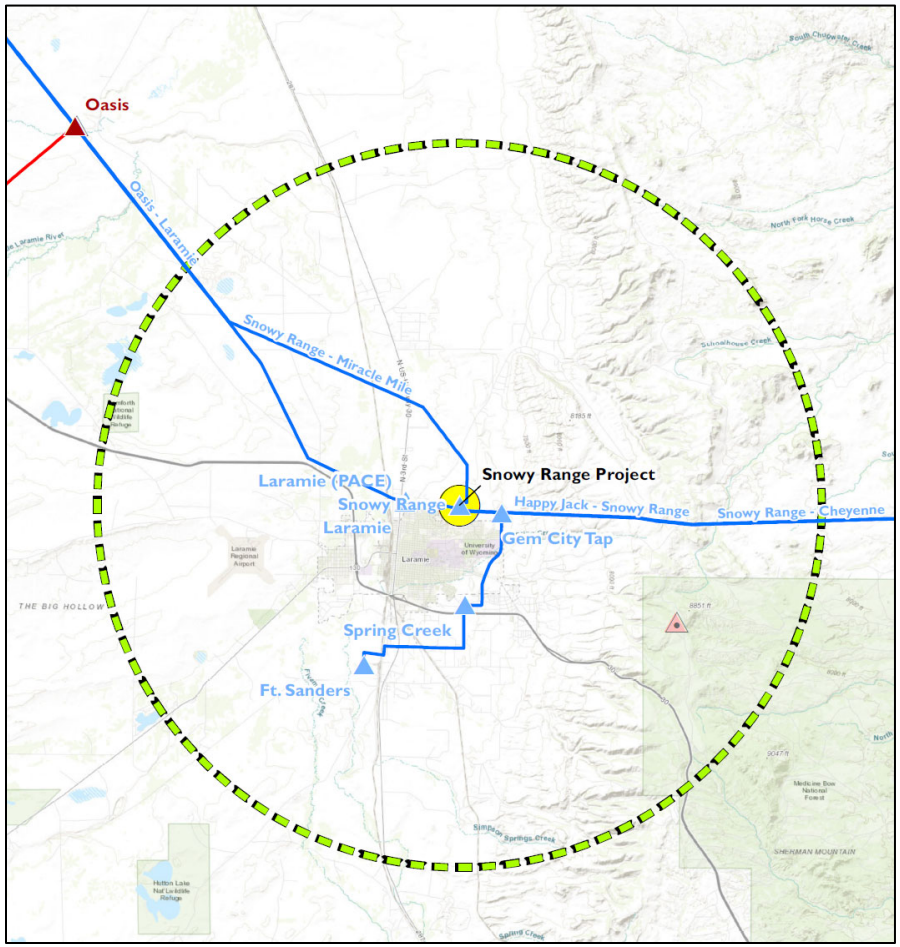




Finnerty 115 kV DP	
Description:	Establish a new 115 kV DP for WLREA. Scope of project includes a 115 kV breaker addition to adjacent WAPA Whiterock Substation, 115 kV transmission line from Whiterock to Finnerty. Finnerty Substation will consist of a single 115 kV breaker, 115/34.5 kV 50 MVA transformer, low side 34.5 kV equipment and metering equipment.
Voltage:	115 kV
Length:	>.5 miles
Type:	Substation
Status:	Under Construction
Planned ISD:	2021
Purpose:	Load Serving

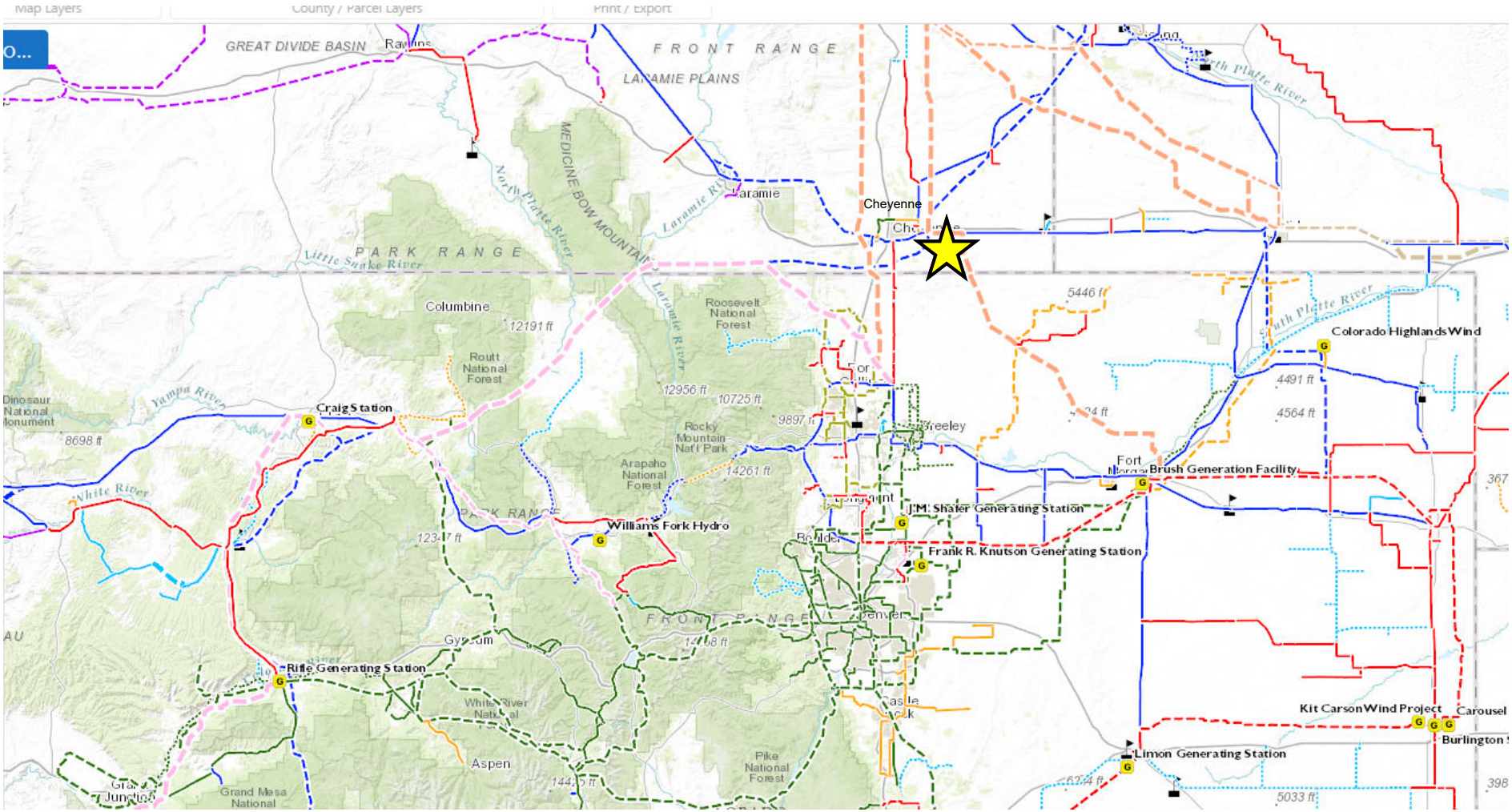
Snowy Range Project

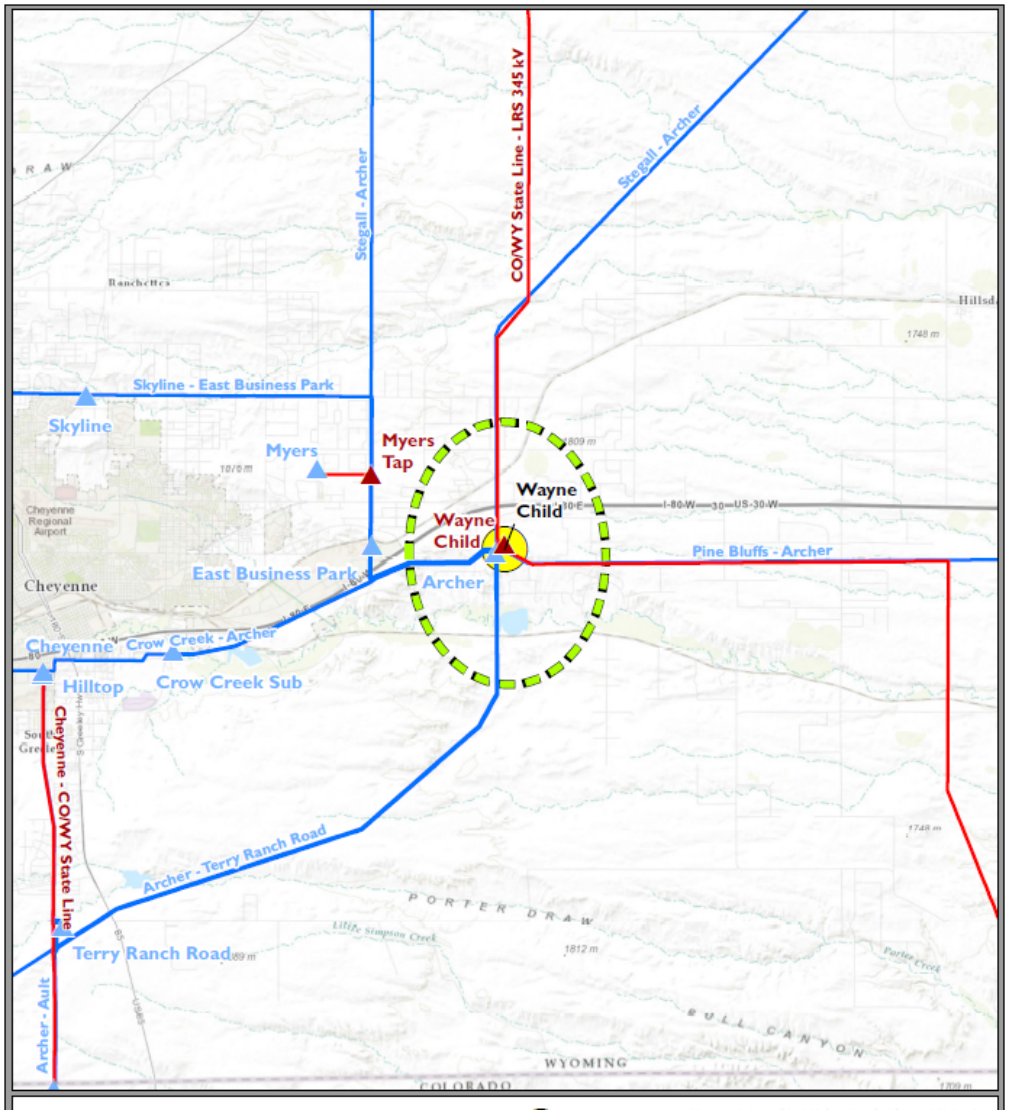




Snowy Range Project	
Description:	A new 115 kV breaker bay at the existing Western owned Snowy Range Substation and 1.5 miles of new 115 kV transmission line on wood H-Frame structures sourced at a newly constructed breaker bay at Snowy Range and intersecting the Gem City-Ft. Sanders 115 kV transmission line at Gem City Tap
Voltage:	115 kV
Length:	1.5 miles
Type:	Substation and Line
Status:	Energized
ISD:	2021
Purpose:	Load Serving

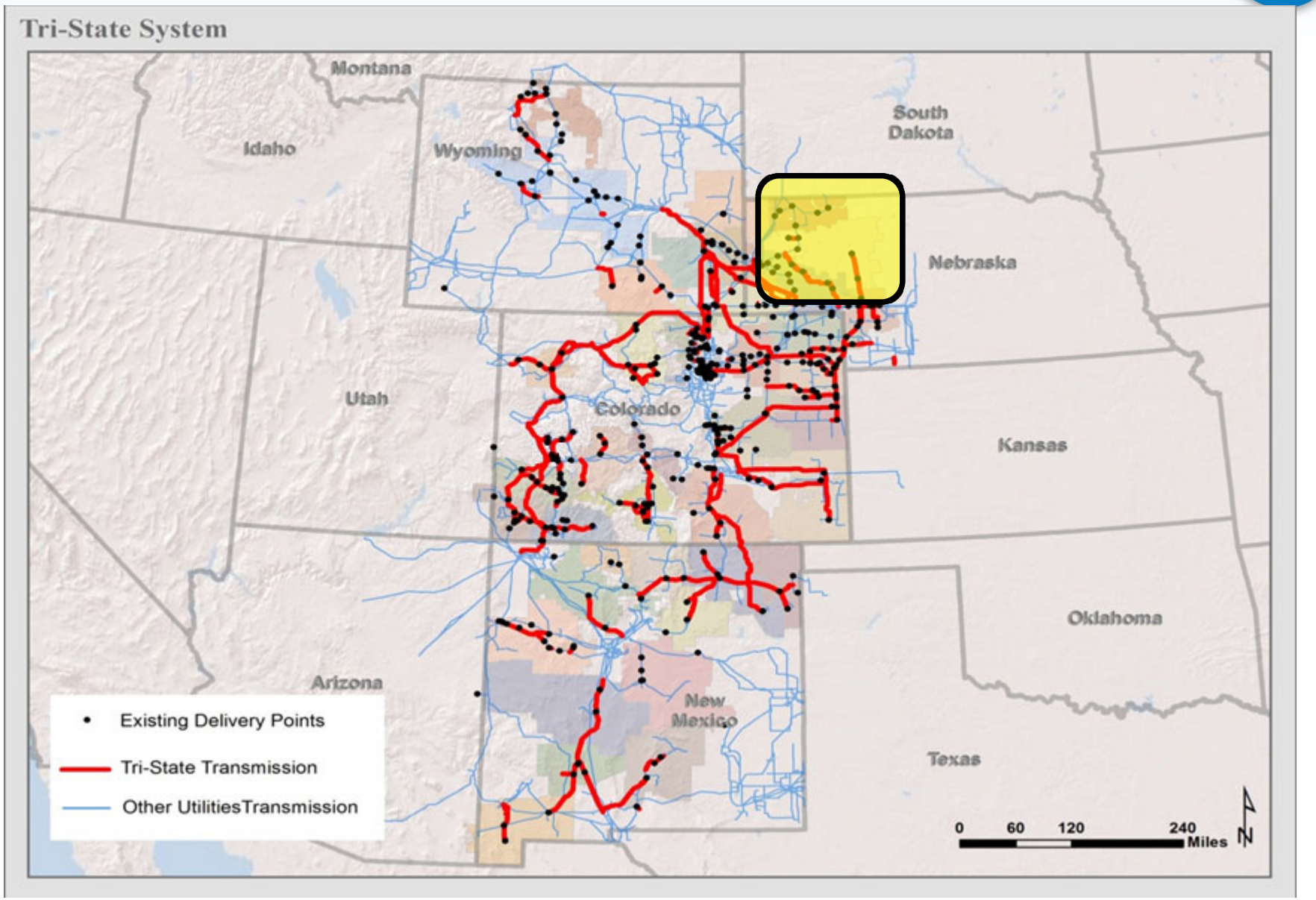
Wayne Child Phase II



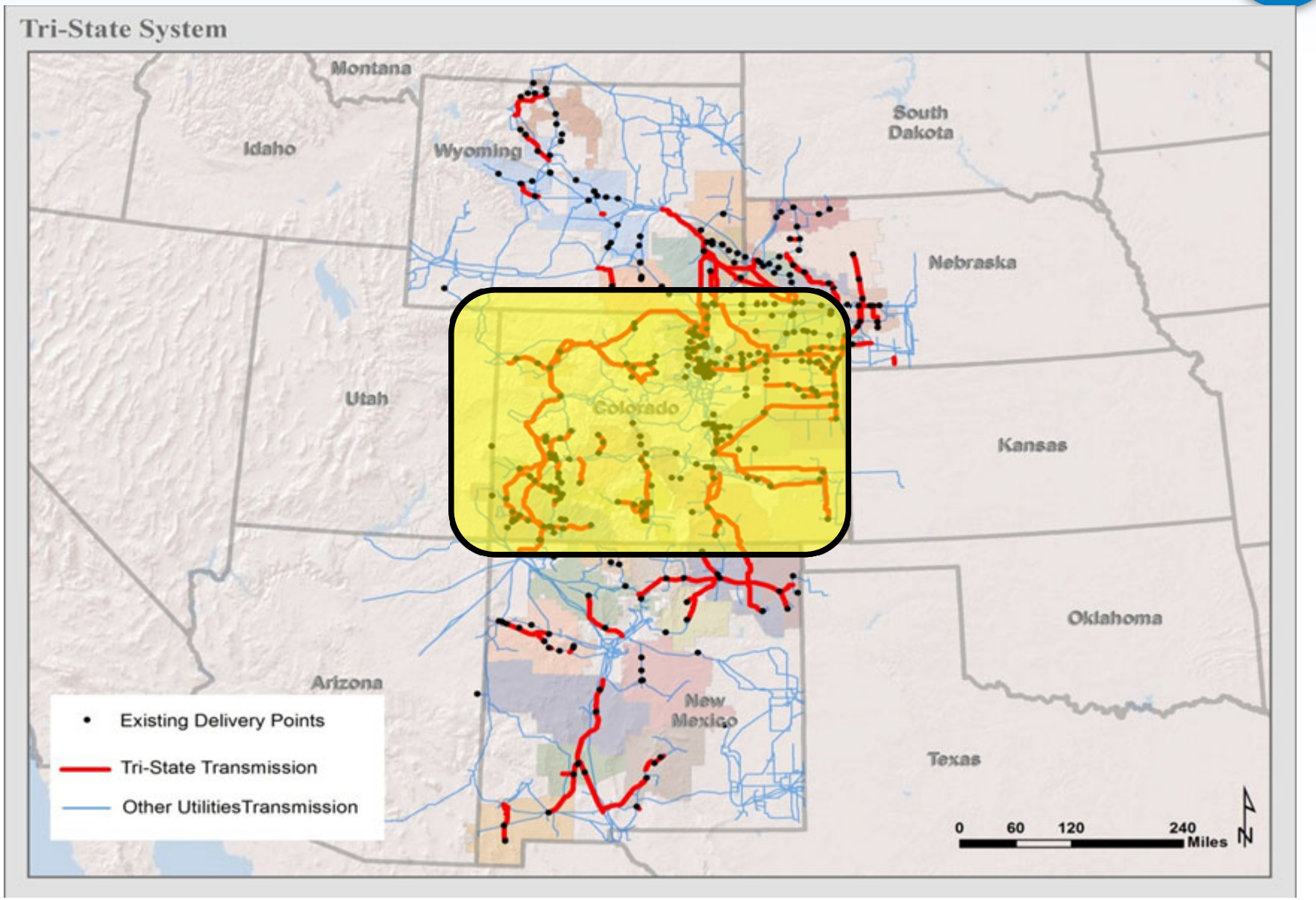


Wayne Child Phase II	
Description:	Sectionalize Laramie River Station (LRS) – Story 345kV line at the existing Wayne Child substation.
Voltage:	345 kV
Length:	0 miles
Type:	Substation.
Status:	Under Construction
Planned ISD:	2022
Purpose:	Load Serving, increased transfer capabilities.

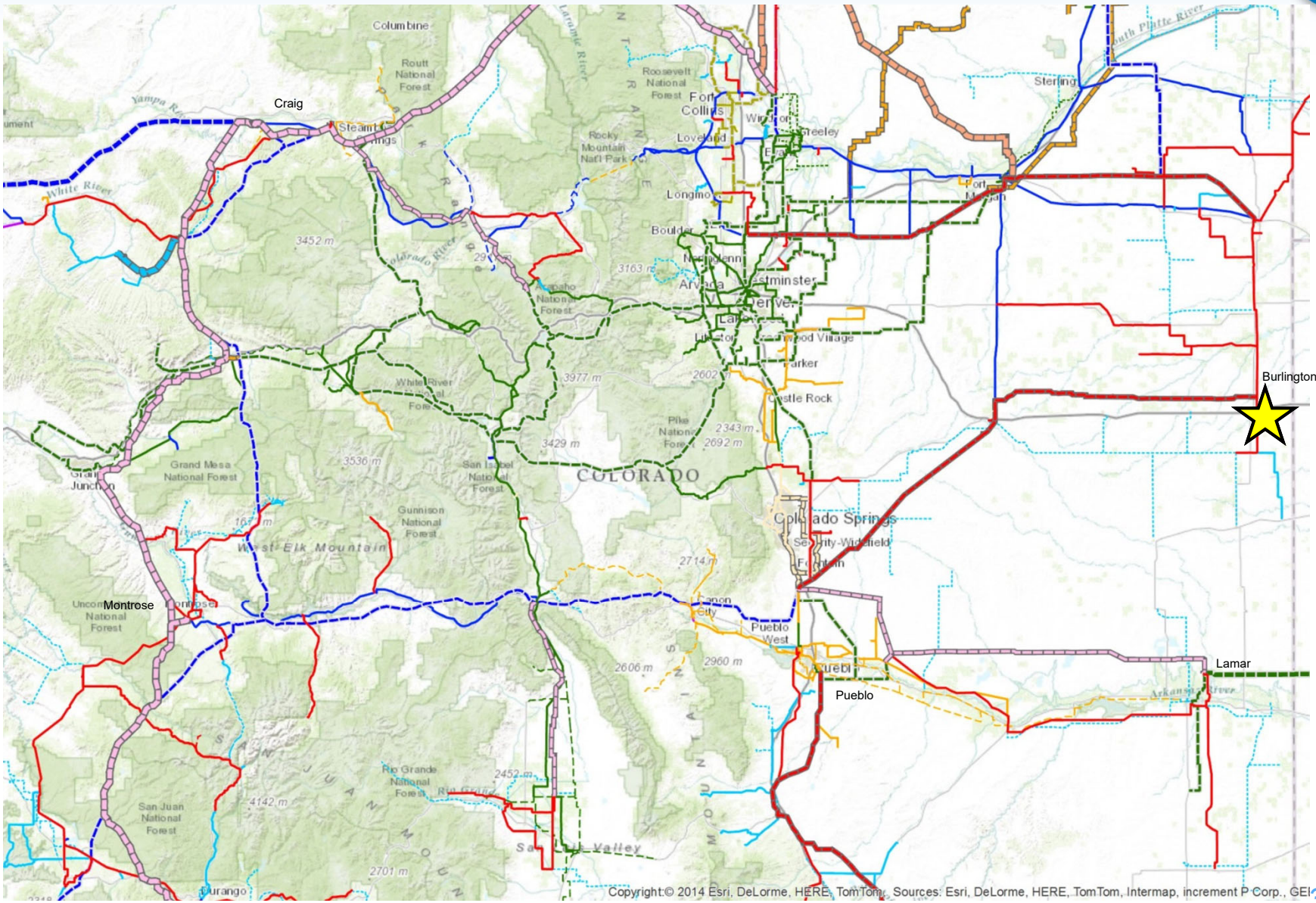
Projects: Nebraska (0)

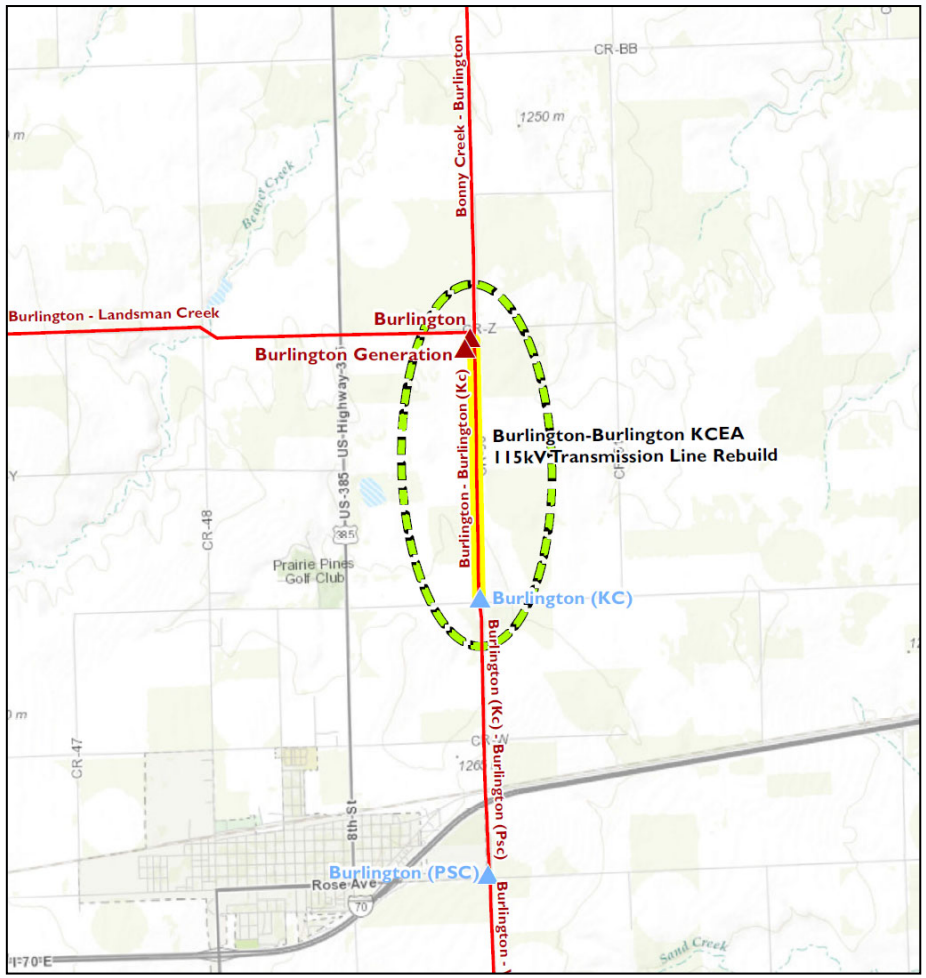


Projects: Colorado (23)



Burlington (TS) – Burlington (KCEA) 115 kV

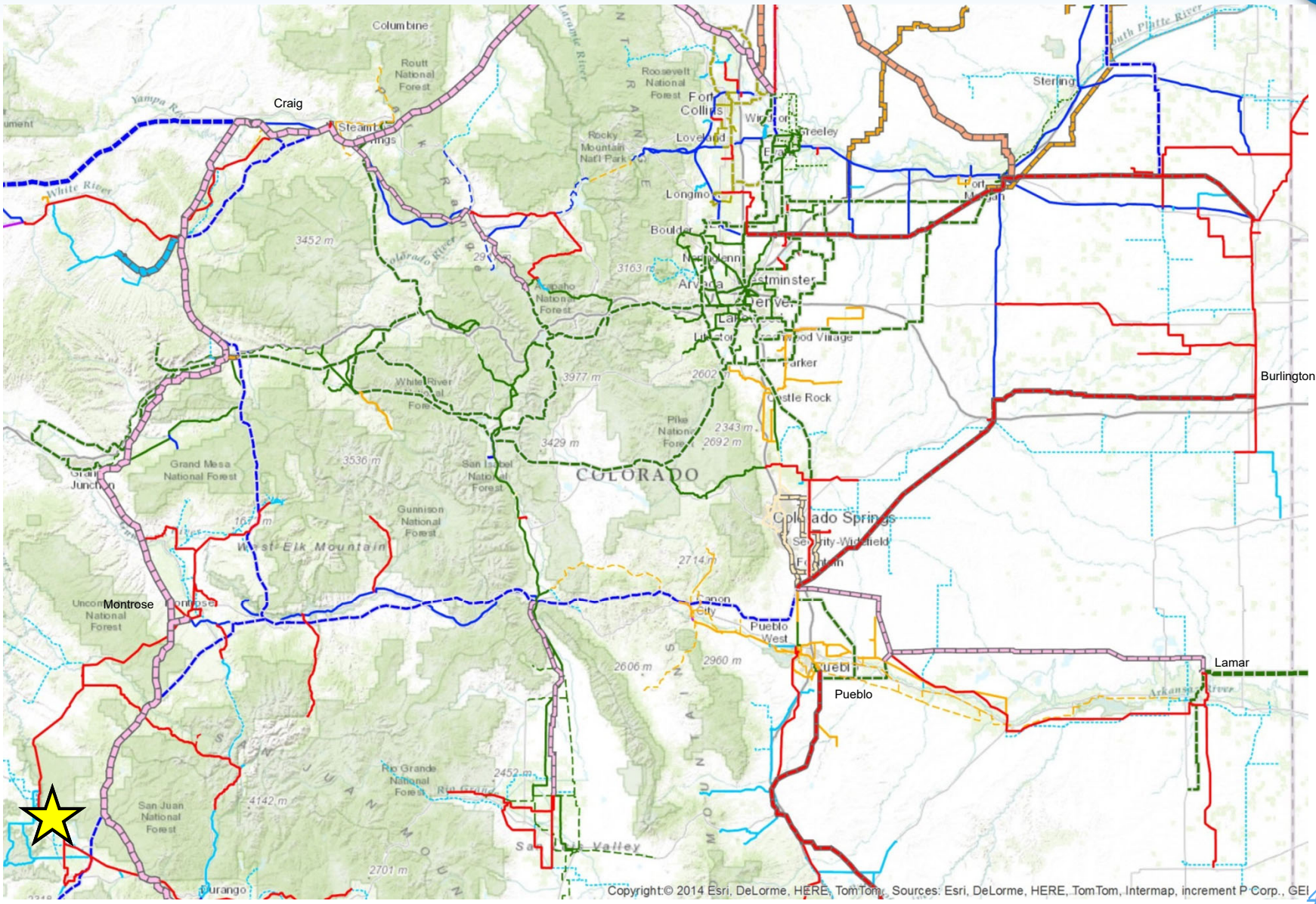


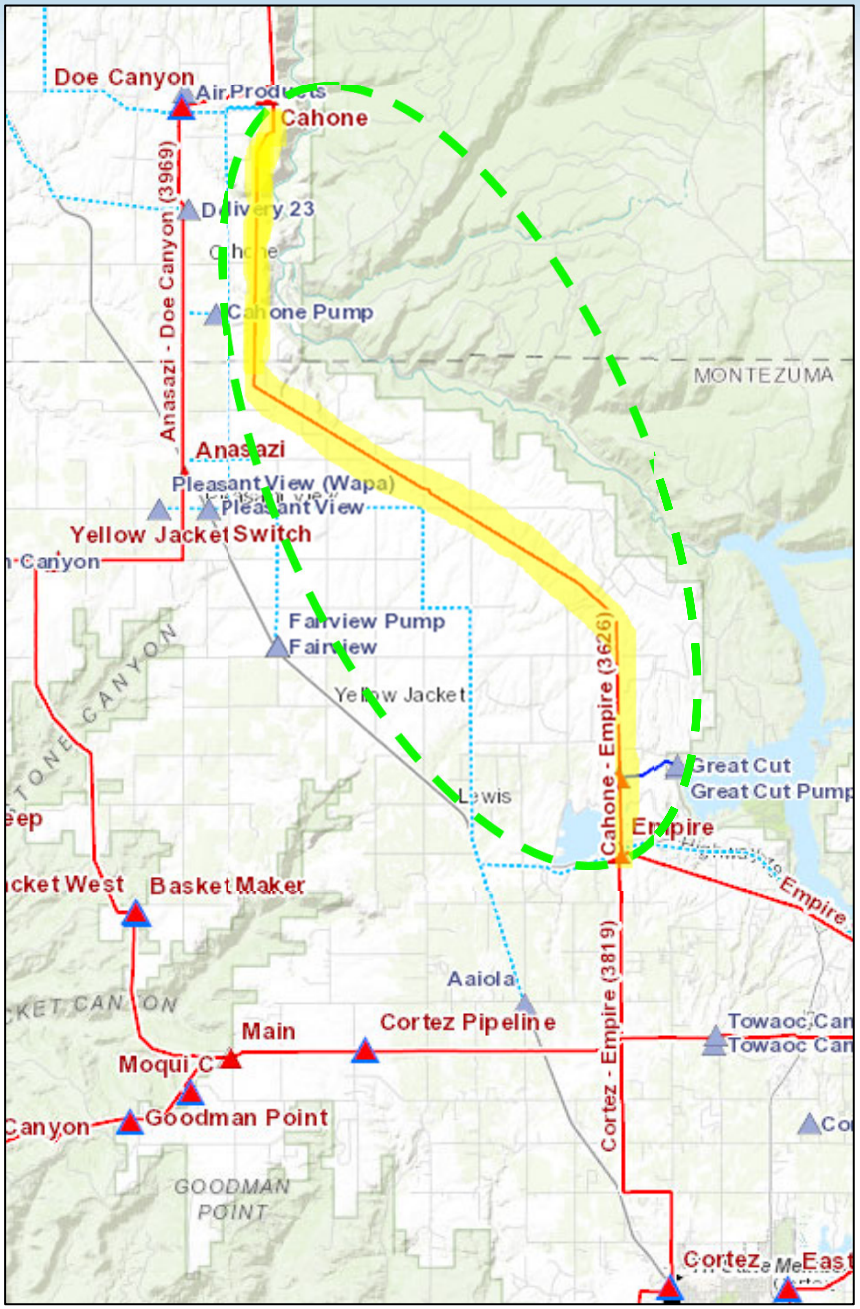


Burlington (TS) – Burlington (KCEA) 115 kV

Description:	Reconductor with 795 ACSR.
Voltage:	115 kV
Length:	1.94 miles
Type:	Line.
Status:	Planned
Planned ISD:	2024
Purpose:	Accommodate distribution system load shifting.

Cahone-Empire Line Uprate Project

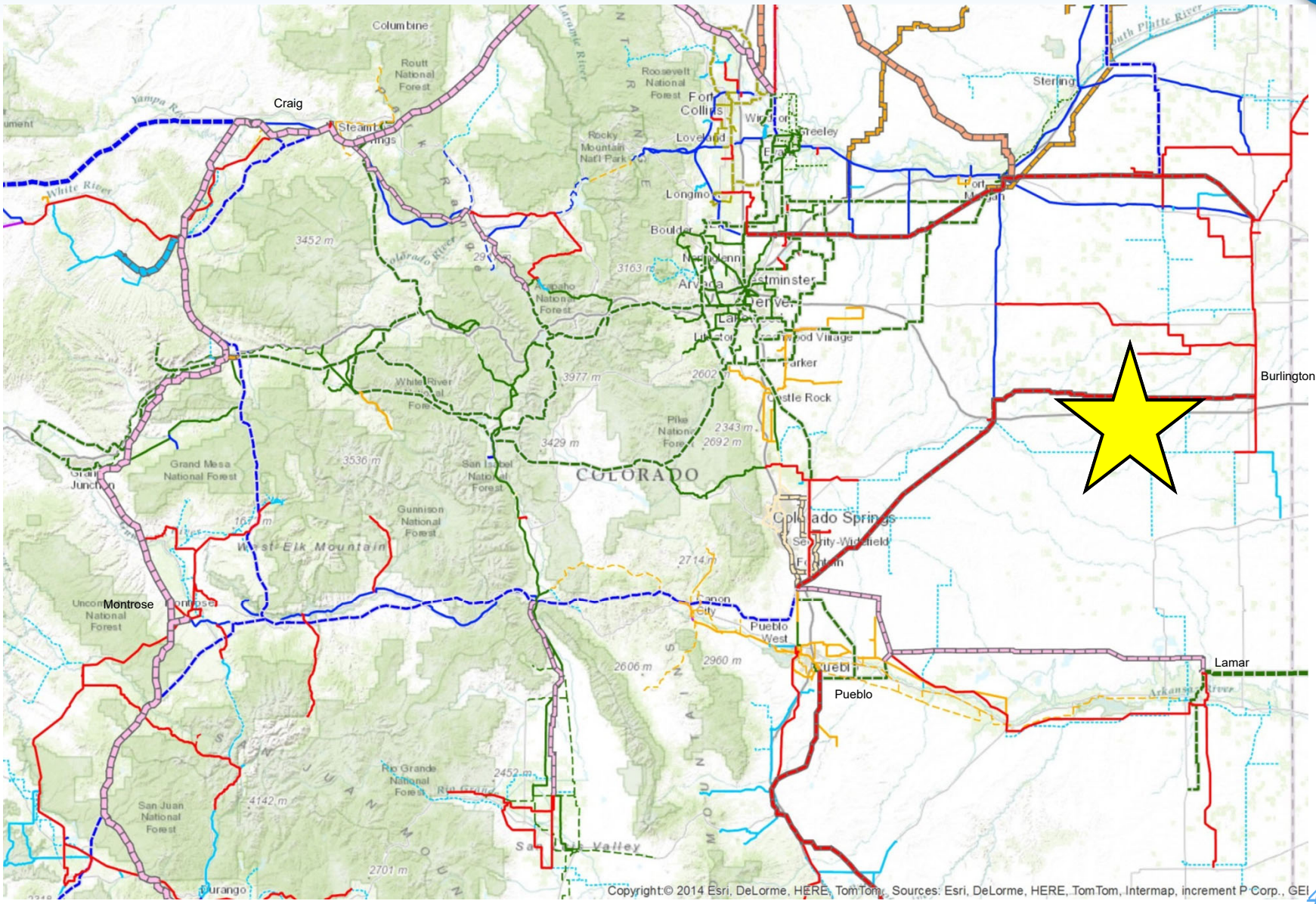




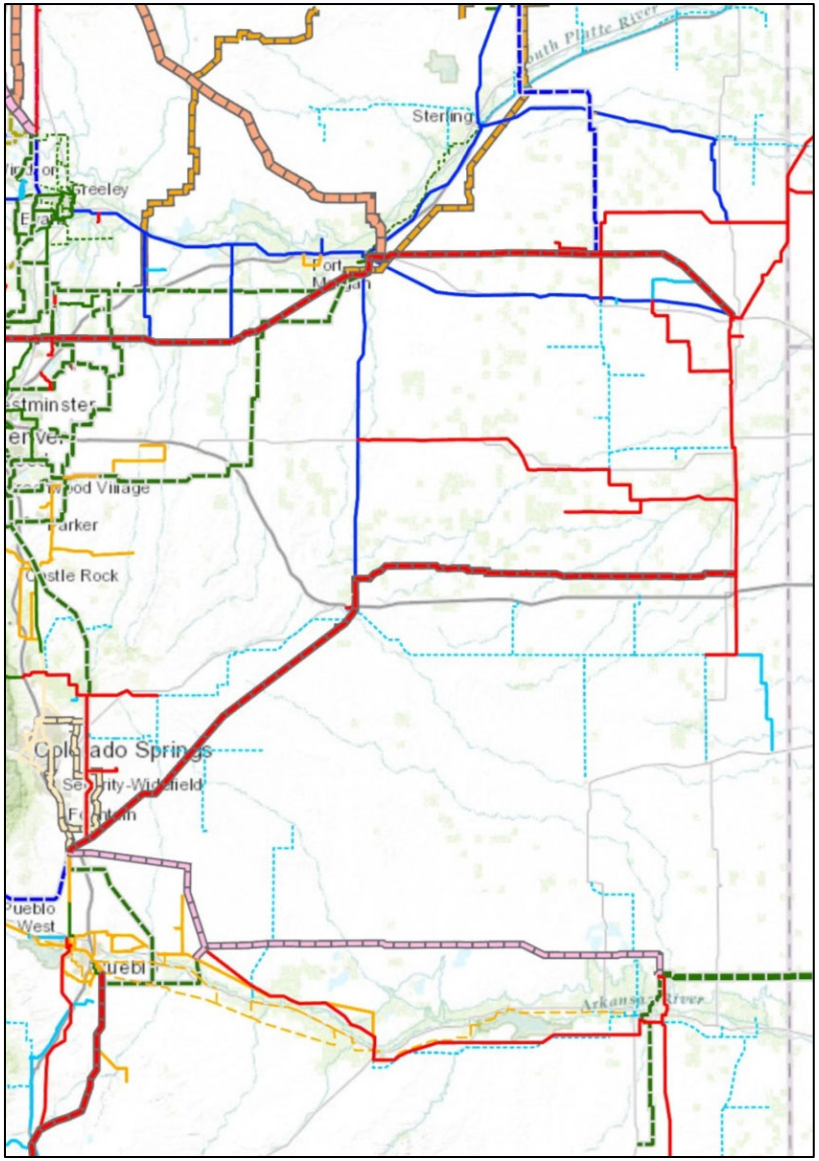
Cahone-Empire Line Uprate Project

Description:	Uprate of existing 115 kV line between Cahone and Empire. Project includes terminal upgrades at Cahone.
Voltage:	115 kV
Length:	27 miles
Type:	Line.
Status:	Planned
Planned ISD:	2023
Purpose:	Increase overall line rating

Eastern Colorado Project(s) Under Development

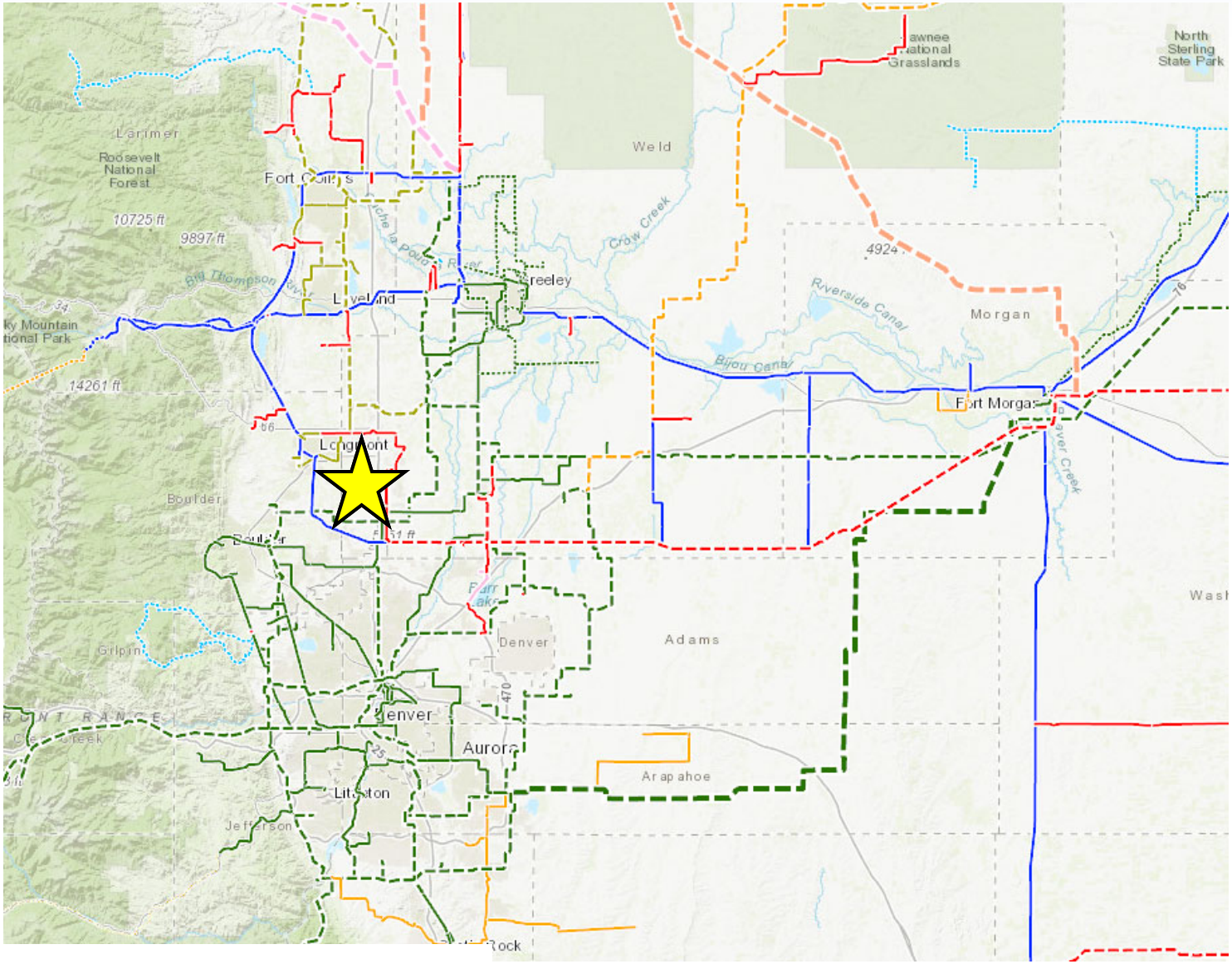


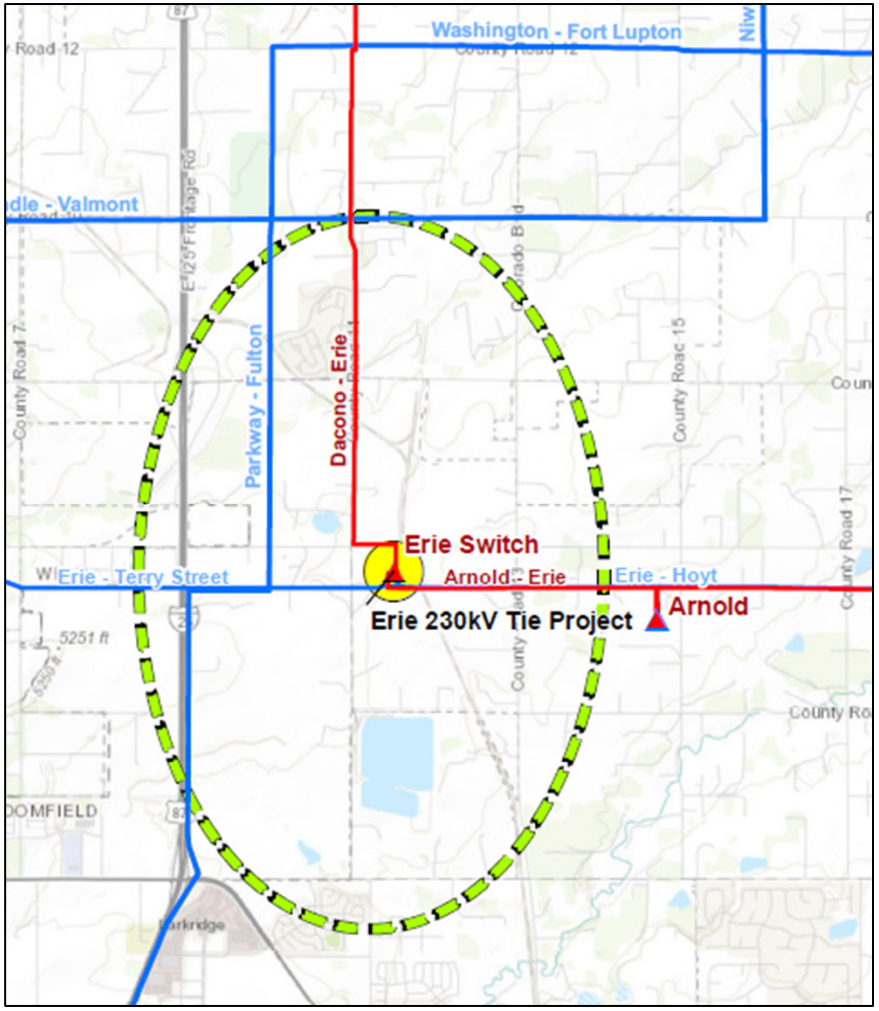
Developing Project(s) in Eastern Colorado:



Responsible Energy Plan Task Force (REPTF)	
Purpose:	Colorado Coordinated Planning Group's REPTF evaluated transmission alternatives to: 1. improve reliability, 2. Improve connectivity, and 3. accommodate additional renewables in Eastern Colorado
Status:	Studies completed in September 2021
Schedule:	Report finalized, pending CCPG acceptance/approval in December. http://regplanning.westconnect.com/ccpg_responsible_energy_plan_tf.htm

Erie 230 kV Tie Project

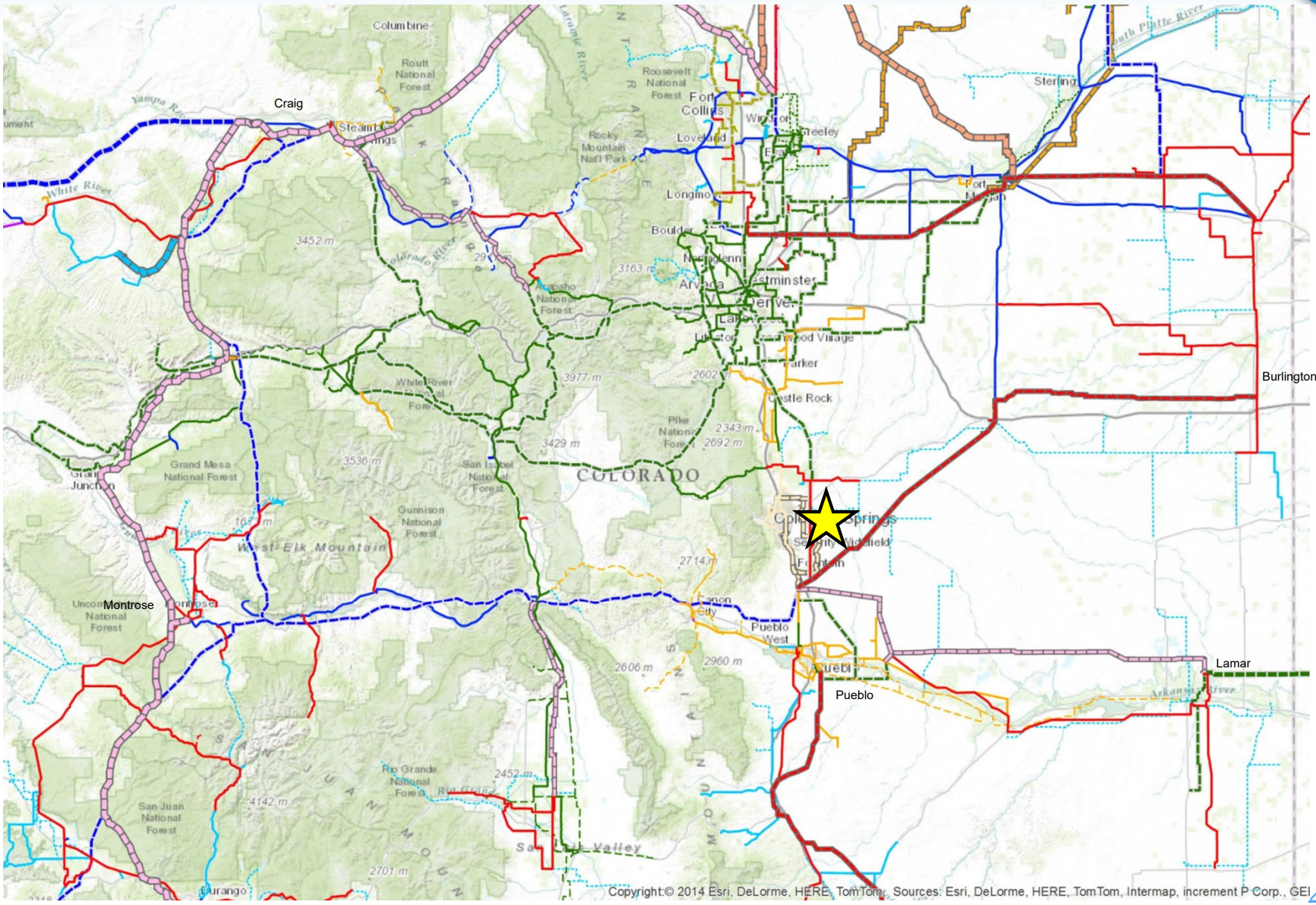


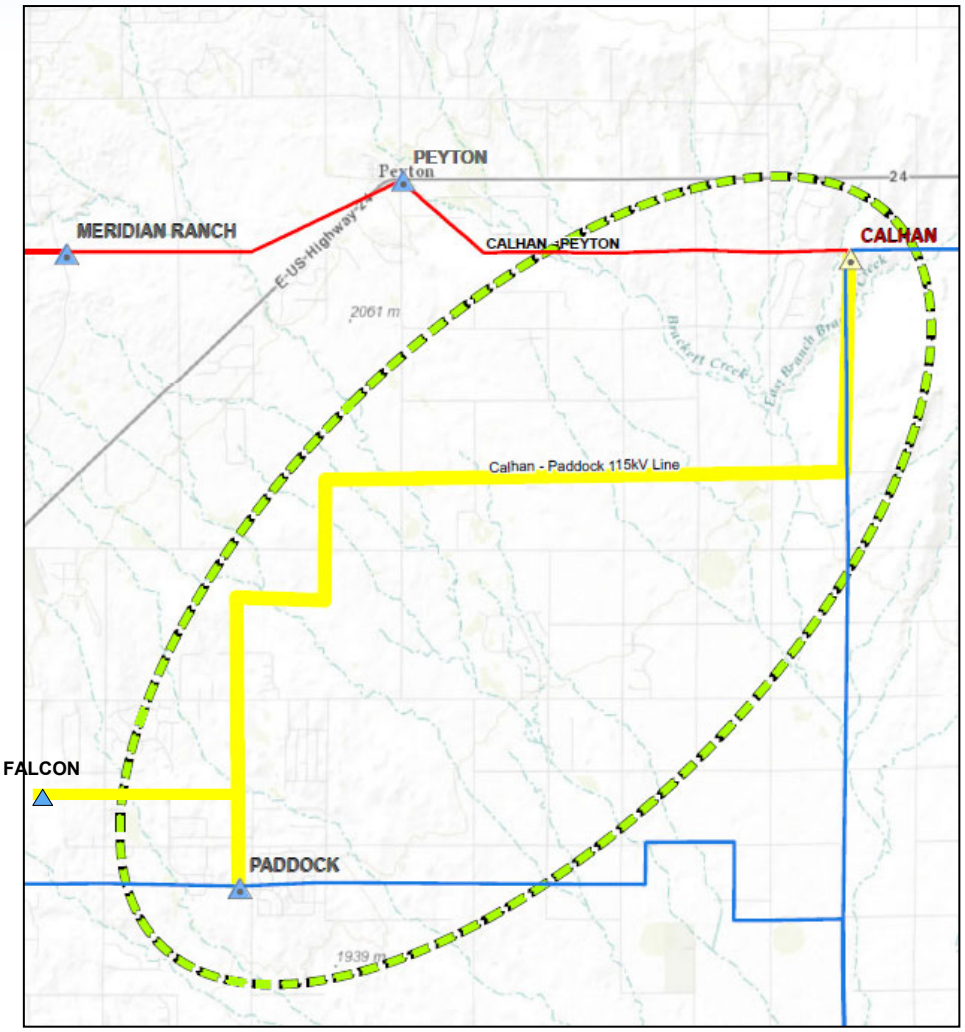


Erie 230 kV Tie Project

Description:	Cut and loop PSCo's Ft. Lupton – JL Green 230 kV line into Erie Substation. Add line breakers to the ring bus, and add a 2nd 230-115 kV transformer for reliability.
Voltage:	230 kV
Length:	1 mile
Type:	Line and Substation
Status:	Conceptual
Planned ISD:	TBD
Purpose:	Reliability; Load Serving

Falcon – Paddock – Calhan 115 kV

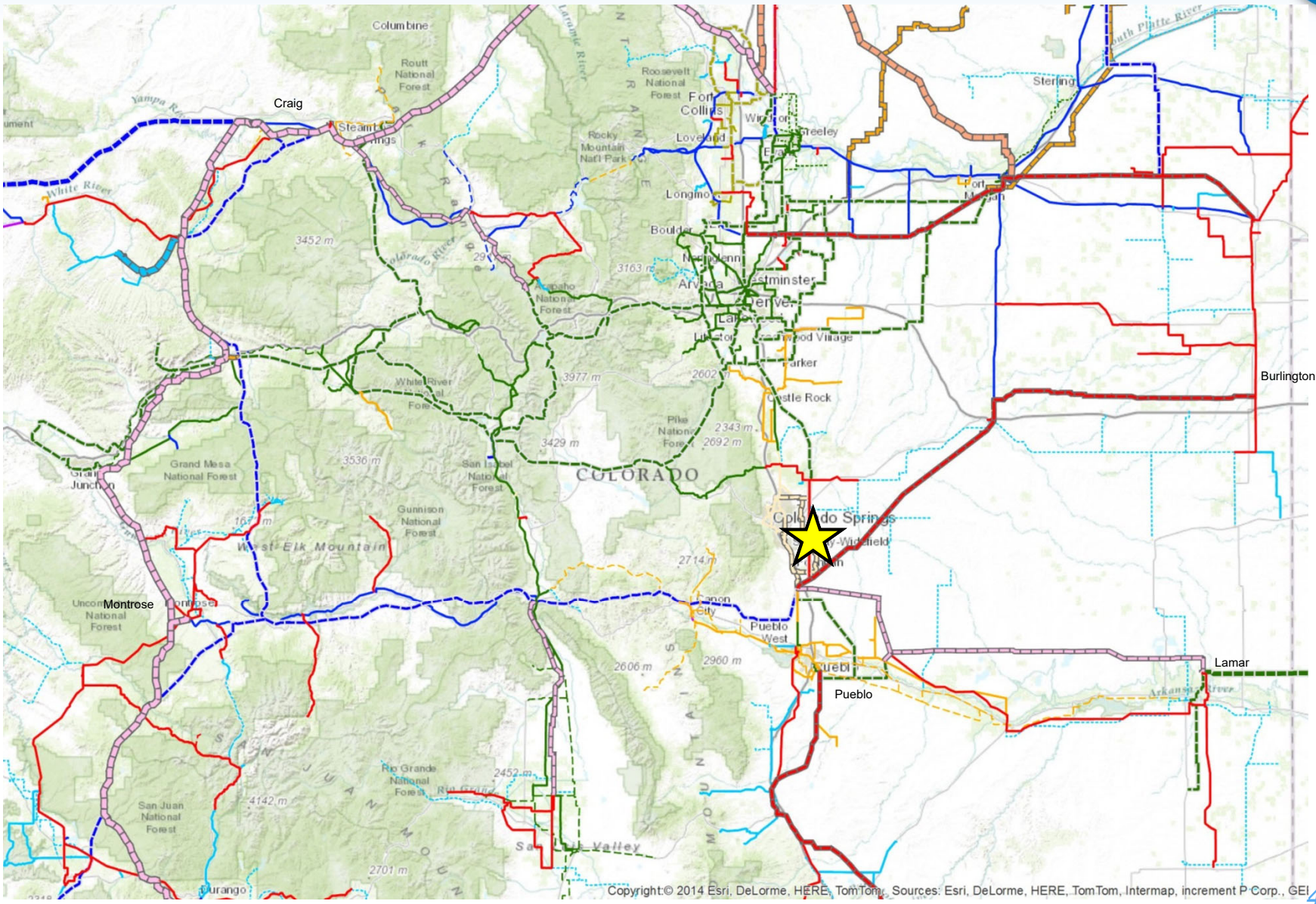


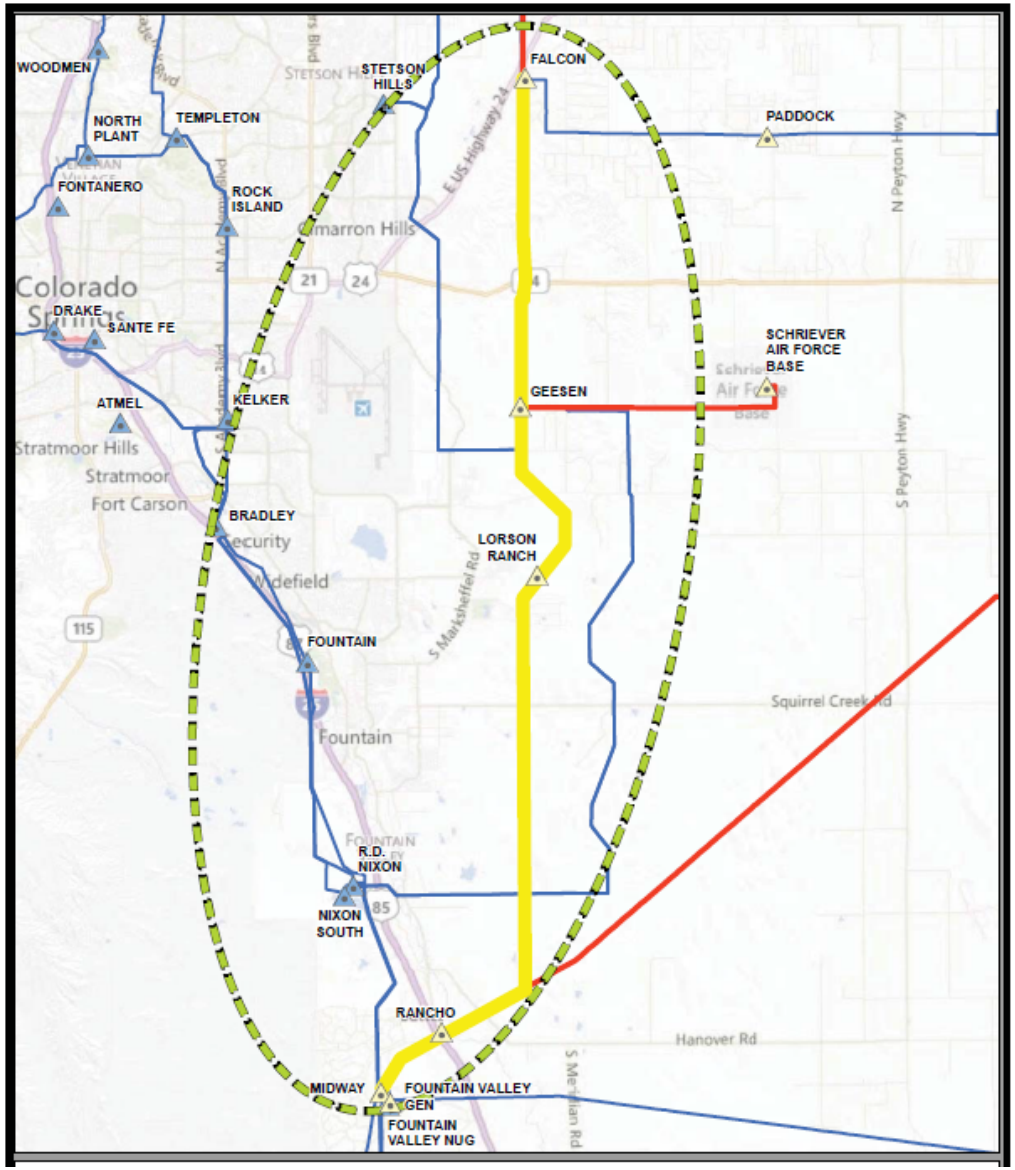


Falcon – Paddock – Calhan 115 kV

Description:	New 115 kV line and 69 kV line rebuilds to 115 kV. Rebuild Falcon Substation with 115 kV ring bus. Rebuild Paddock Substation to 115 kV ring bus. Replace Paddock 69/12.47 kV distribution transformers with 115/12.47 distribution transformers. Potentially utilize existing 110/67 kV, 46 MVA Falcon T1 at rebuilt Paddock Substation for Ellicott delivery. Install new breaker in the existing 115 kV ring bus at Calhan Substation for new Paddock-Calhan 115 kV transmission line.
Voltage:	115 kV
Length:	25 miles
Type:	Line/Substation (Multiple).
Status:	Conceptual
Planned ISD:	TBD
Purpose:	Accommodate increased loads and improve reliability.

Falcon – Midway 115 kV Line Uprate Project

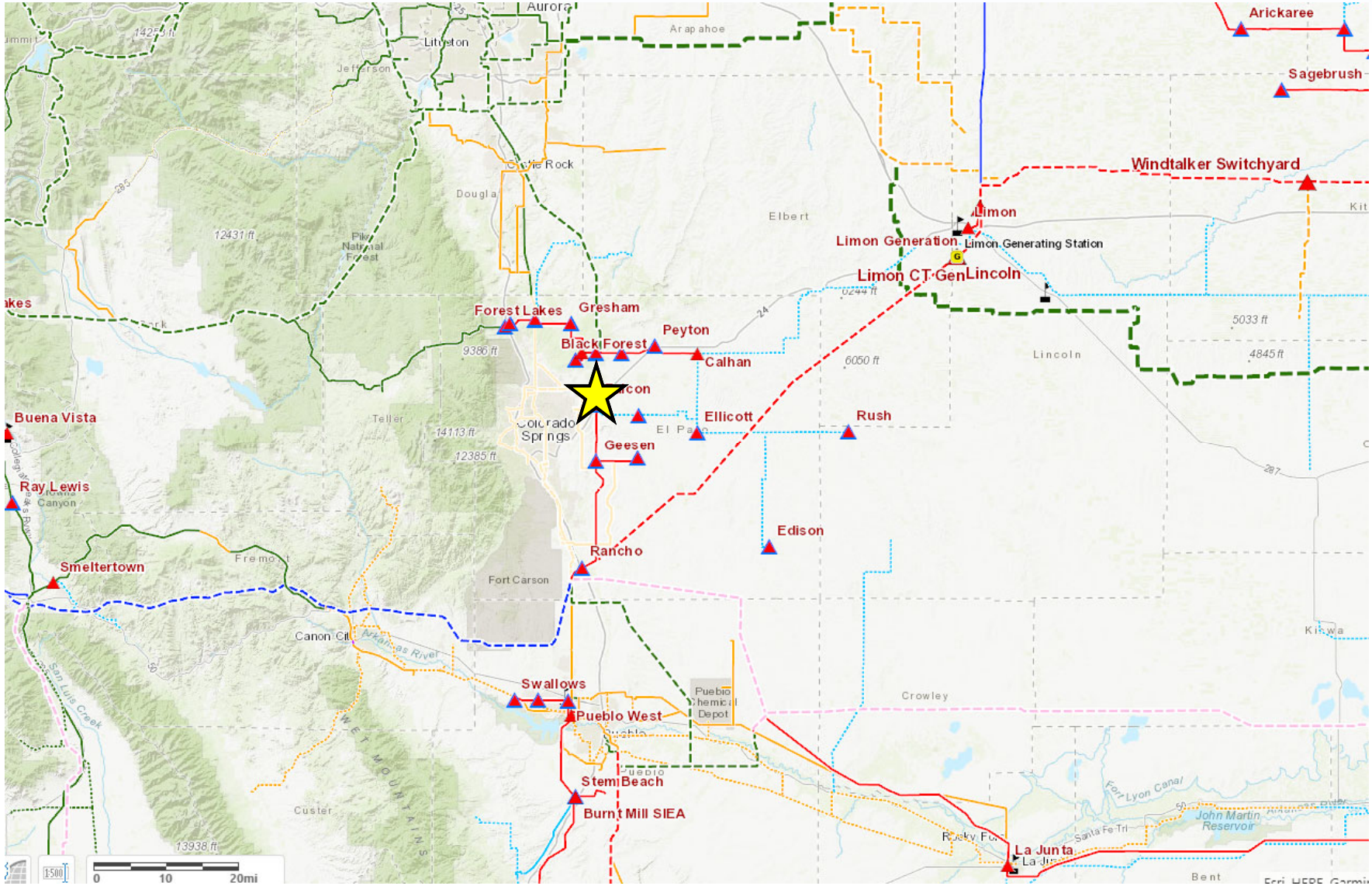


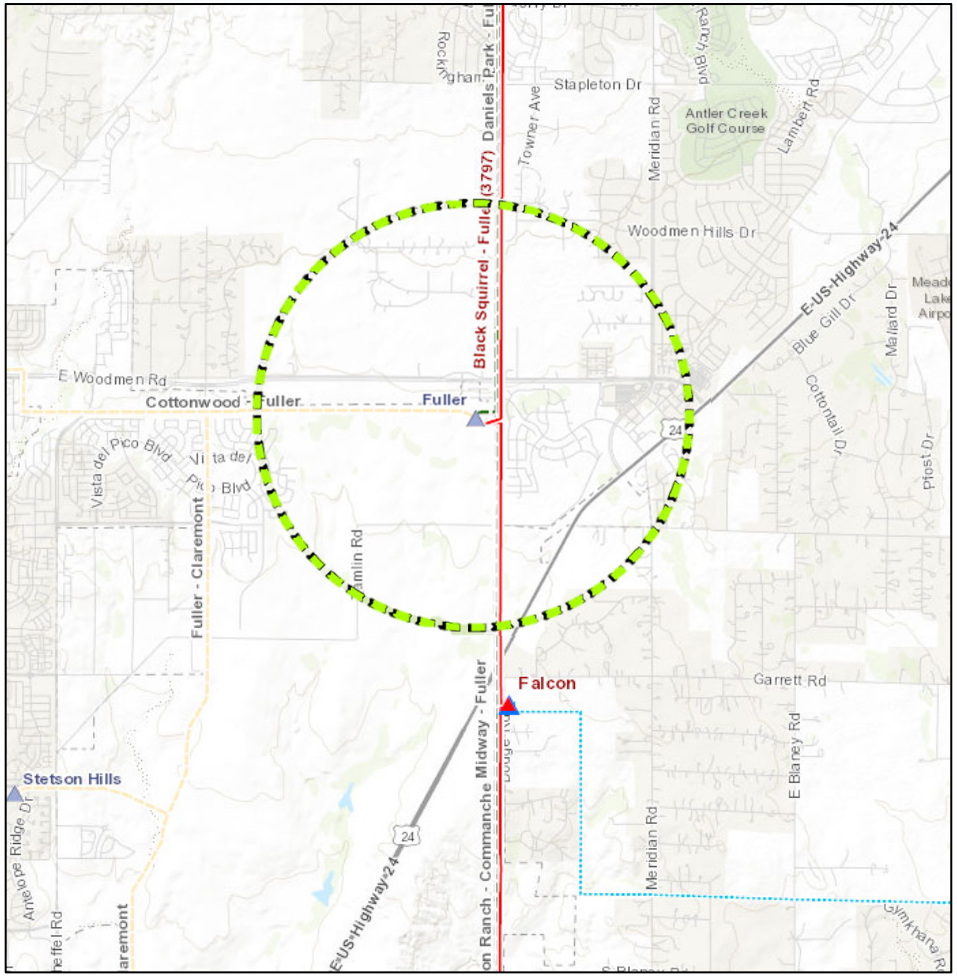


Falcon – Midway 115 kV Line Uprate Project

Description:	Uprate of existing 115 kV line between Falcon and Midway.
Voltage:	115 kV
Length:	27 miles
Type:	Line.
Status:	Energized
ISD:	2021
Purpose:	Increase conductor thermal rating.

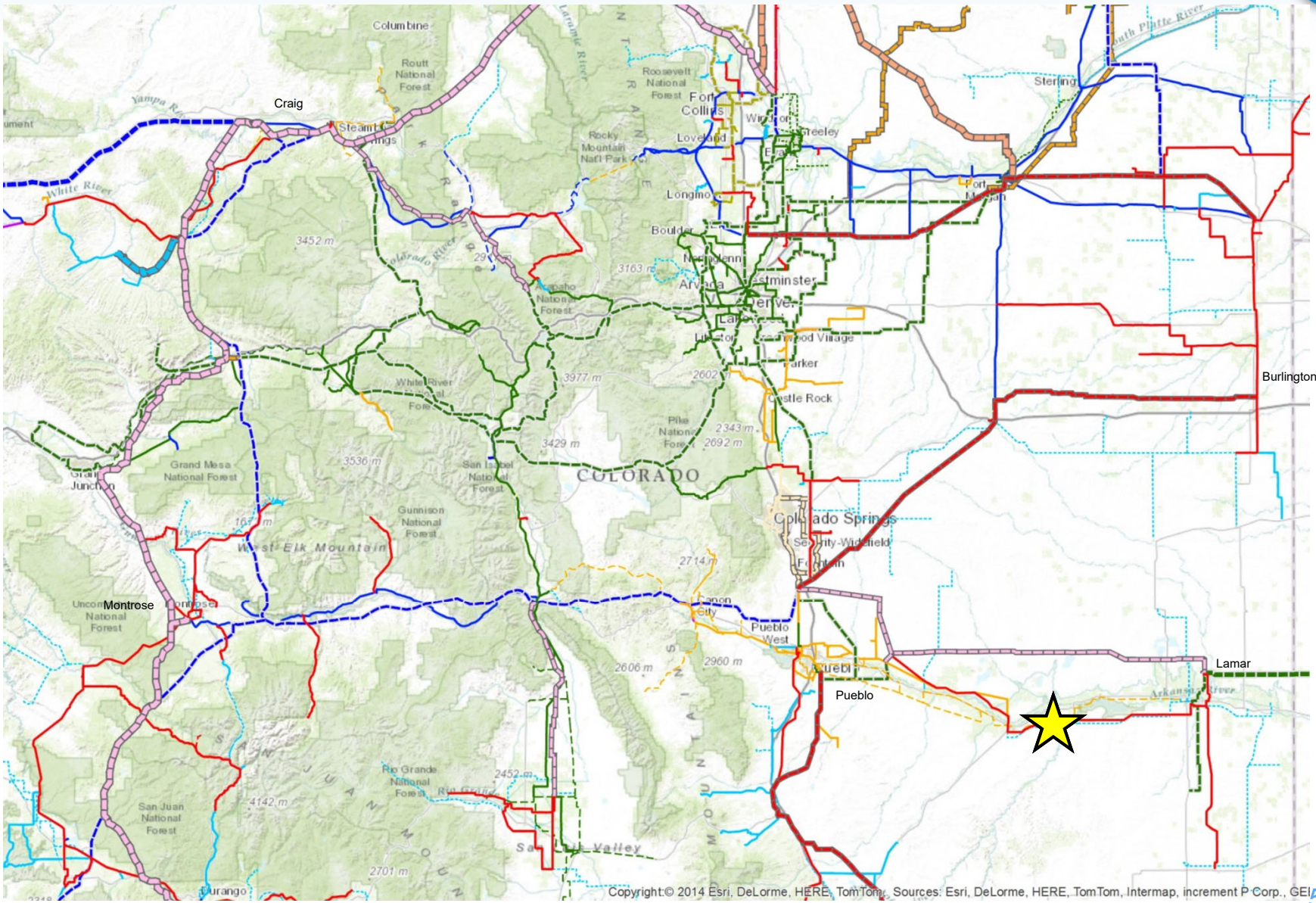
Fuller T2 Project

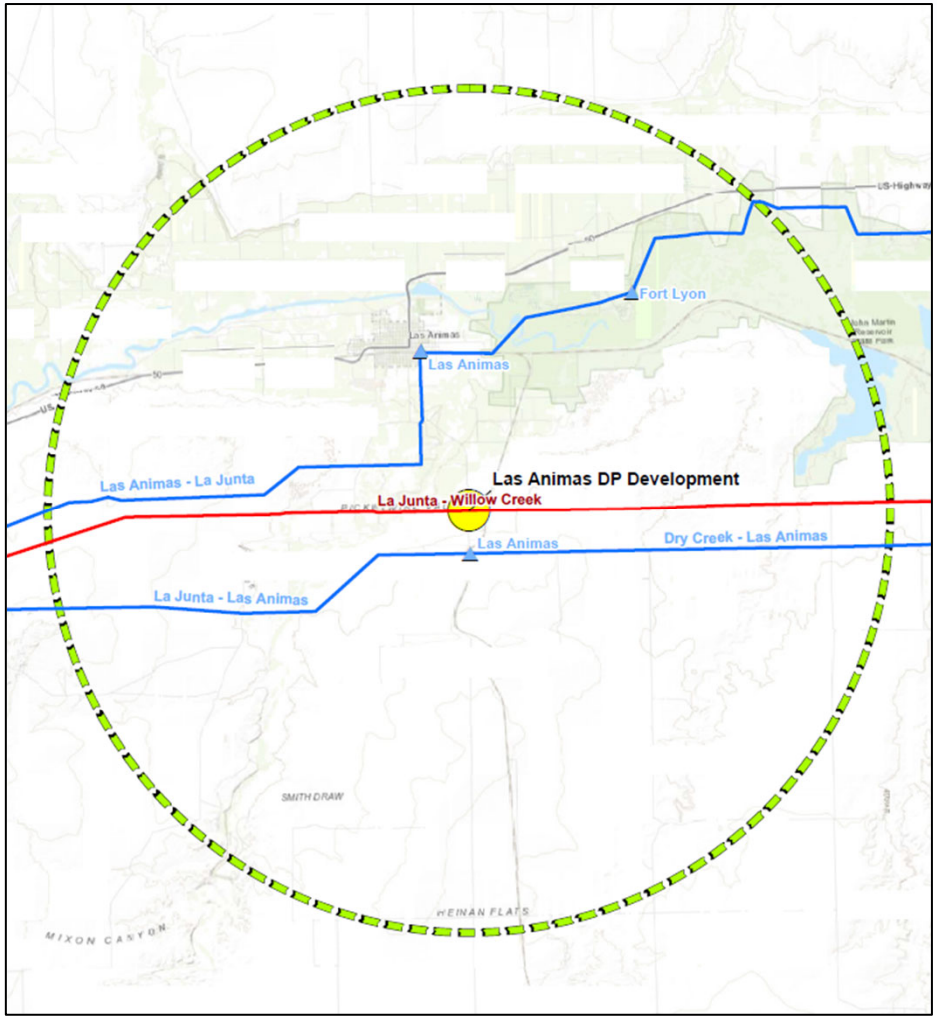




Fuller T2 Project	
Description:	Add a second 230/115kV transformer at CSU's Jackson Fuller substation
Voltage:	230/115 kV
Length:	0 miles
Type:	Substation
Status:	Under Construction
Planned ISD:	2022
Purpose:	Reliability

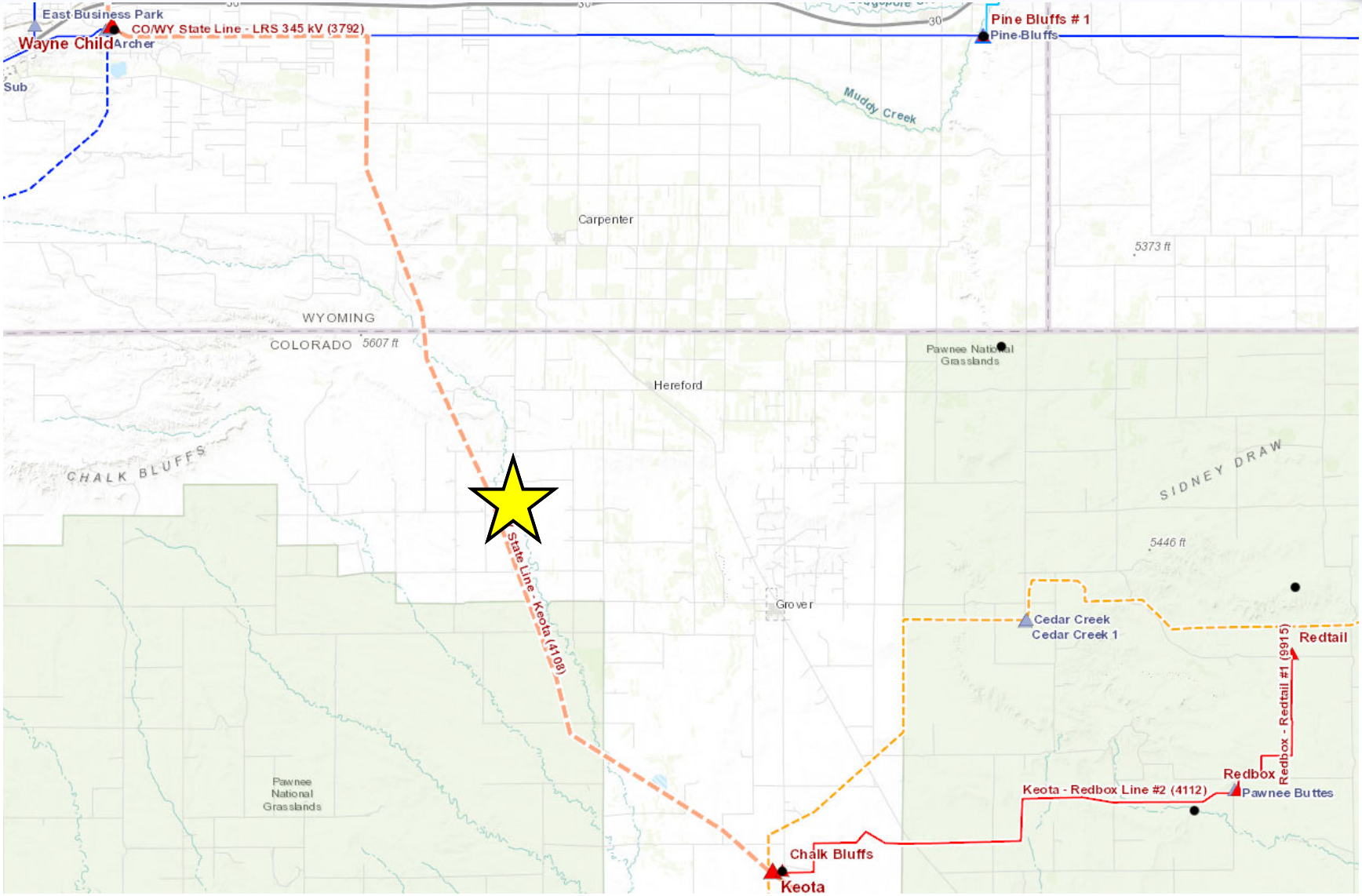
Las Animas DP

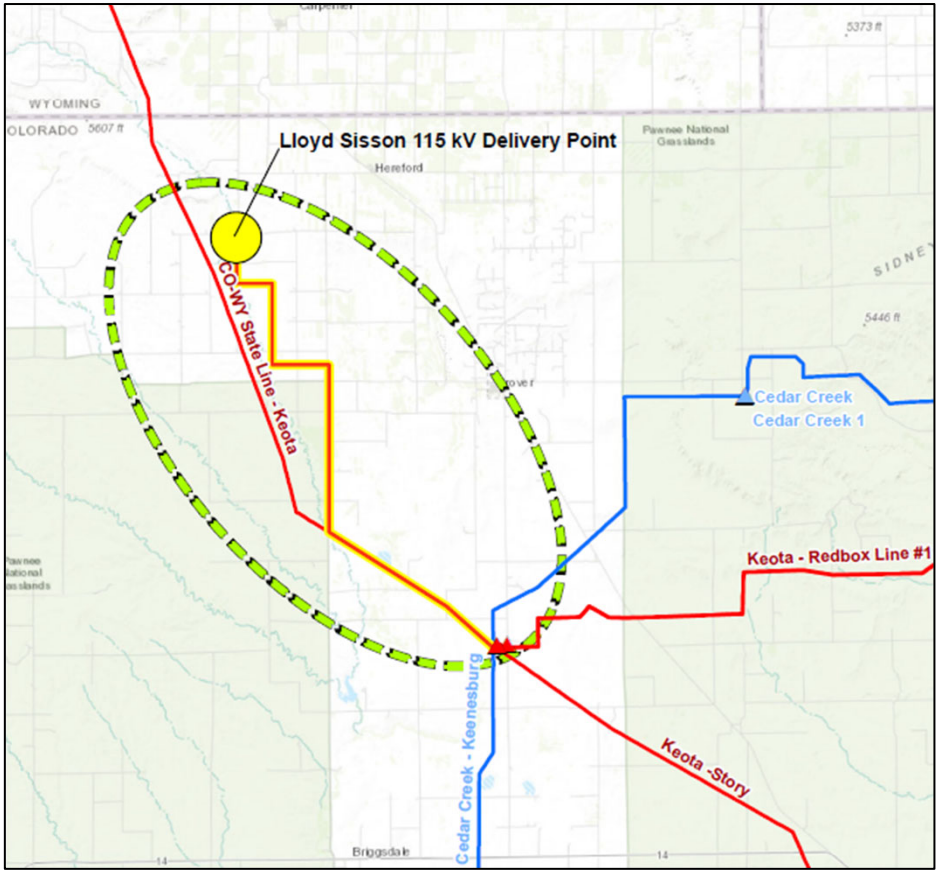




Las Animas DP	
Description:	A new substation sectionalizing Tri-State's La Junta – LAMSO – Willow Creek 115 kV line, with a 115 kV, three breaker ring, and a 115-69 kV transformer.
Voltage:	115 kV
Length:	0 miles
Type:	Substation
Status:	Cancelled
ISD:	-
Purpose:	Reliability; Load Serving

Lloyd Sisson Delivery Point Project

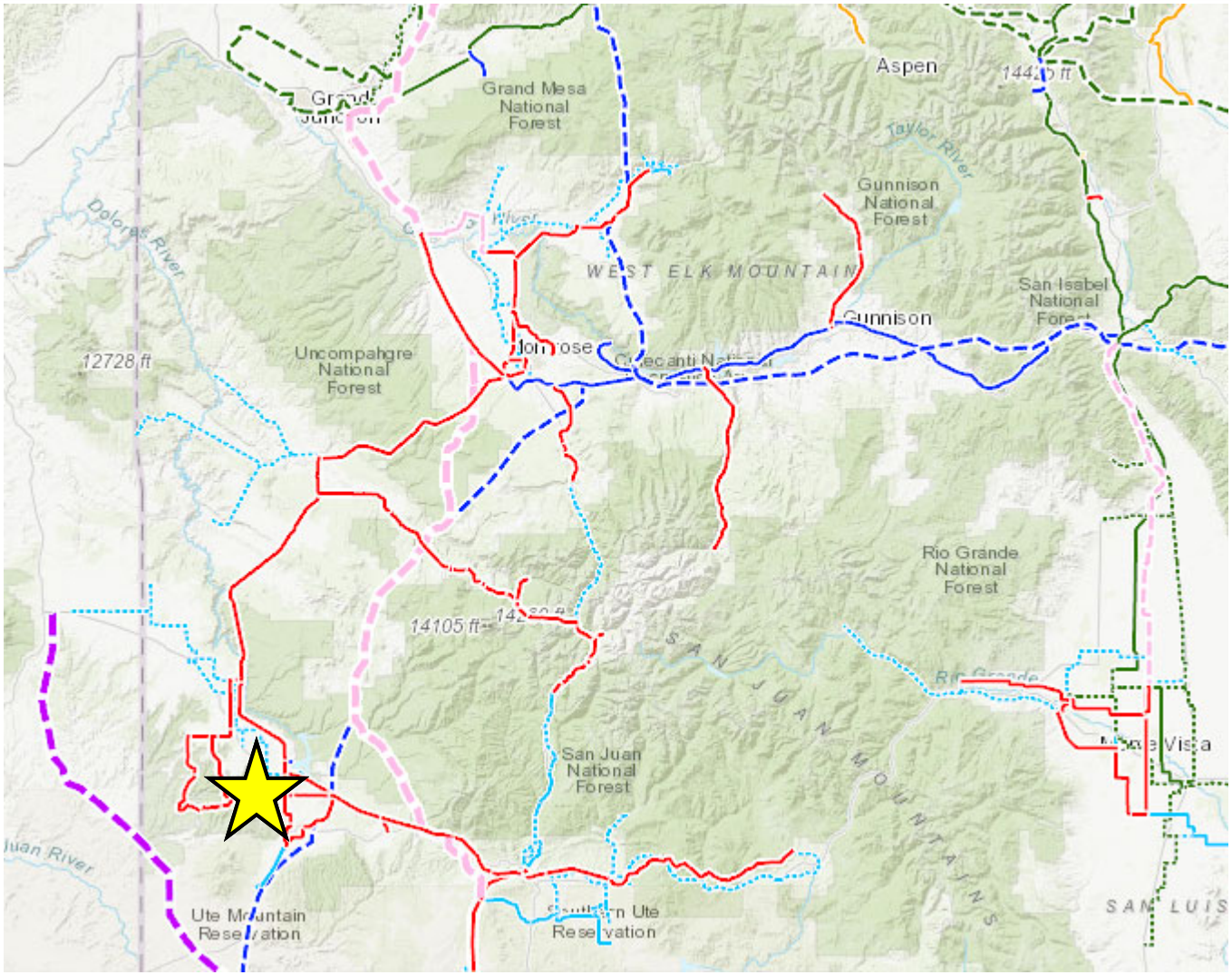


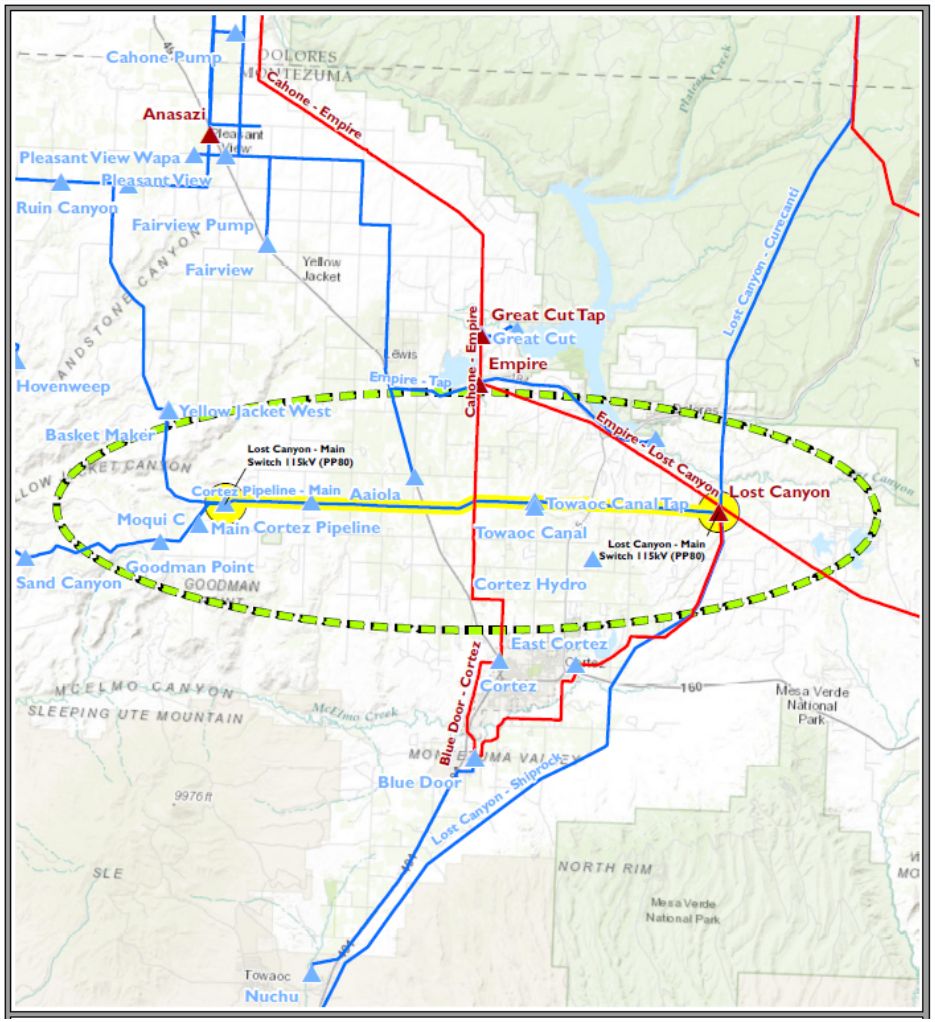


Lloyd Sisson Delivery Point Project

Description:	A new load serving Delivery Point (DP) to serve approximately 12 MW of requested load growth near the end of the Member's 34.5 kV system, which is beyond its capability. This new DP is located approximately 10 miles northwest of Grover, Colorado.
Voltage:	115 kV
Length:	20 miles
Type:	Line and Substation
Status:	Energized
ISD:	2021
Purpose:	Load Serving

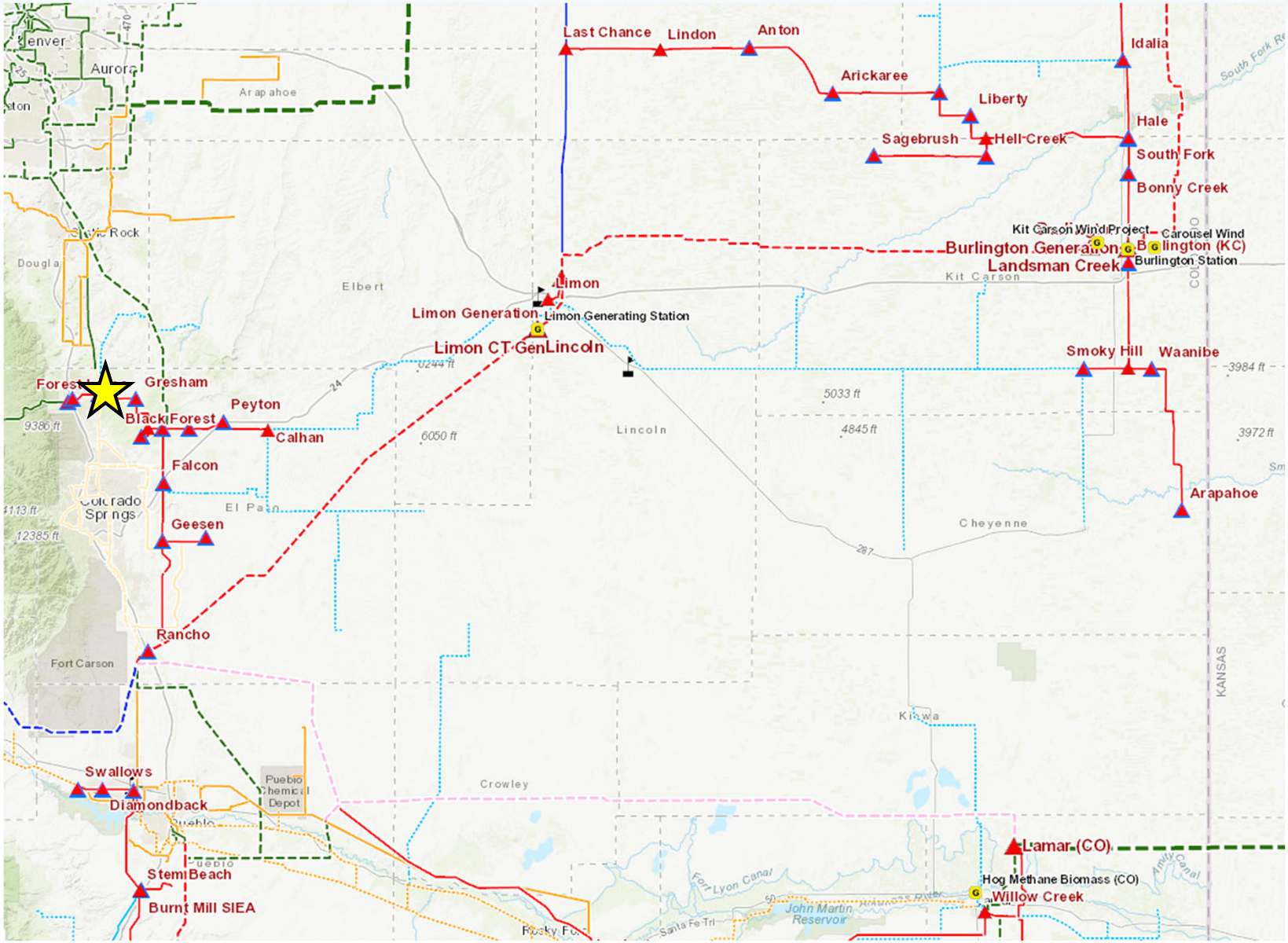
Lost Canyon – Main Switch 115 kV Line

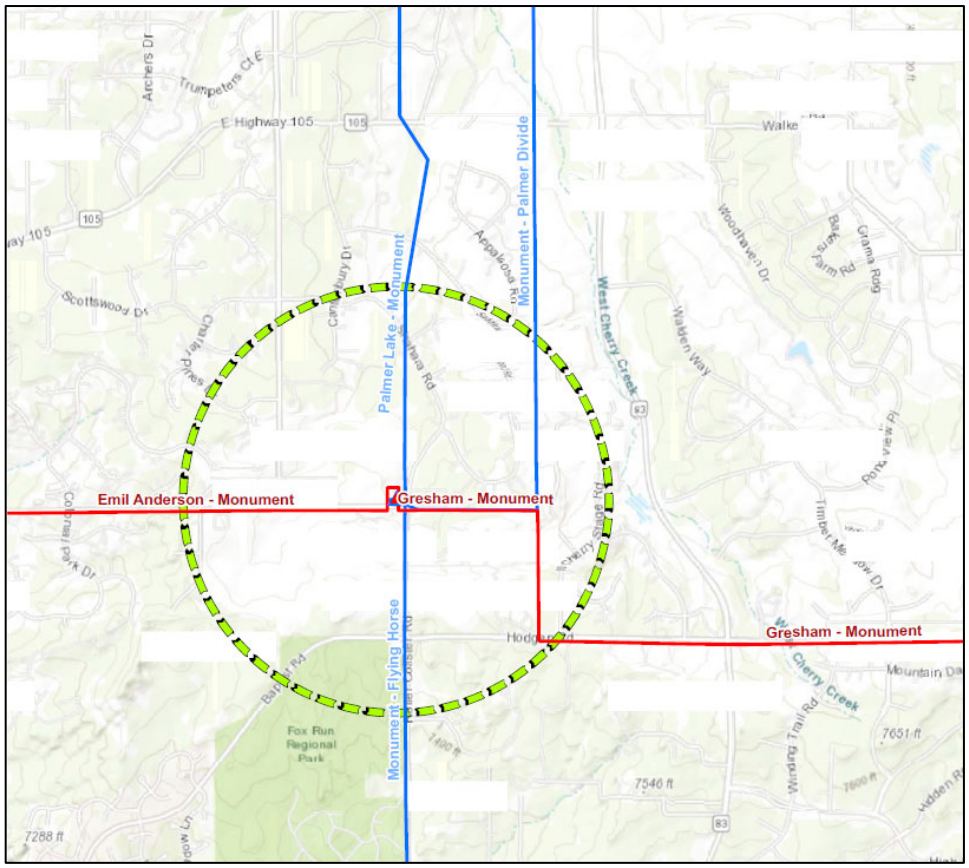




Lost Canyon – Main Switch 115 kV Line	
Description:	Construct new Lost Canyon – Main Switch 115 kV line
Voltage:	115 kV
Length:	16 miles
Type:	Line
Status:	Conceptual
Planned ISD:	TBD
Purpose:	Load Serving; Generation Accomodation

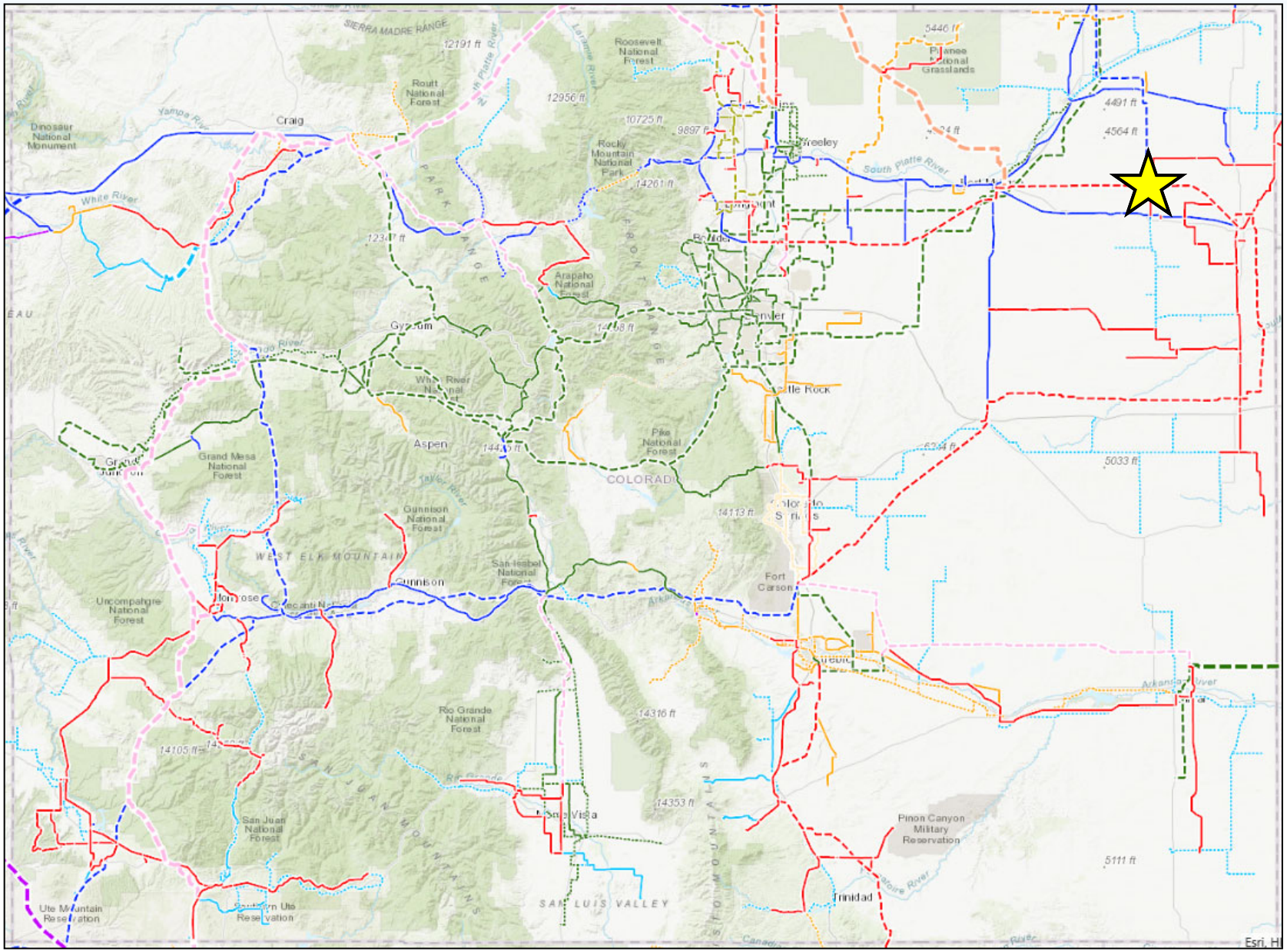
Monument – Substation Improvements

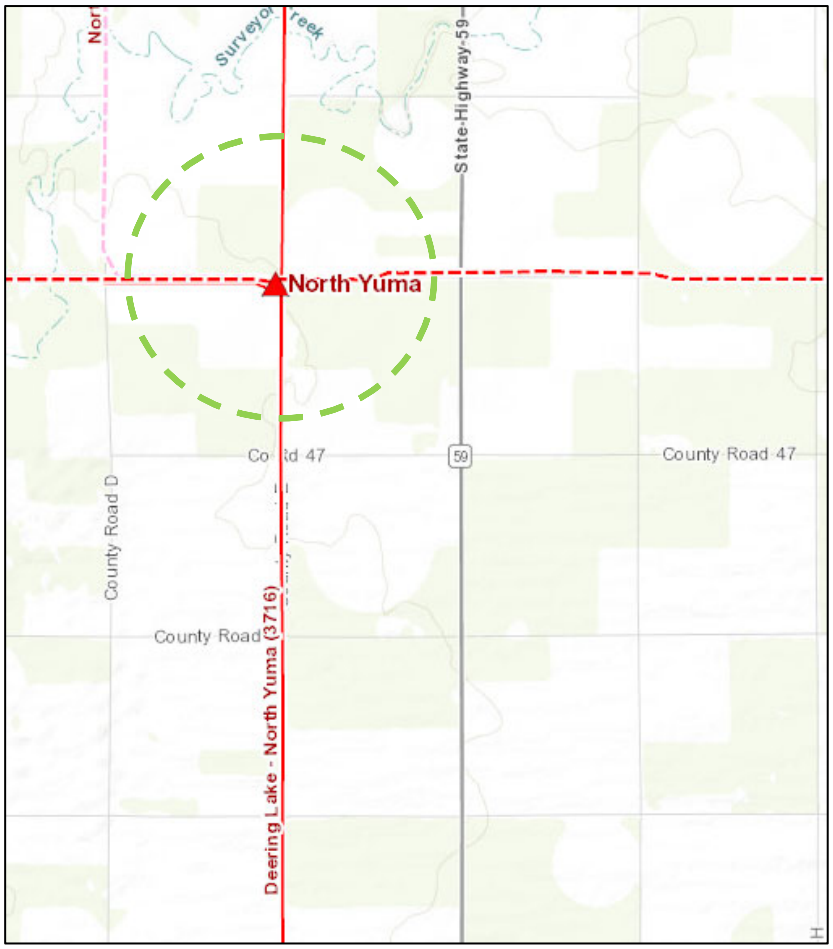




Monument – Substation Improvements	
Description:	Redesign substation to an eight-position breaker-and-a-half design. Replace 69/12.47 kV distribution transformers with 115/12.47 kV distribution transformers. Relocate existing 115/69 kV and 115/67 kV transformer to new yard called Fox Run.
Voltage:	115/69/12.47 kV
Current:	Star Bus
New:	Breaker-and-a-half
Status:	Under Construction
Planned ISD:	2023
Purpose:	Load Serving/Reliability/Area Capacity

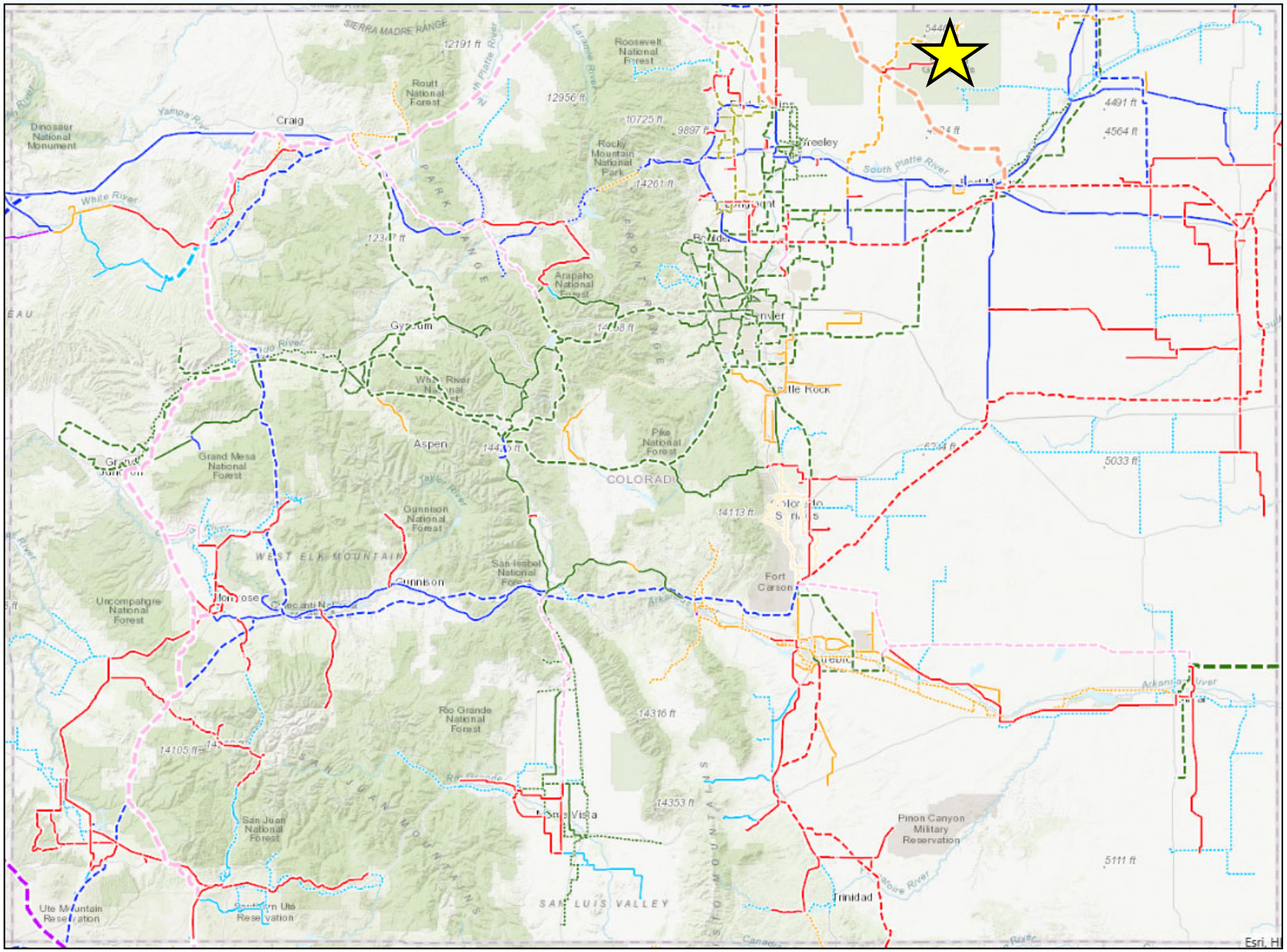
Niyol Wind Interconnect

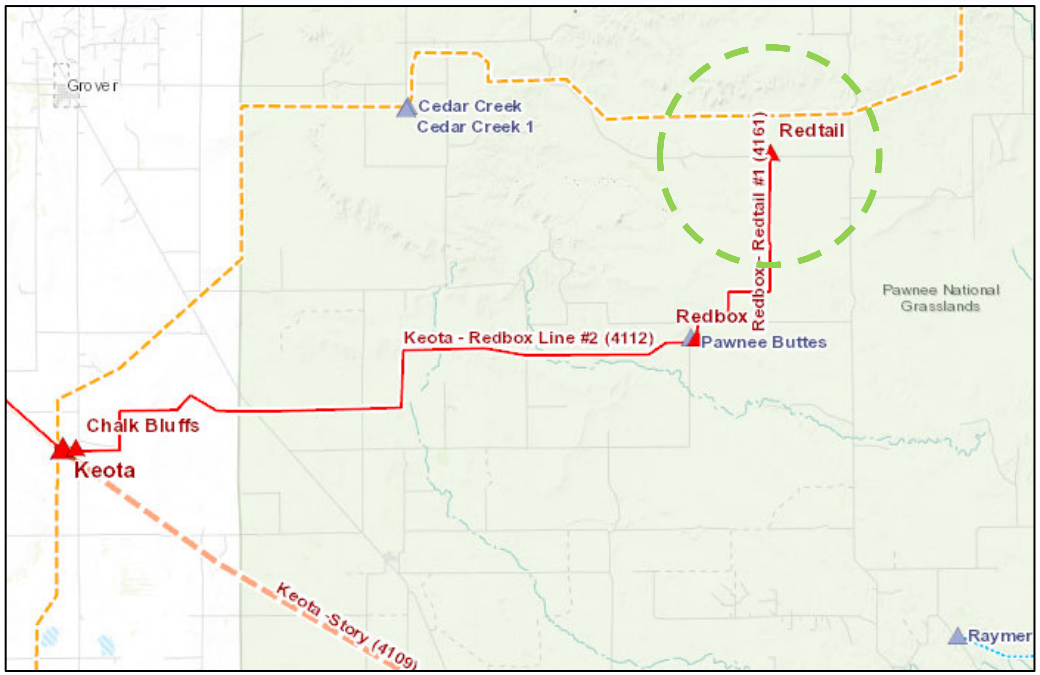




Niyol Wind Interconnect	
Description:	Construct a 230kV line bay at existing North Yuma substation to accommodate wind interconnection
Voltage:	230 kV
Type:	Substation
Status:	Energized
ISD:	2021
Purpose:	Generation Addition

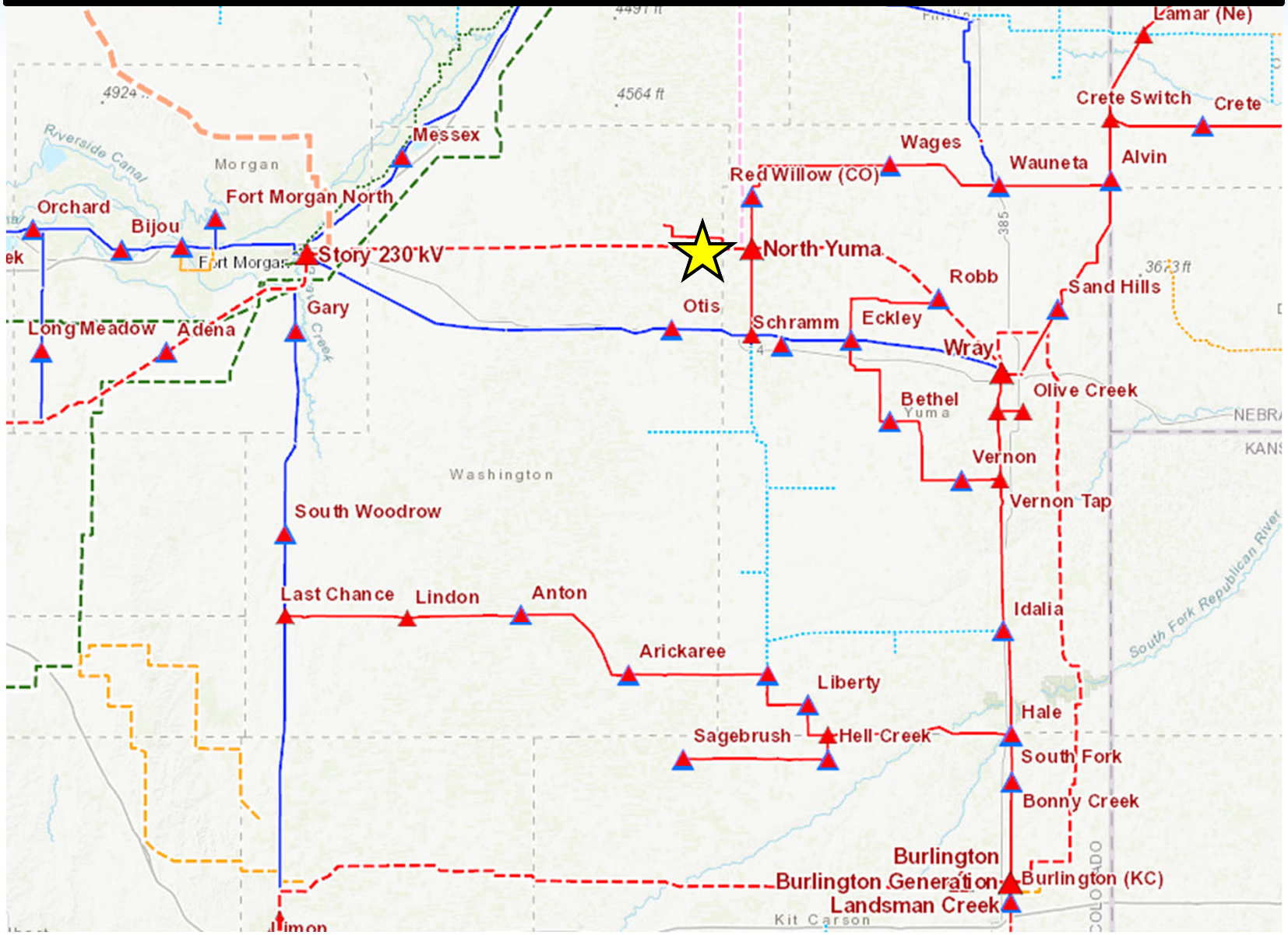
Panorama Point Wind Interconnect

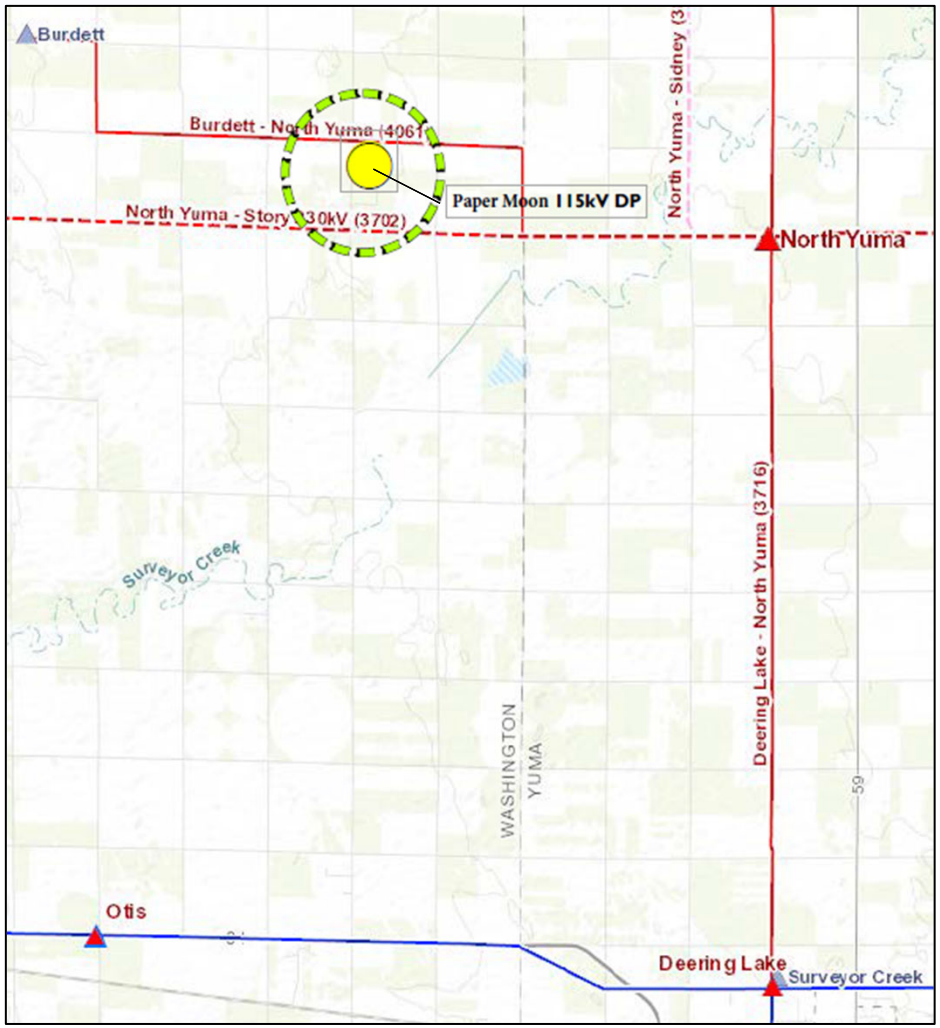




Panorama Point Wind Interconnect	
Description:	Construct a 115kV line bay at existing Redtail substation to accommodate wind interconnection
Voltage:	115 kV
Type:	Substation
Status:	Under Construction
Planned ISD:	2021
Purpose:	Generation Addition

Paper Moon 115 kV DP

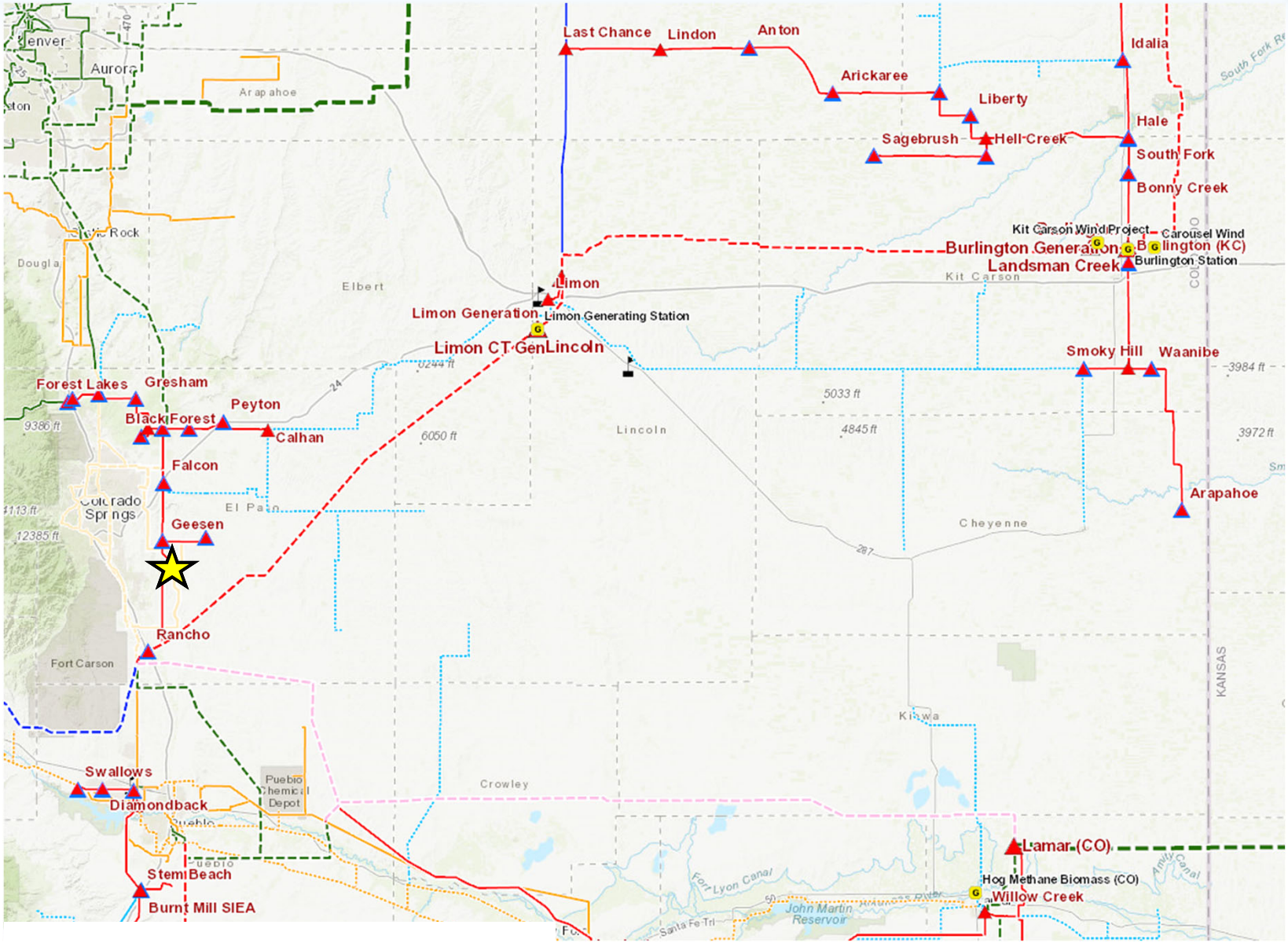


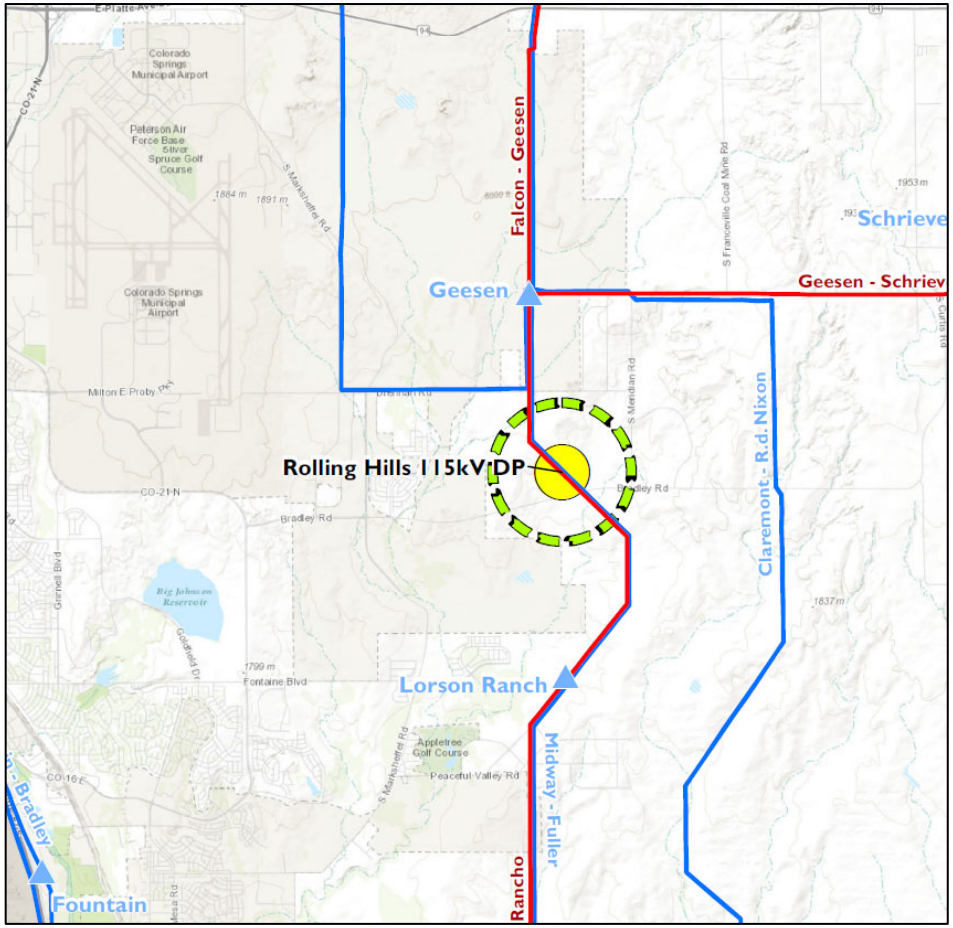


Paper Moon 115 kV DP

Description:	Establish a new 115 kV DP for YWEA. Scope of project includes tapping 115 kV Burdett-North Yuma Transmission Line, 115 kV circuit switcher, 115/12.47 kV 10 MVA transformer, metering equipment and low side equipment.
Voltage:	115 kV
Type:	Substation
Status:	Under Construction
Planned ISD:	2022
Purpose:	Load Serving

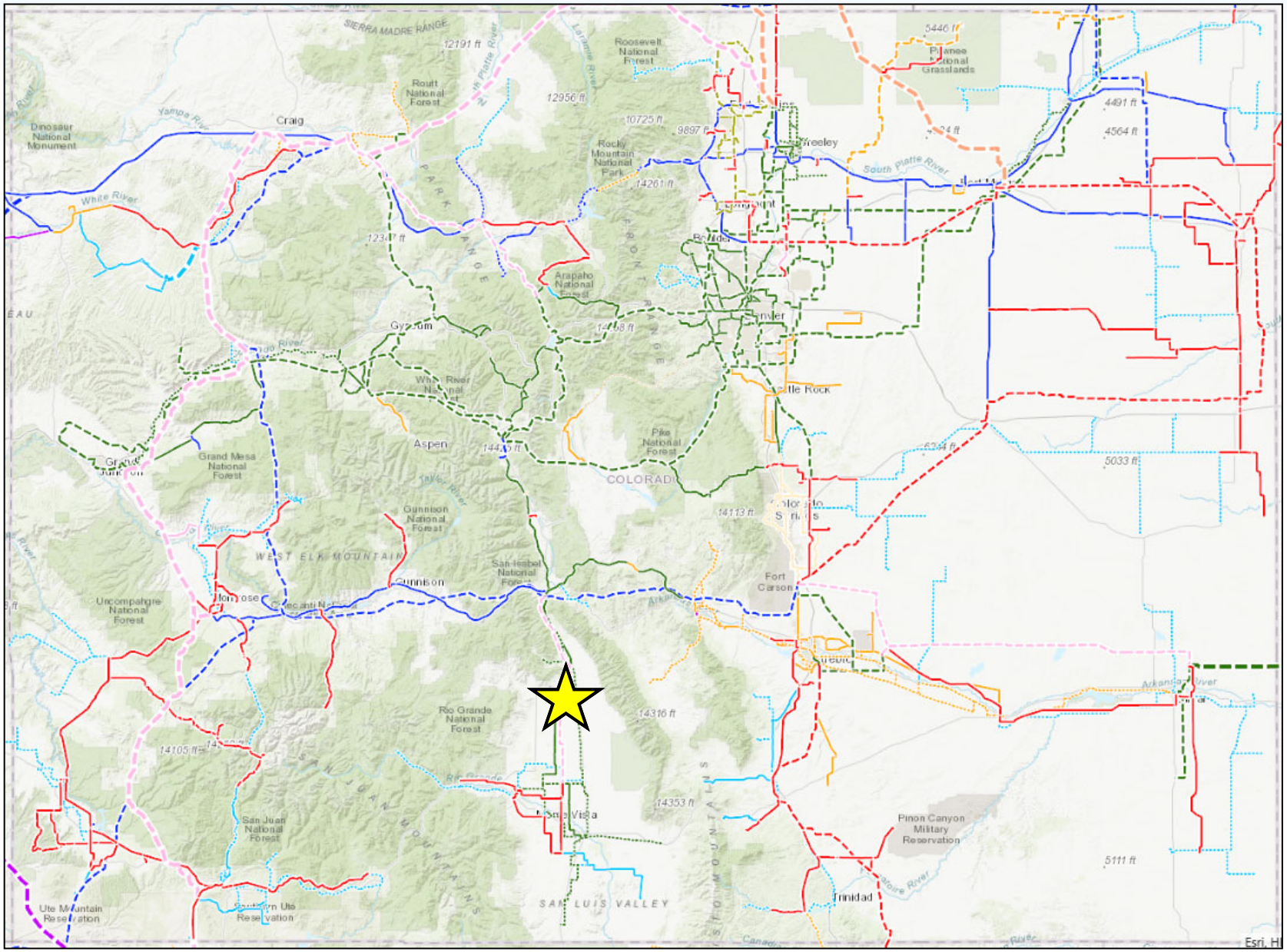
Rolling Hills 115 kV DP

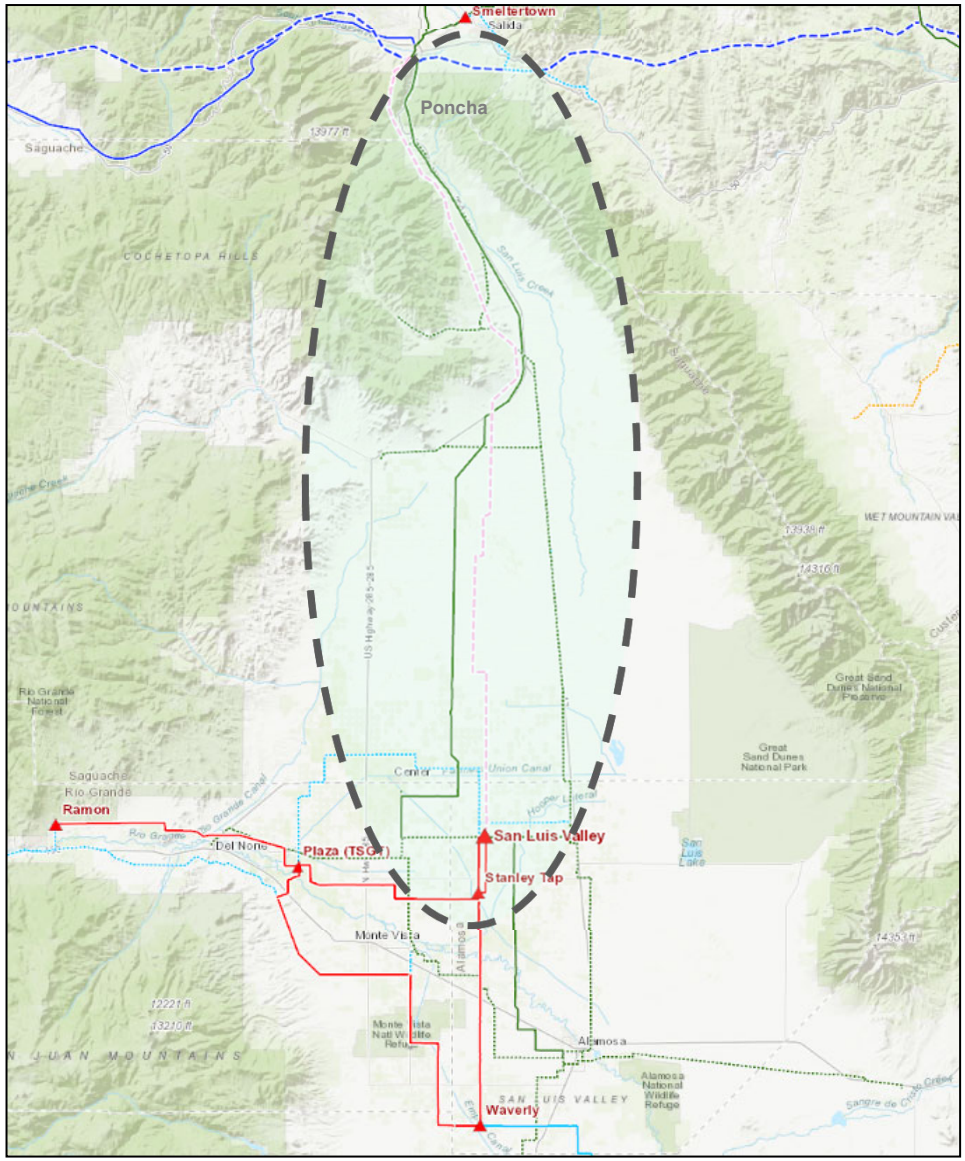




Rolling Hills 115 kV DP	
Description:	The proposed scope of work for this project will be to establish a new 115 kV Point of Delivery for MVEA at Rolling Hills 115-12.5 kV Substation by 'tapping' (with an in and out configuration), the existing 115 kV Geesen-Lorson Ranch-Rancho-Midway line between Geesen and Lorson Ranch subs.
Voltage:	115 kV
Length:	0
Type:	Substation
Status:	Planned
Planned ISD:	2026
Purpose:	Load Serving

San Luis Valley – Poncha 230 kV Project

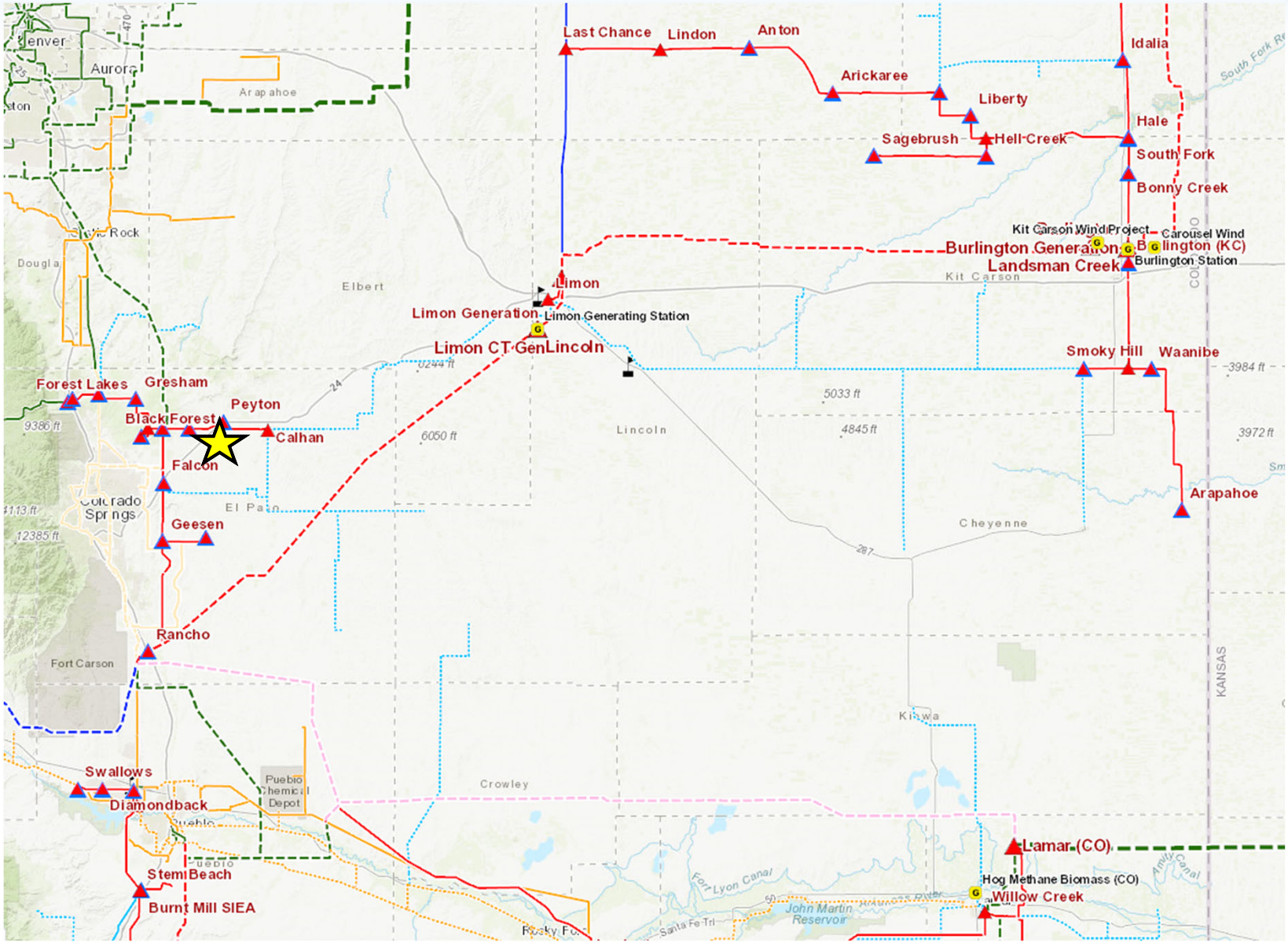


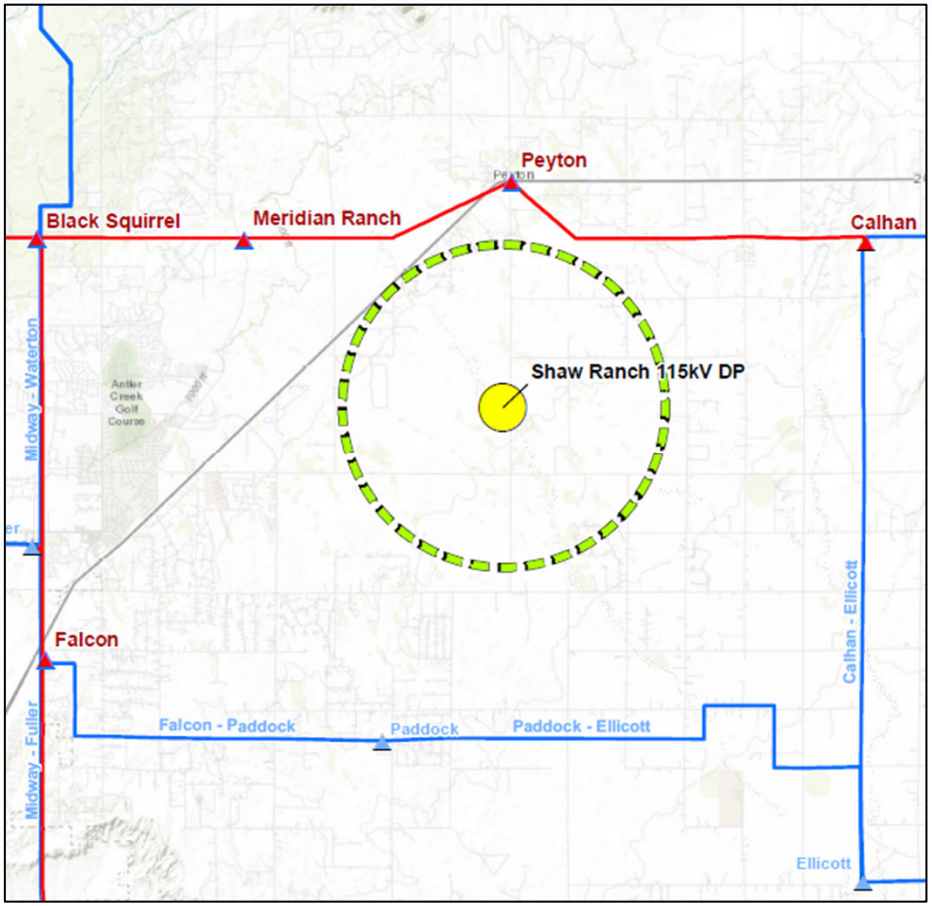


San Luis Valley – Poncha 230 kV Project

Description:	Construct approximately 60 mile 230 kV transmission line from the San Luis Valley to Poncha 230 kV.
Voltage:	230 kV
Length:	60 miles
Type:	Line.
Status:	Re-development
Planned ISD:	TBD
Purpose:	Reliability.

Shaw Ranch 115 kV Substation

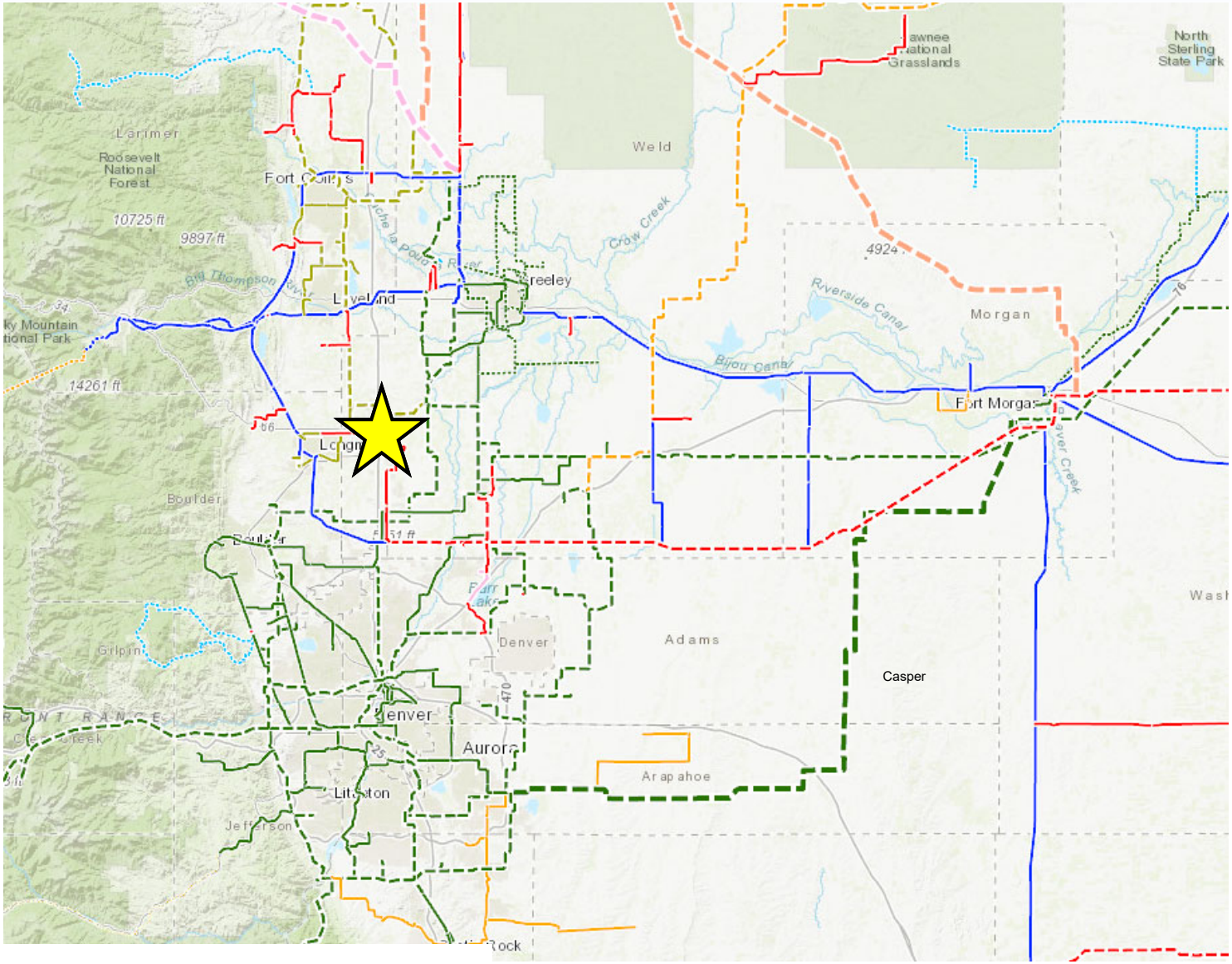


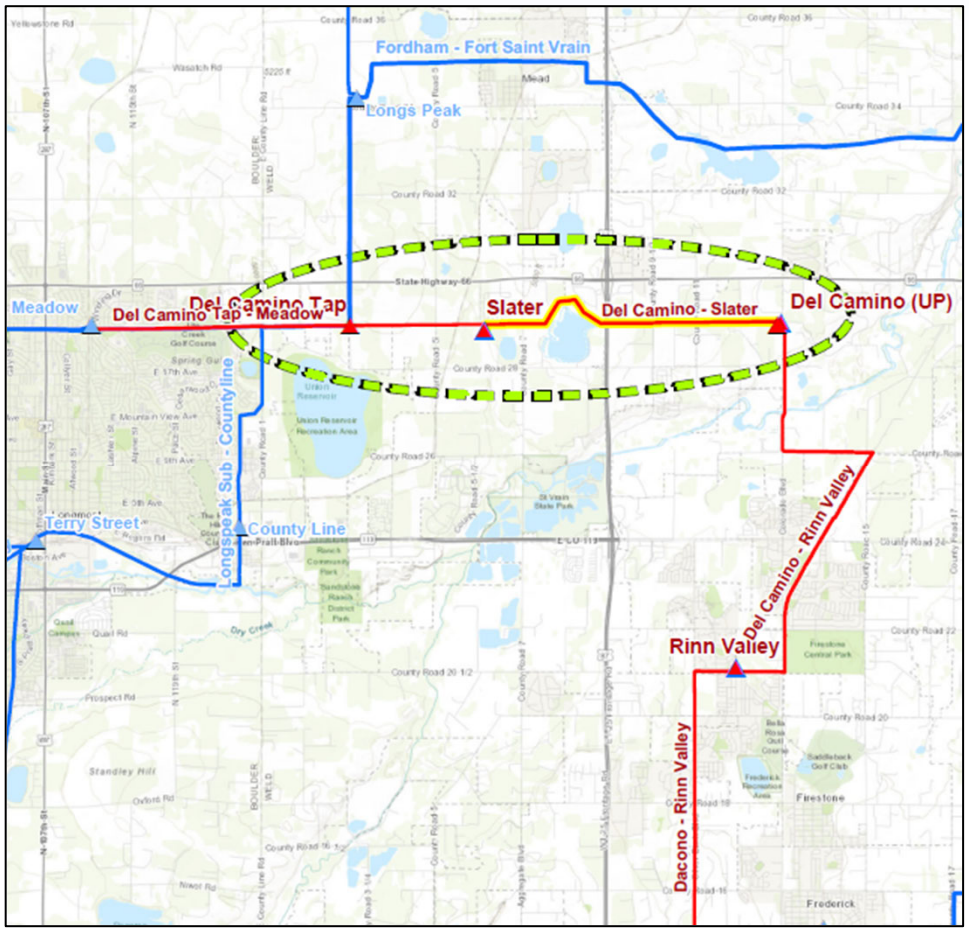


Shaw Ranch 115 kV Substation

Description:	New 115 kV single circuit line approximately 4 miles on wood H frame structures from the Peyton substation to new Shaw Ranch. Construct new 115 kV Shaw Ranch substation.
Voltage:	115/12.47 kV
Length:	4 miles
Type:	Line and Substation
Status:	Planned
Planned ISD:	2026
Purpose:	Load Serving

Slater – Del Camino Line Uprate

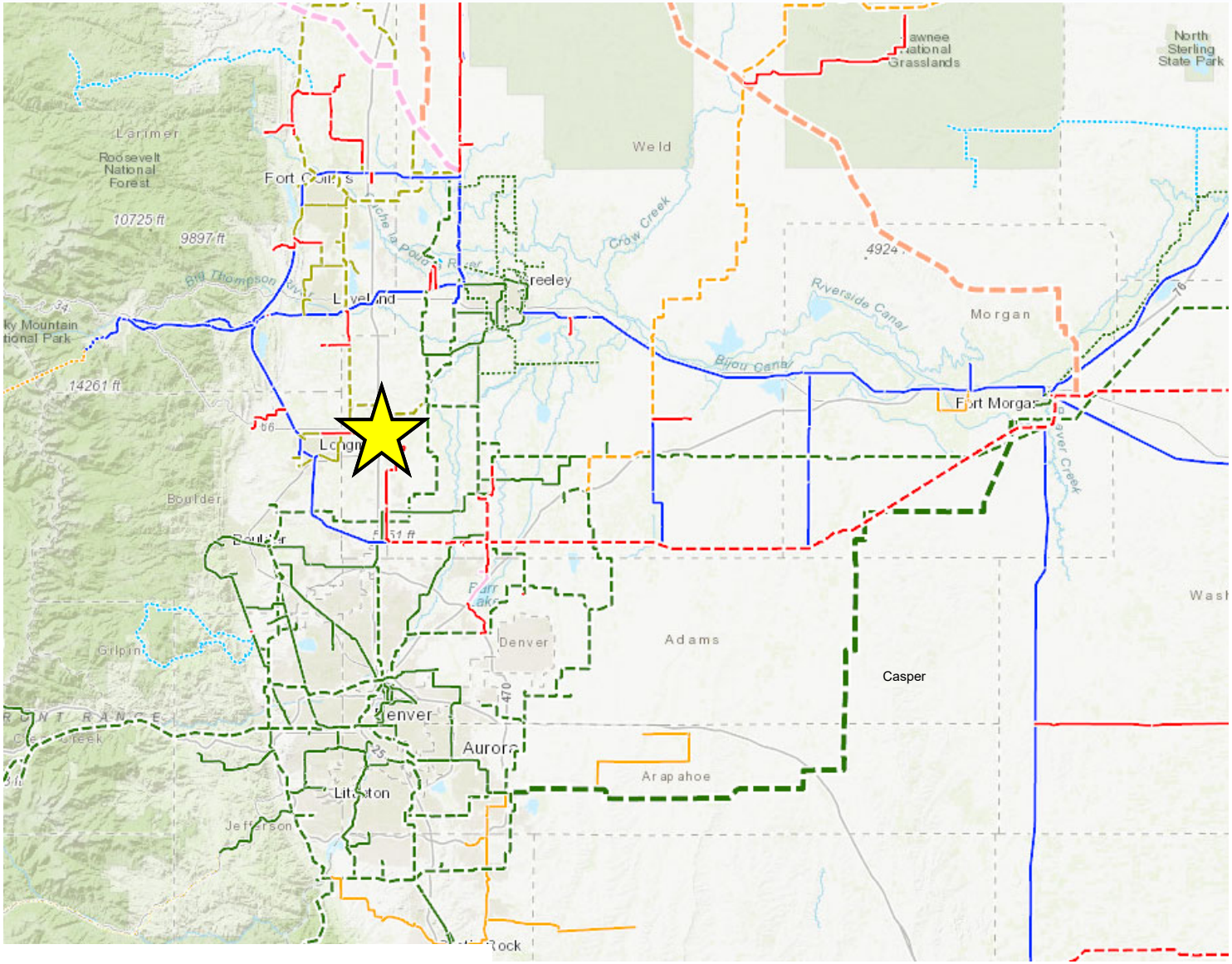


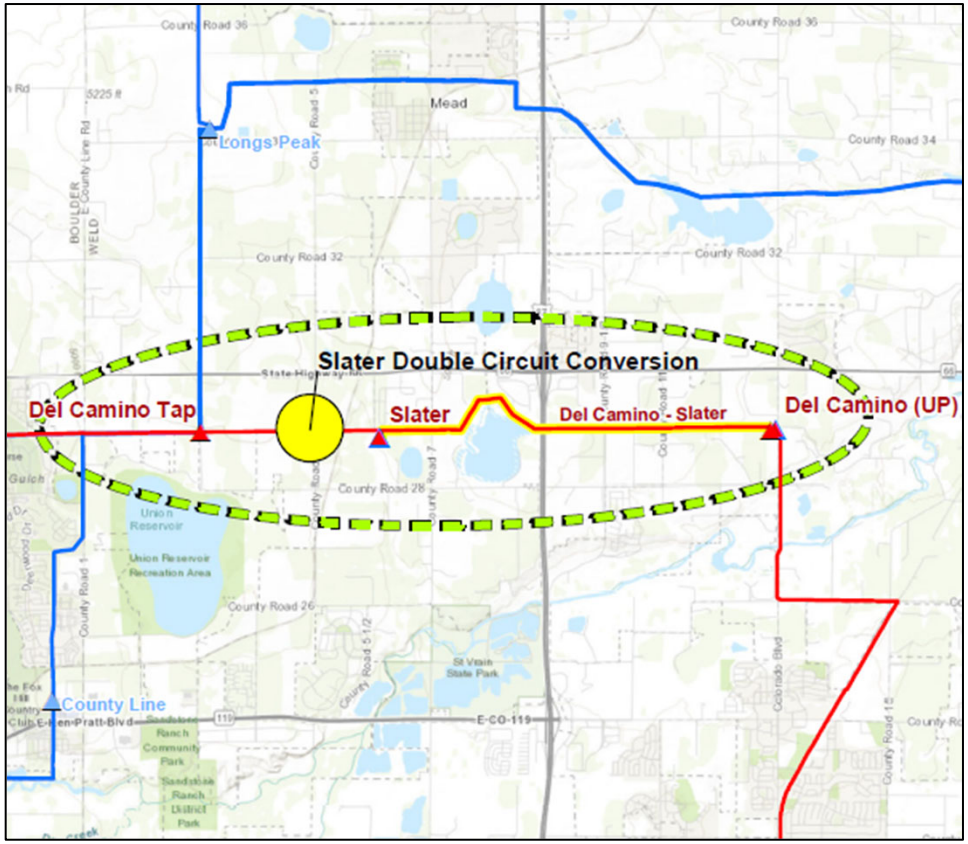


Slater – Del Camino Line Uprate

Description:	Uprate Slater – Del Camino line to increase capacity by replacing conductor and poles where needed.
Voltage:	115 kV
Length:	2 miles
Type:	Line
Status:	Under Construction
Planned ISD:	2022
Purpose:	Load Serving

Slater Double Circuit Conversion

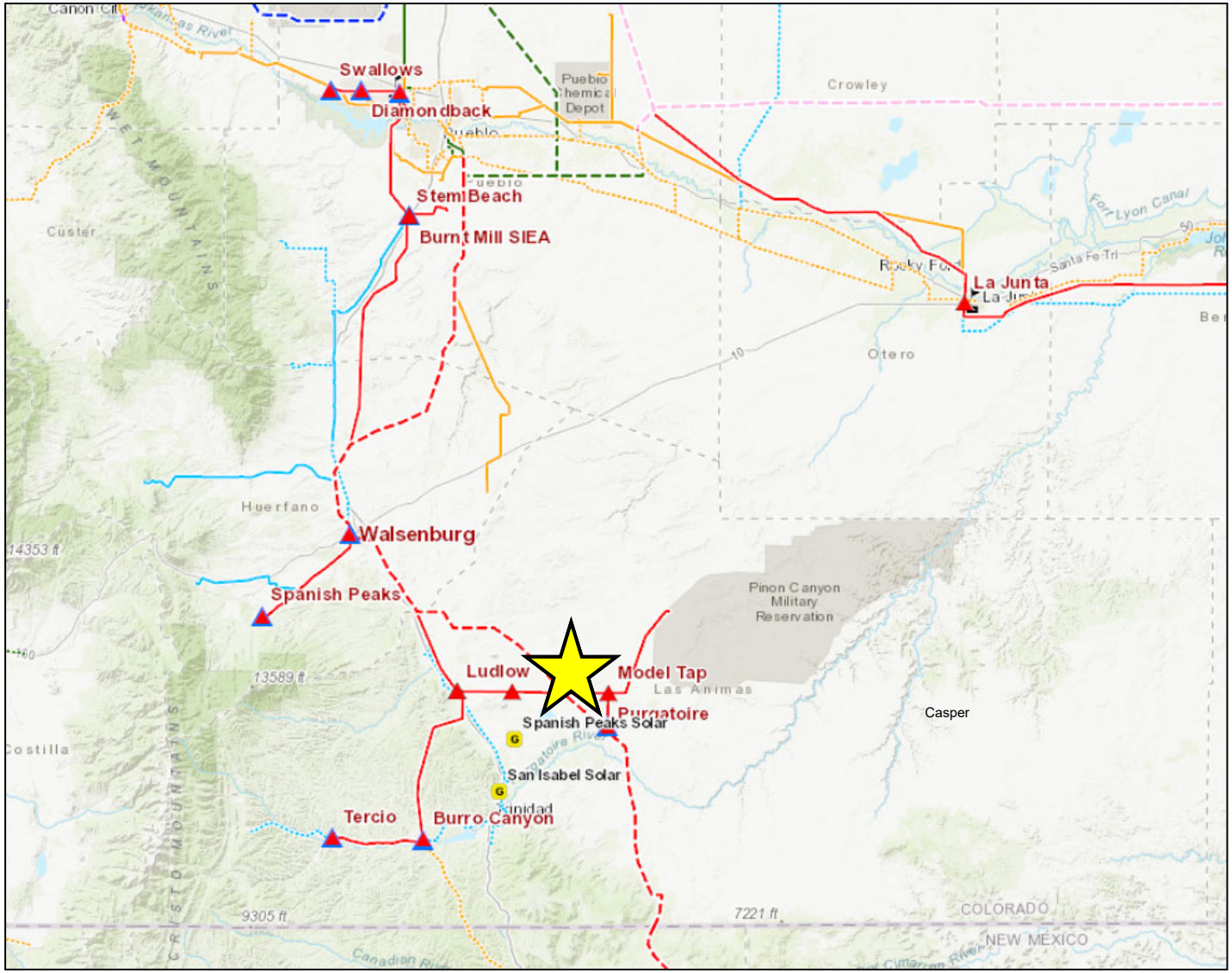


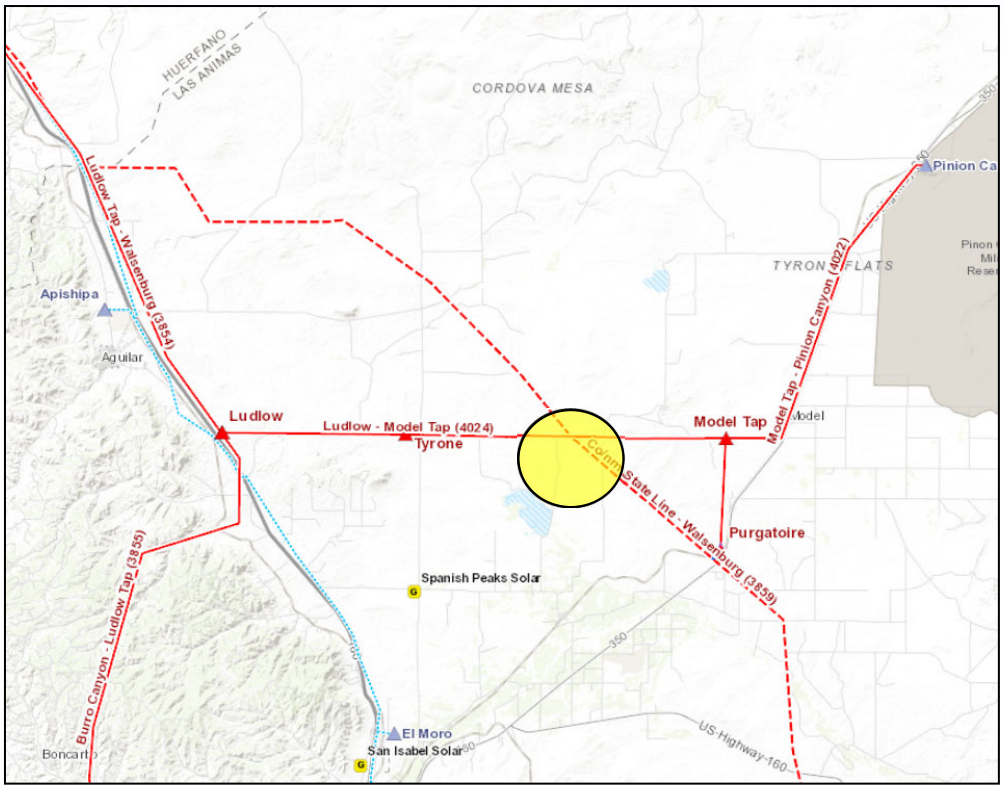


Slater Double Circuit Conversion

Description:	Rebuild the Del Camino Tap – Slater line as a double circuit. Convert three terminal line to Longs Peak – Slater and Meadow – Slater. Add 115 kV breaker to Slater.
Voltage:	115 kV
Length:	2 miles
Type:	Line
Status:	Planned
Planned ISD:	2024
Purpose:	Load Serving, Reliability

Spanish Peaks Solar Interconnect

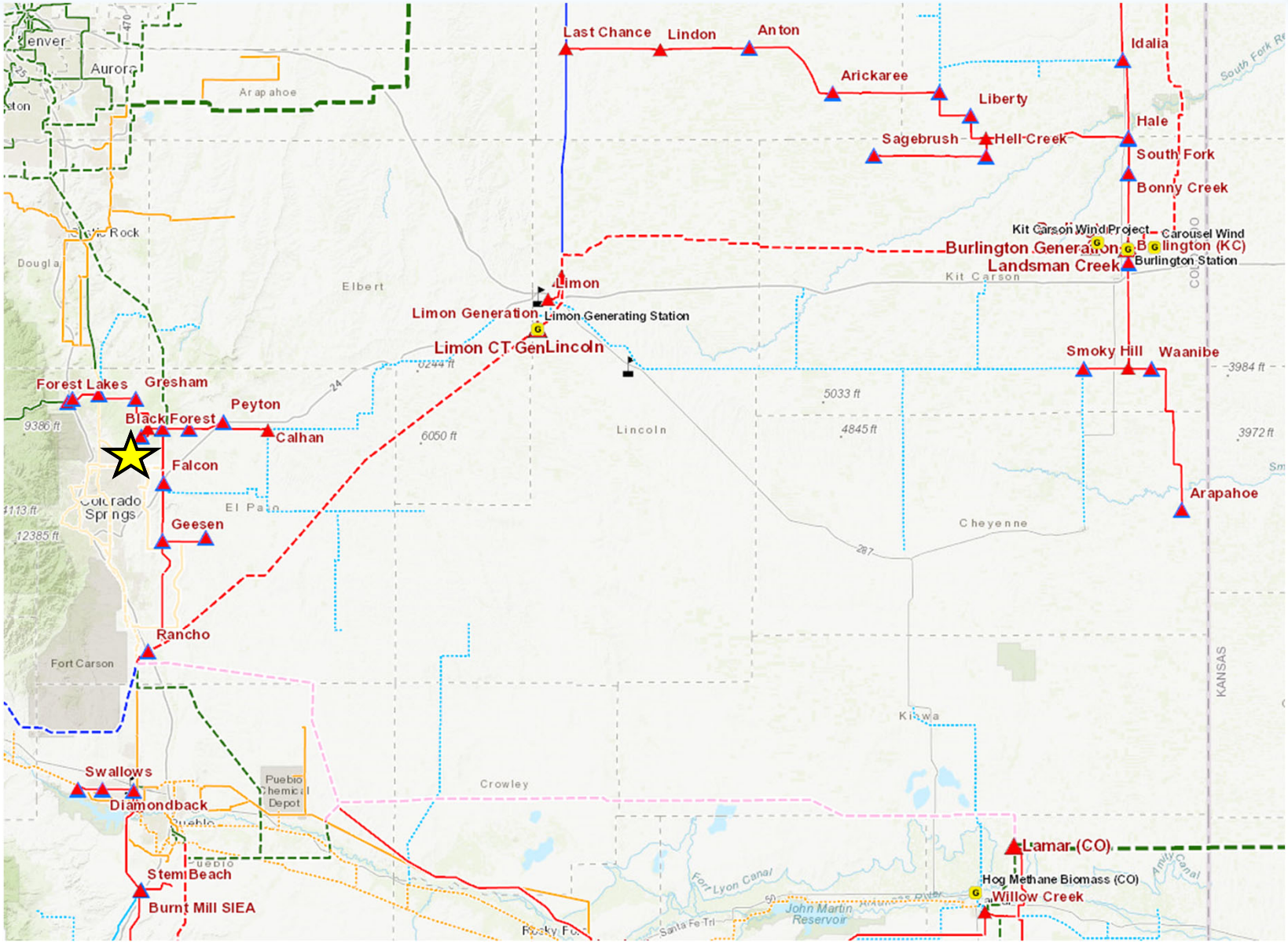


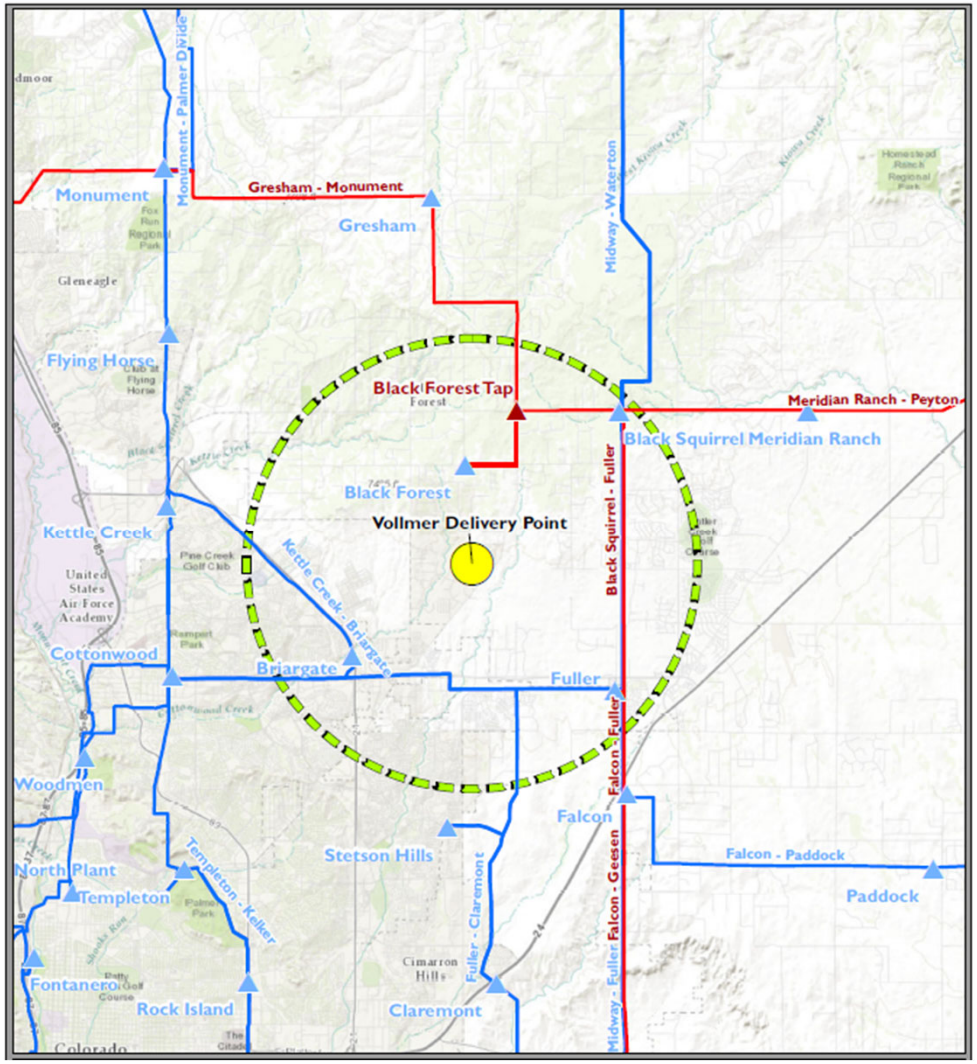


Spanish Peaks Solar Interconnect

Description:	Construct new 230 kV substation along Walsenburg – Gladstone 230 kV to accommodate Spanish Peaks Solar
Voltage:	230 kV
Location	22 Miles Southeast of Walsenburg
Type:	Substation
Status:	Under Construction
Planned ISD:	2023
Purpose:	Generation Addition

Vollmer 115 kV Substation

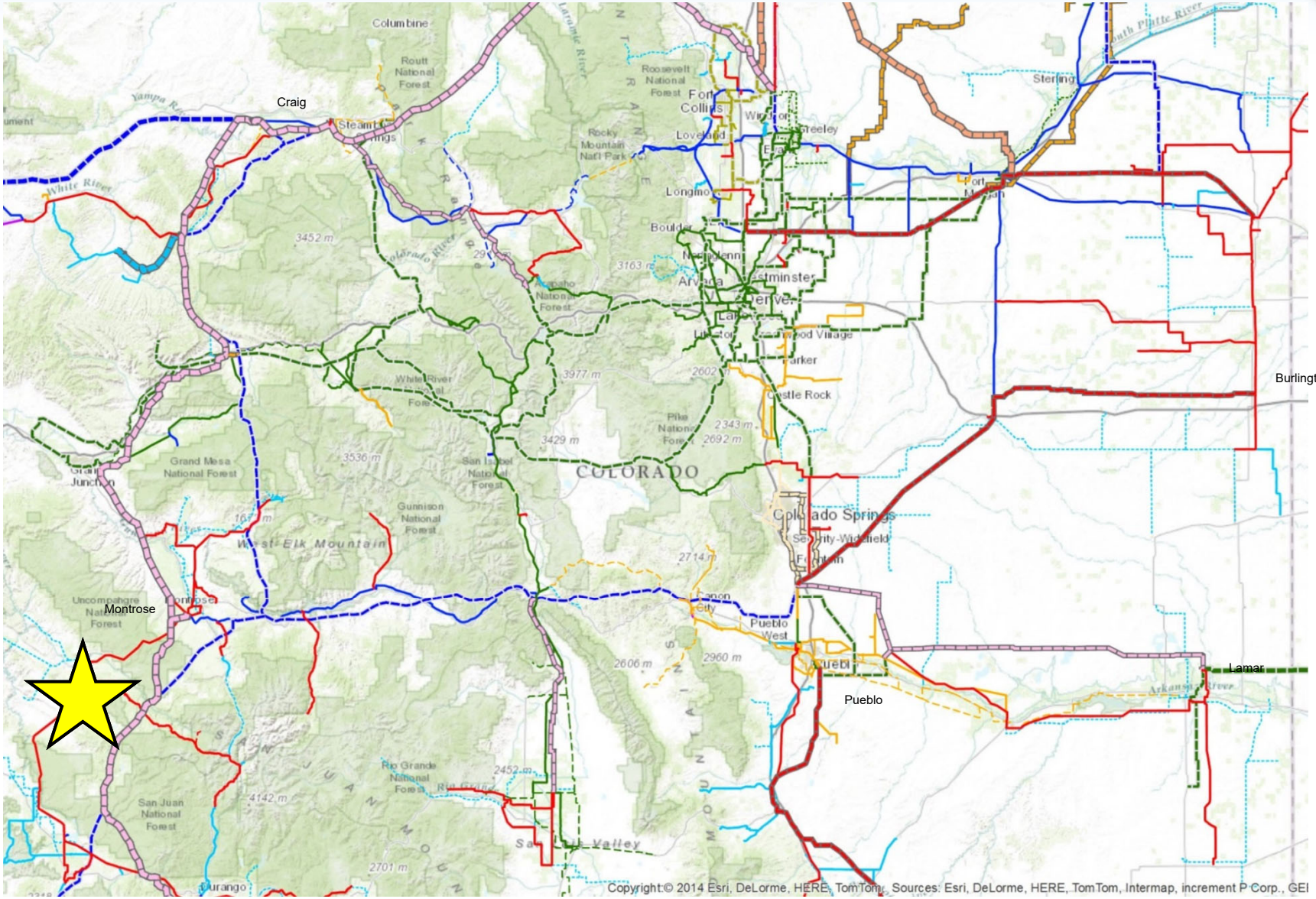


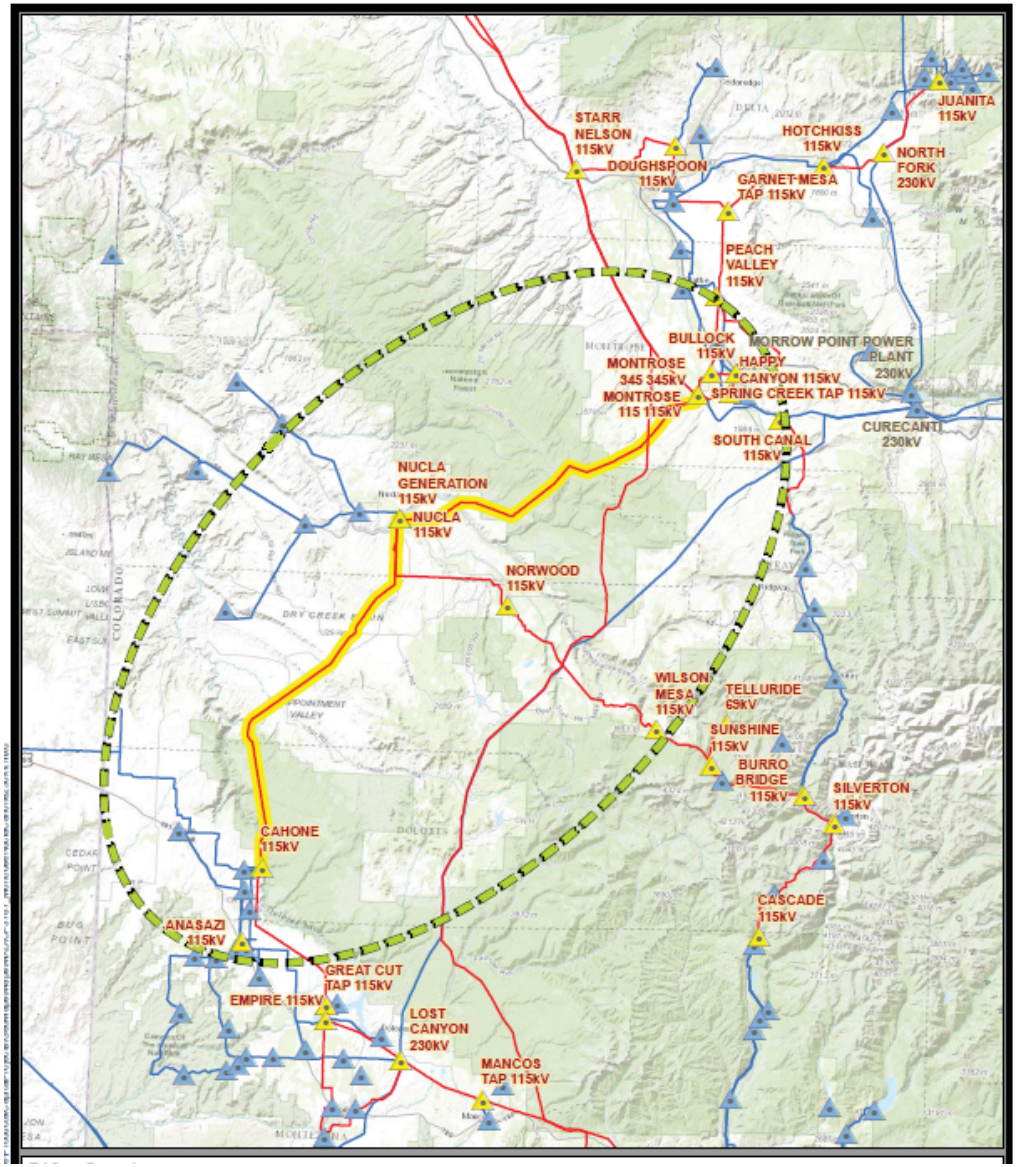


Vollmer 115 kV Substation

Description:	Extend a new 115 kV single circuit line approximately 2 miles on wood H frame structures from the existing 115 kV Jackson Fuller-Black Squirrel line to Vollmer. Construct new 115 kV Vollmer substation.
Voltage:	115/12.47 kV
Length:	2 miles
Type:	Line and Substation
Status:	Under Construction
Planned ISD:	2022
Purpose:	Load Serving

Western Colorado Transmission Upgrade Project

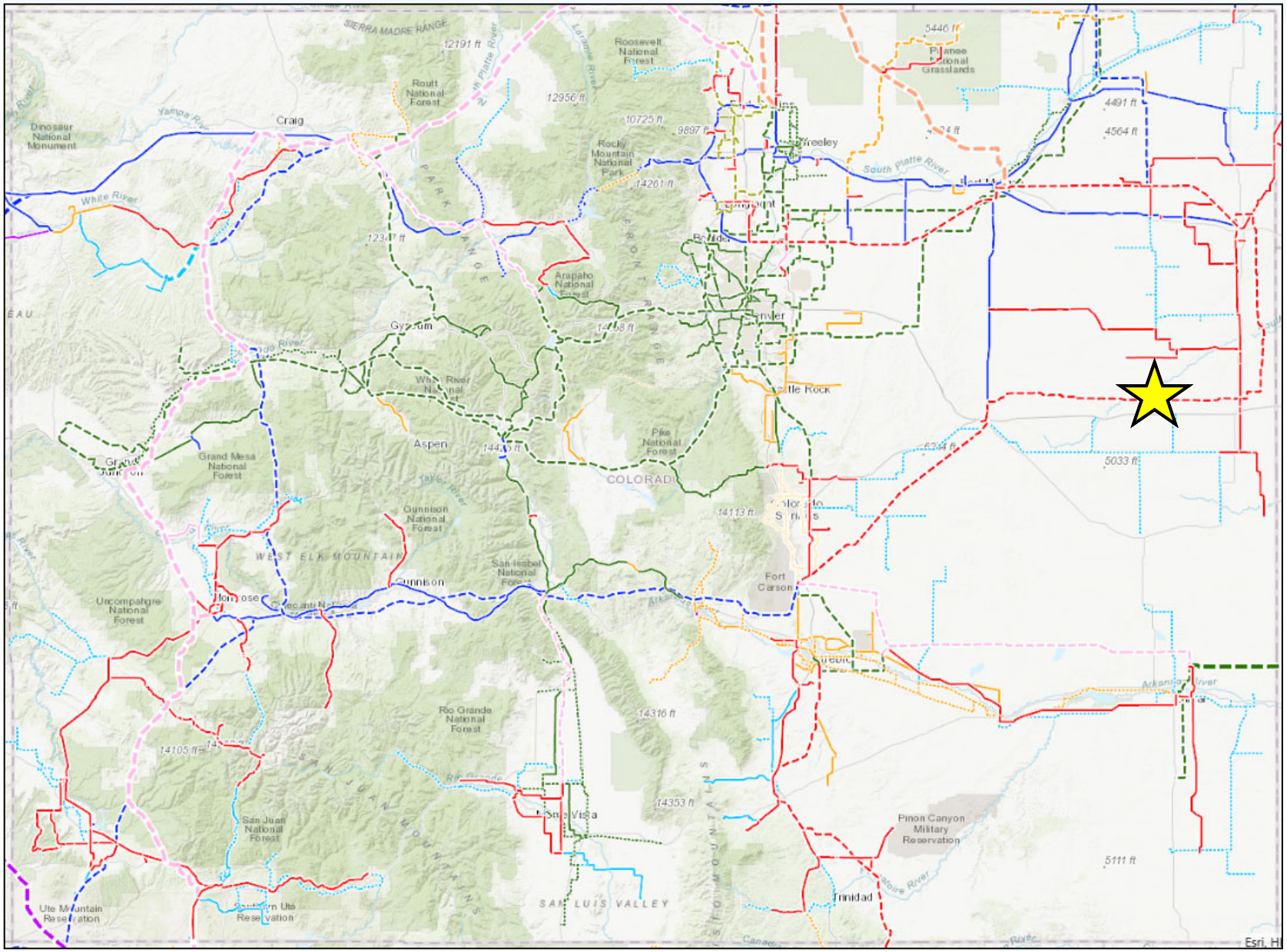


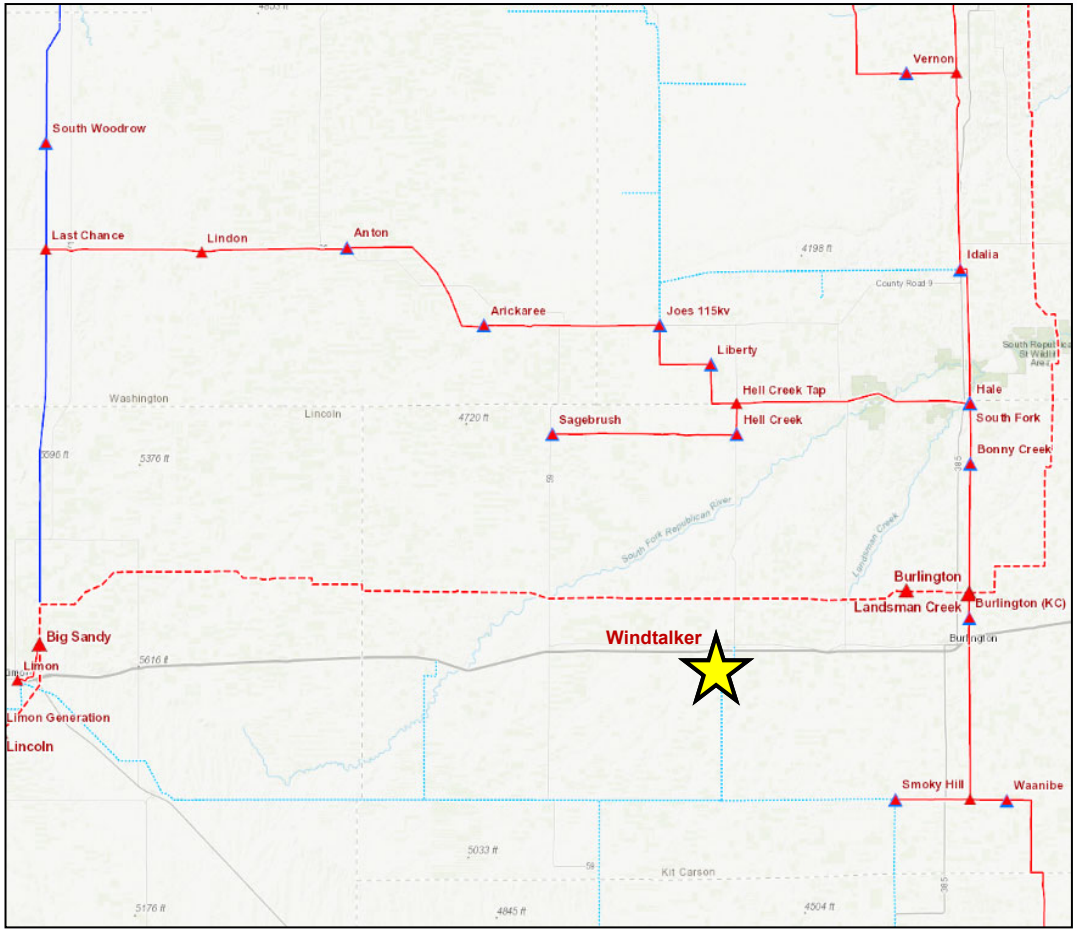


Western Colorado Transmission Upgrade Project

Description:	Upgrade existing transmission line and facilities from Montrose Substation to Cahone Substation from 115 kV operation to 230 kV.
Voltage:	230 kV
Length:	80 miles
Type:	Line
Status:	Energized
ISD:	2020
Purpose:	Reliability – eliminate need for existing Nucla Remedial Action Scheme and replace failing structures. Load serving.

Windtalker 230kV Switchyard

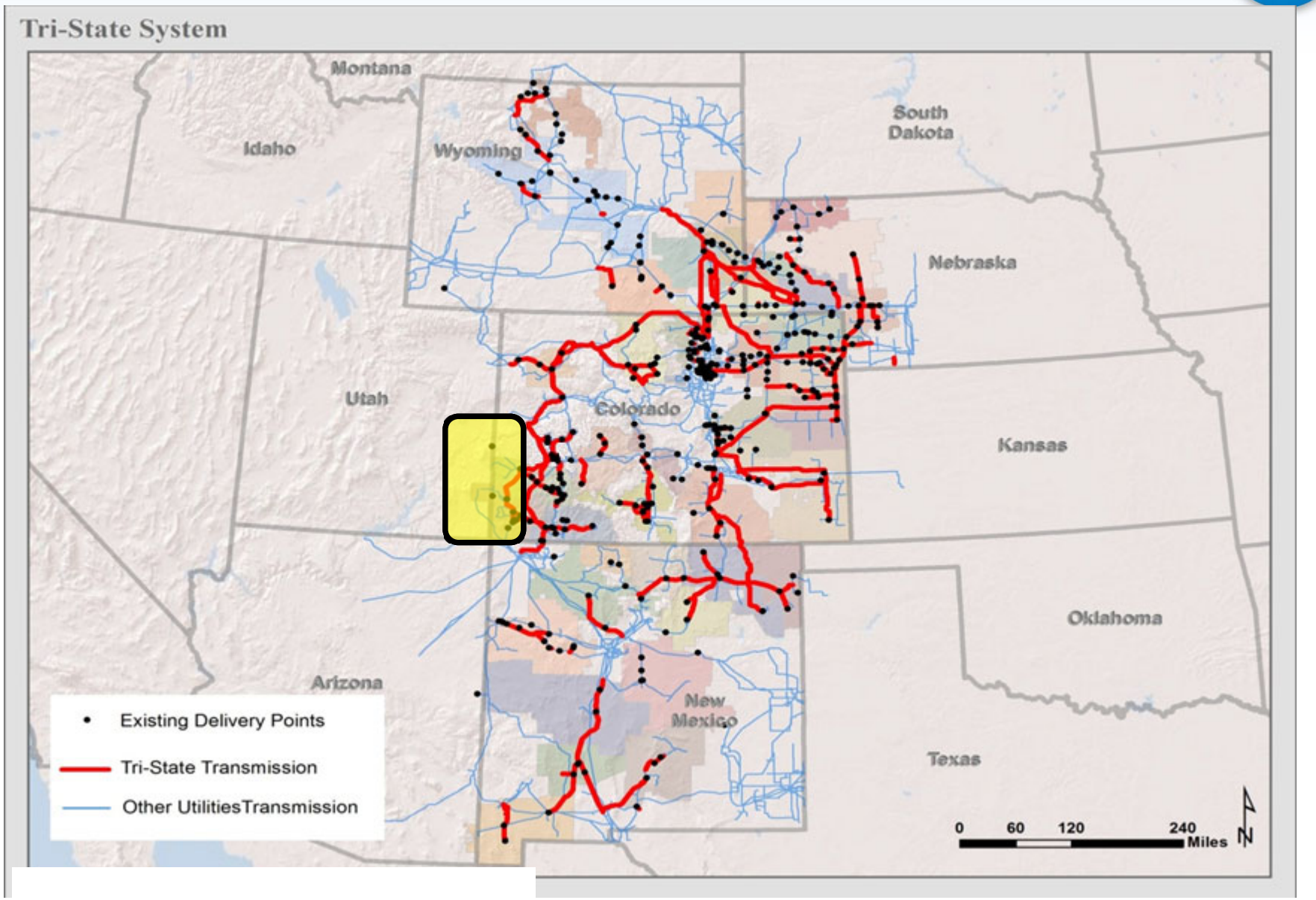




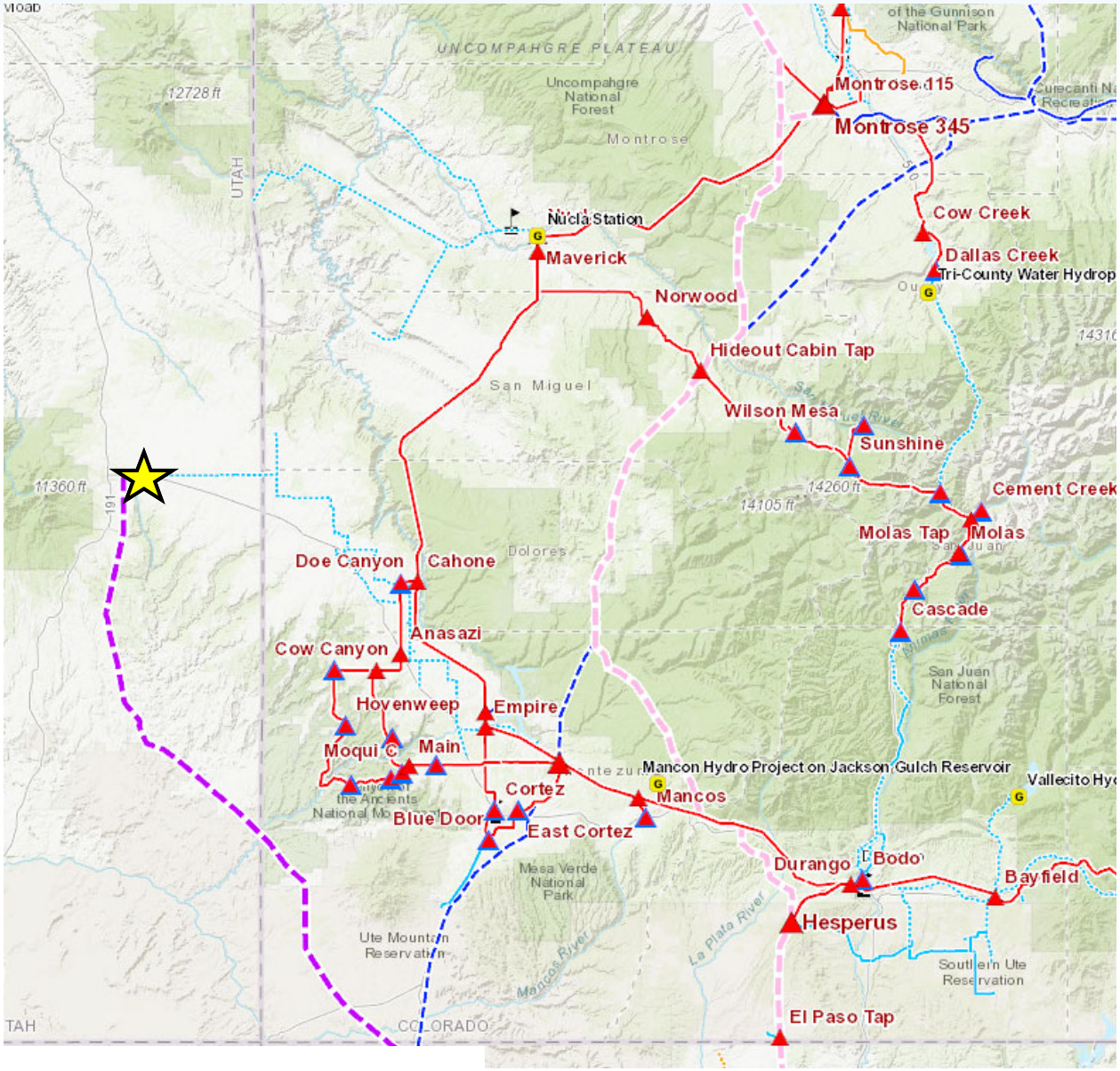
Windtalker 230kV Switchyard

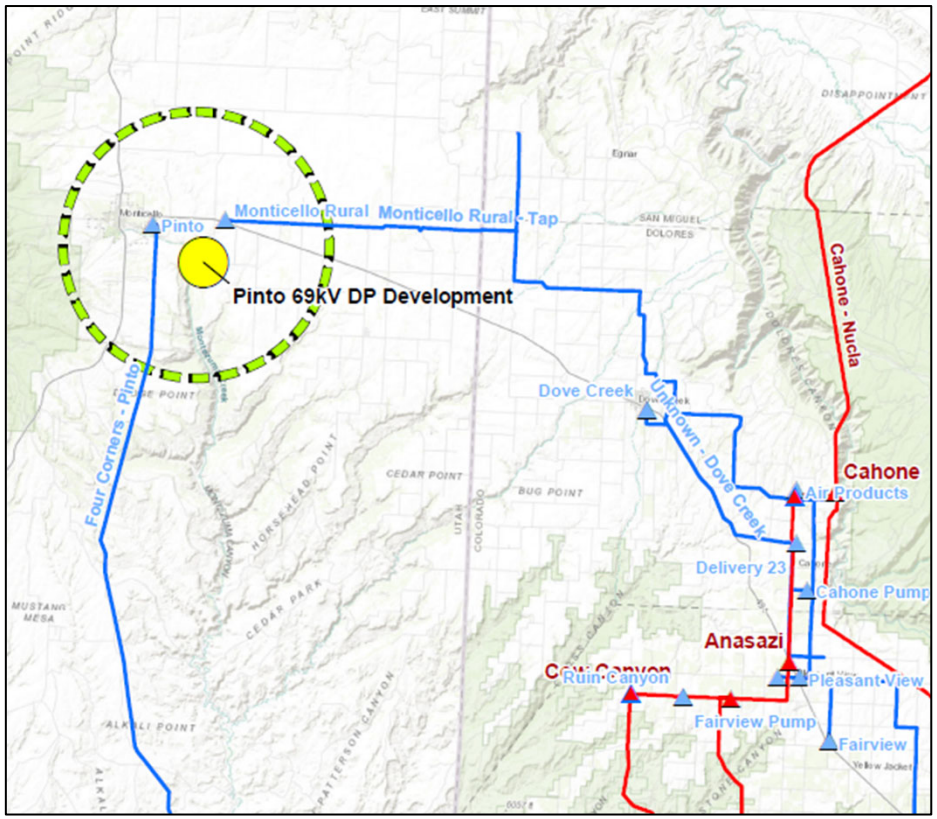
Description:	Construct a new three breaker ring switchyard along the Big Sandy – Landsman Creek 230kV line to accommodate Crossing Trails Wind
Voltage:	230 kV
Type:	Substation
Status:	Energized
ISD:	2020
Purpose:	Generation Addition

Projects: Utah (1)



Pinto 69 kV DP

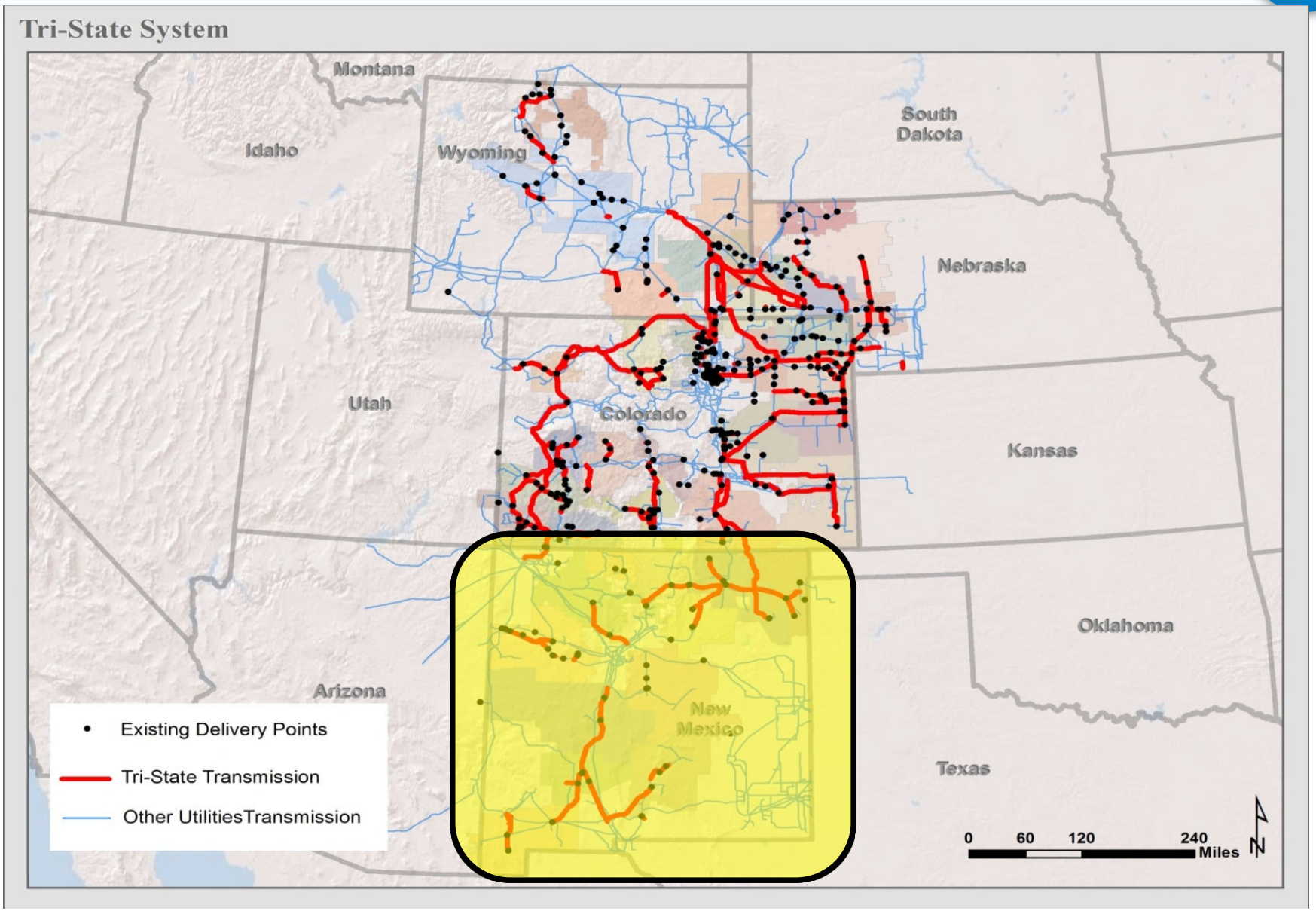




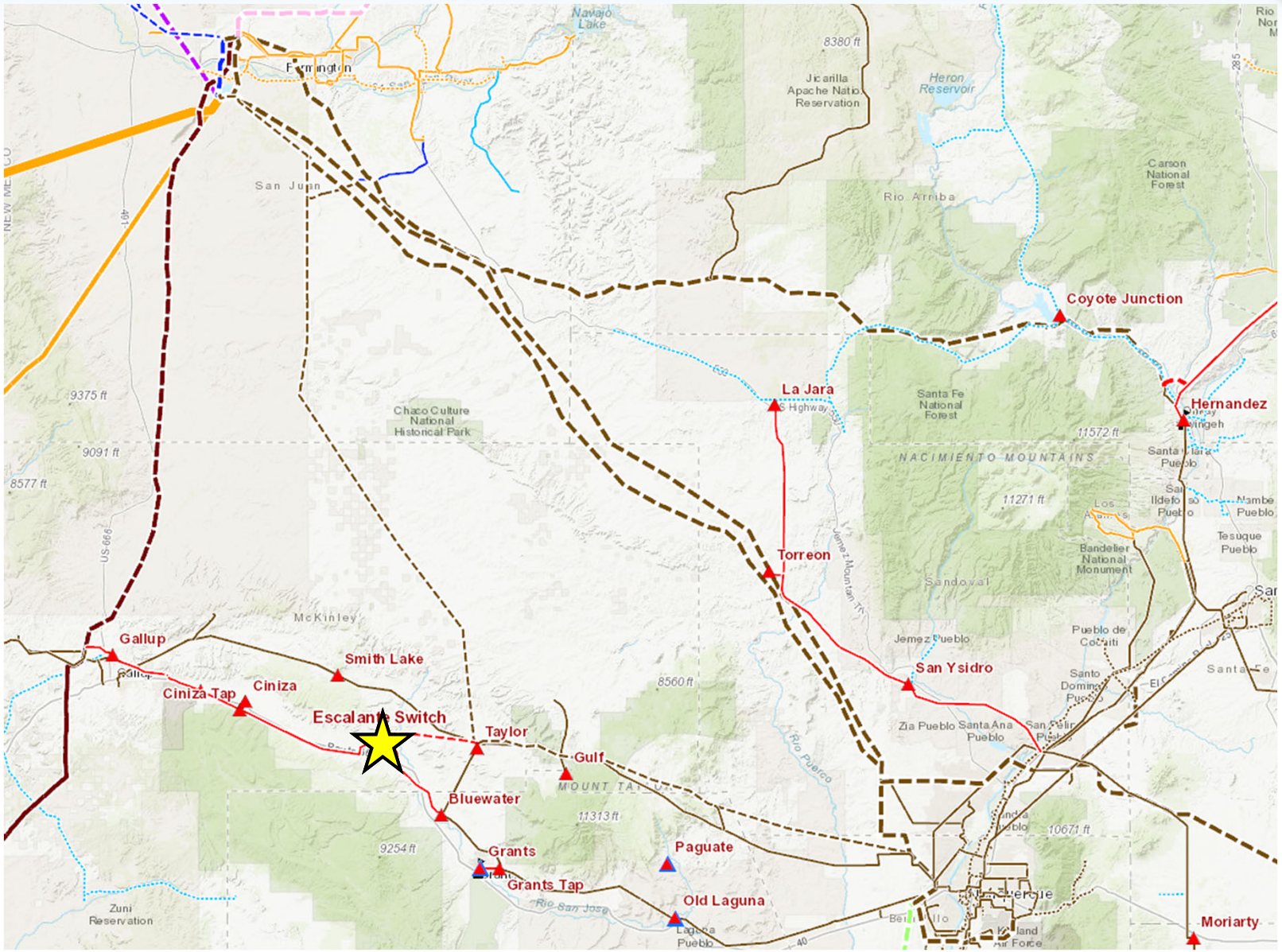
Pinto 69 kV DP

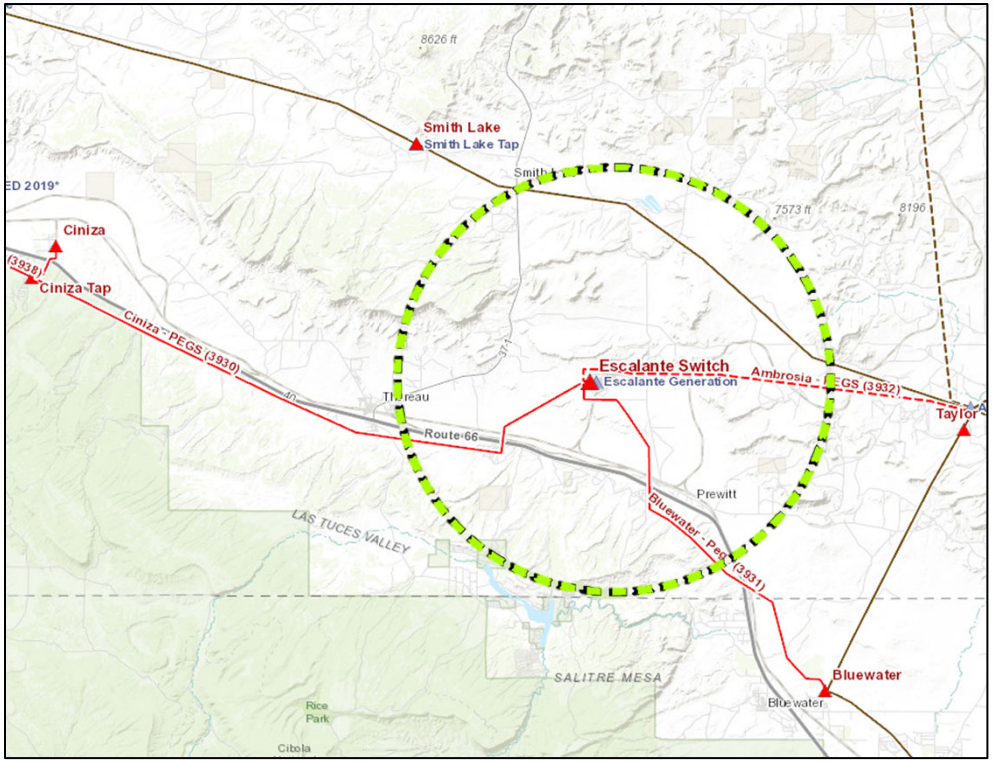
Description:	Add 69 kV line bay and delivery point to PacifiCorp's Pinto Substation
Voltage:	69 kV
Length:	0 miles
Type:	Substation
Status:	Under Construction
Planned ISD:	2022
Purpose:	Reliability

Projects: New Mexico (4)



Casamero Draw

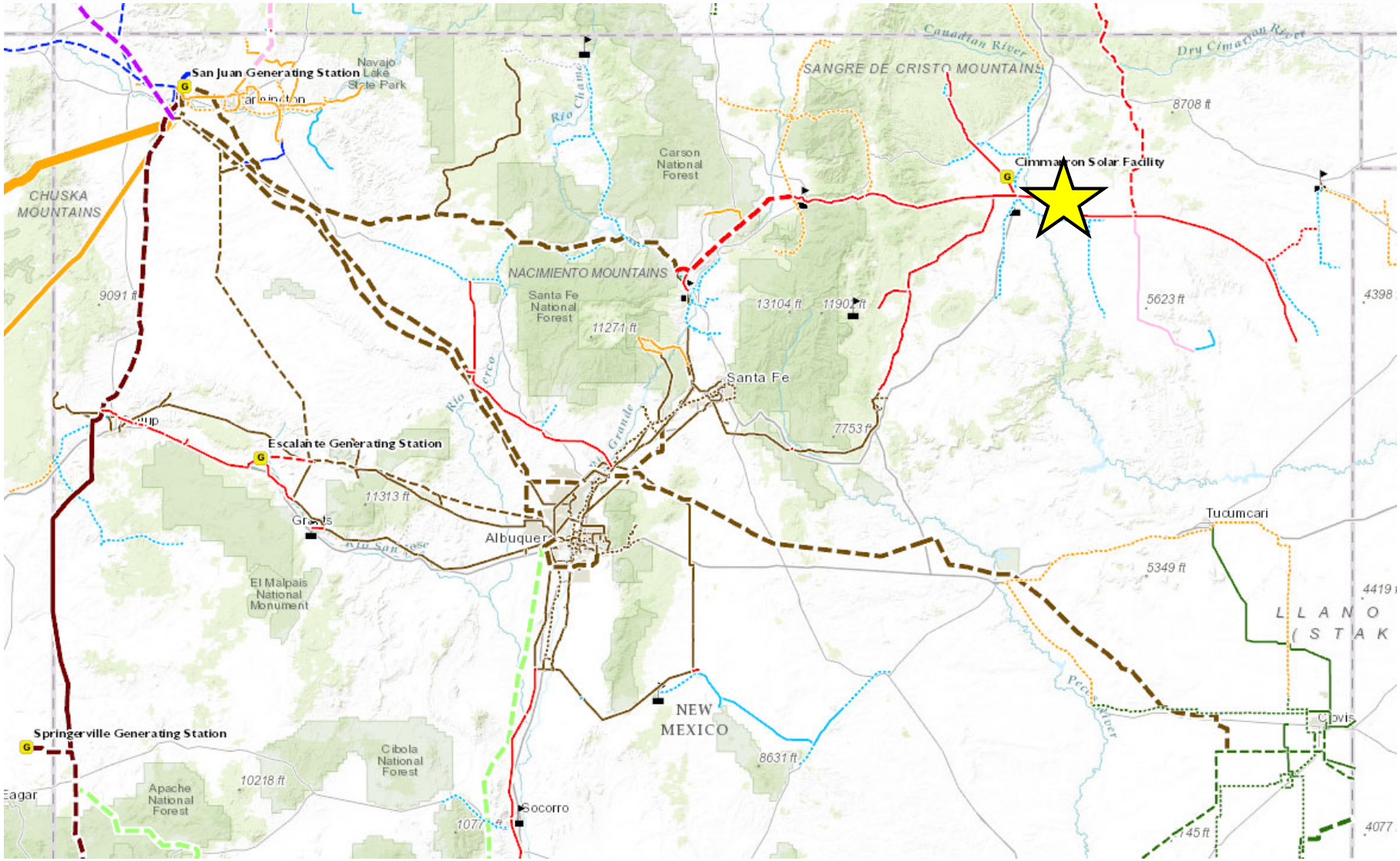


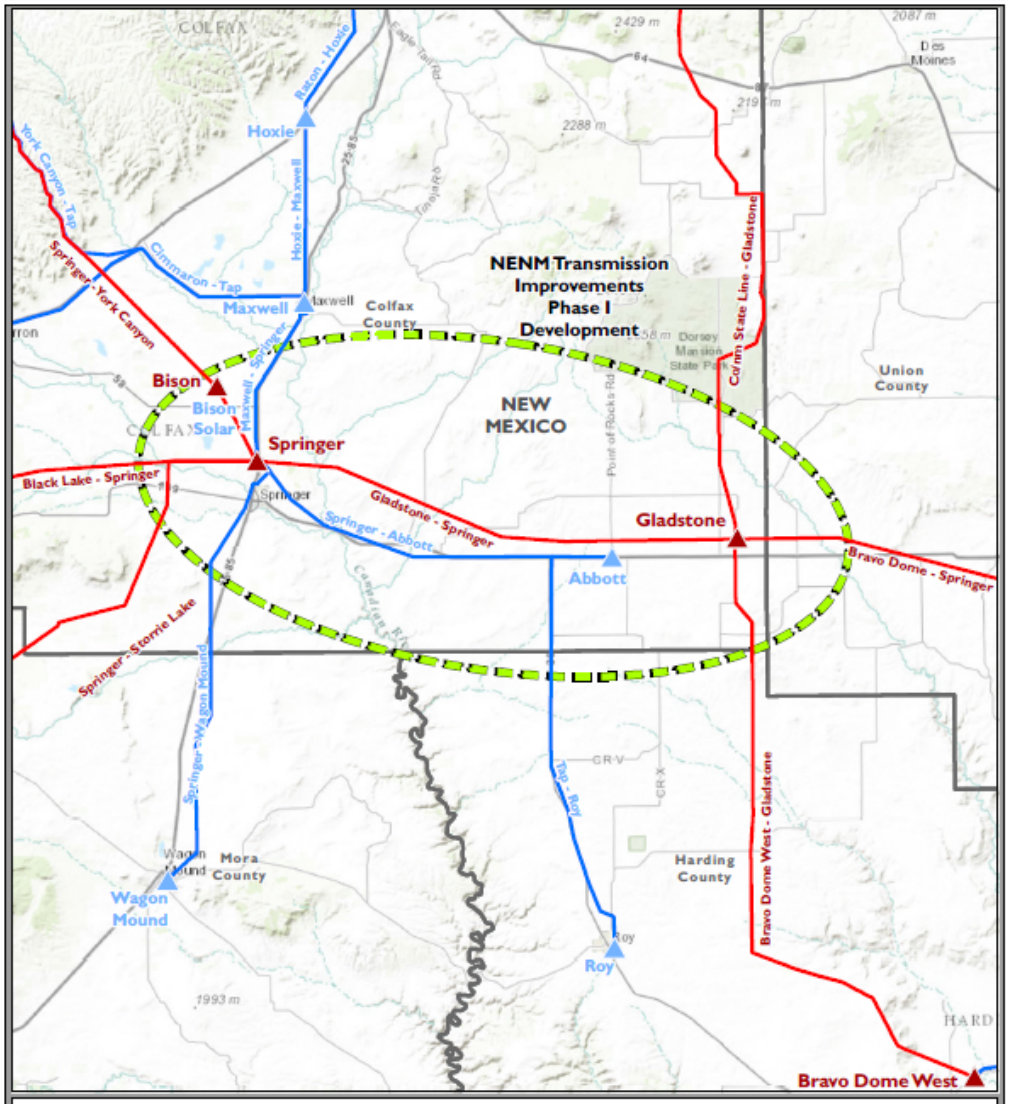


Casamero Draw

Description:	Install 115 kV metering at Tri-State's Escalante substation to meter 115 kV service to customer's new 115/34.5 kV substation. The "Casamero Draw" substation will accommodate customer load growth.
Voltage:	115 kV
Length:	N/A
Type:	Substation Metering
Status:	Under Construction
Planned ISD:	2022
Purpose:	Load Growth

NENM Transmission Improvements Phase I

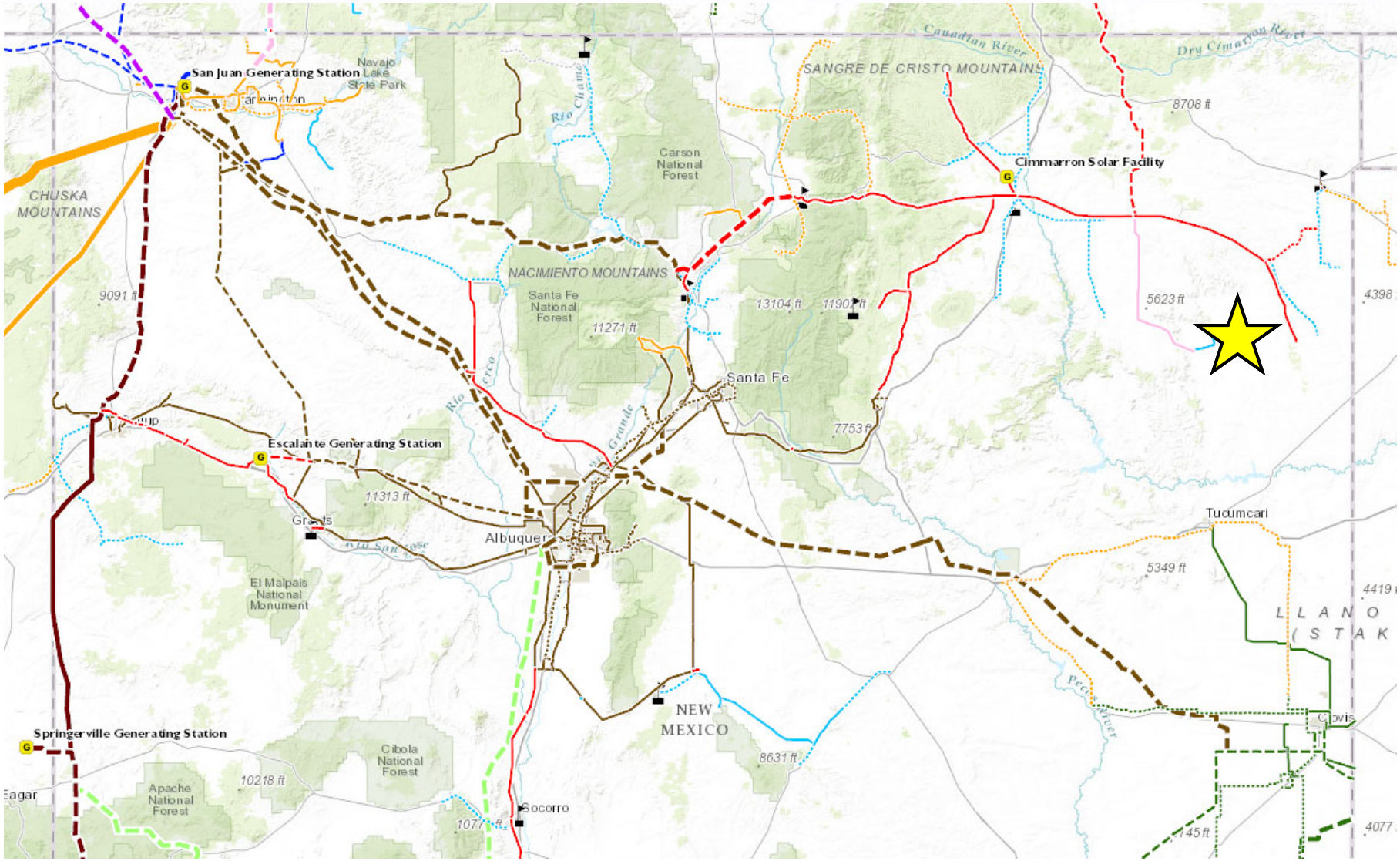


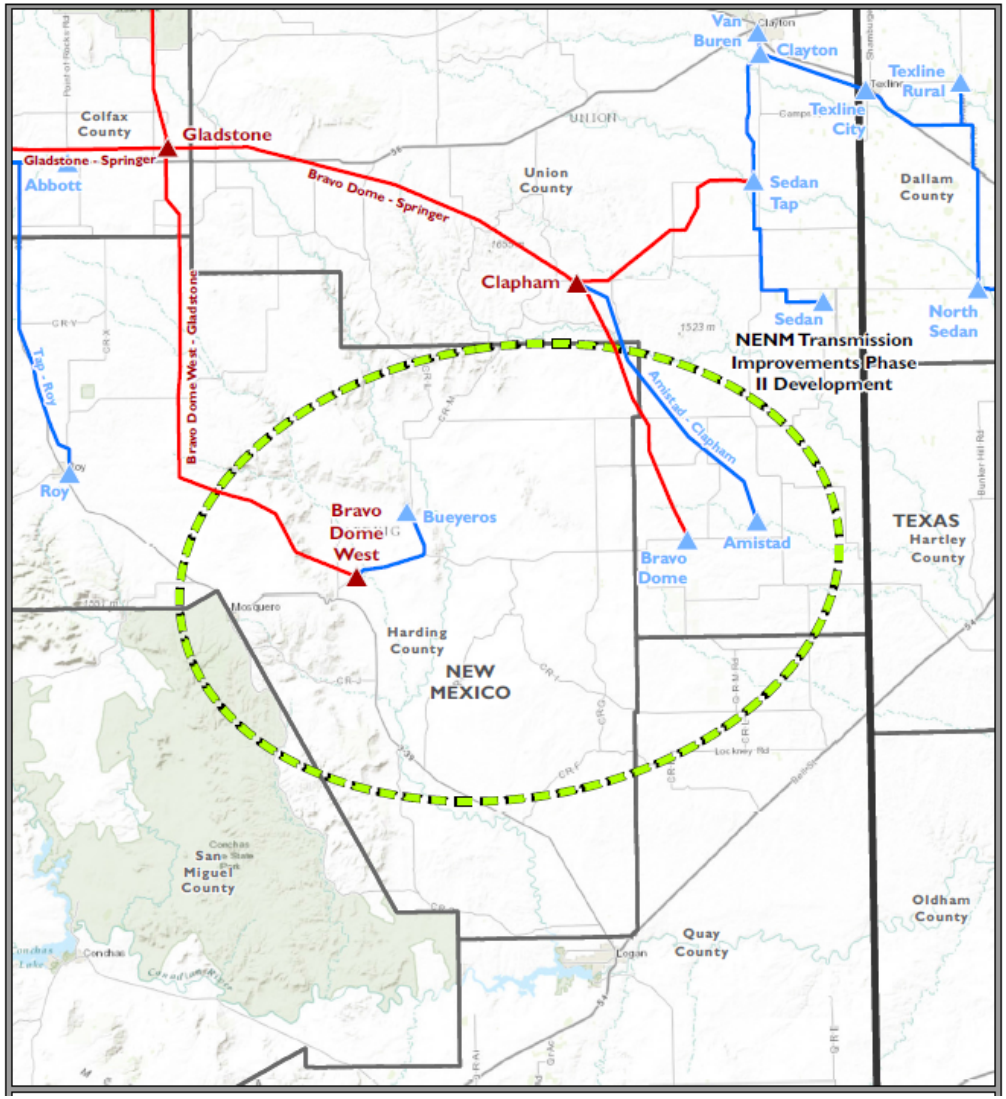


NENM Transmission Improvements Phase I

Description:	Construct a second 115kV line from the existing Springer Substation to the existing Gladstone Substation.
Voltage:	115 kV
Length:	32 miles
Type:	Line
Status:	Conceptual
Planned ISD:	TBD
Purpose:	Reliability; Load Serving.

NENM Transmission Improvements Phase II

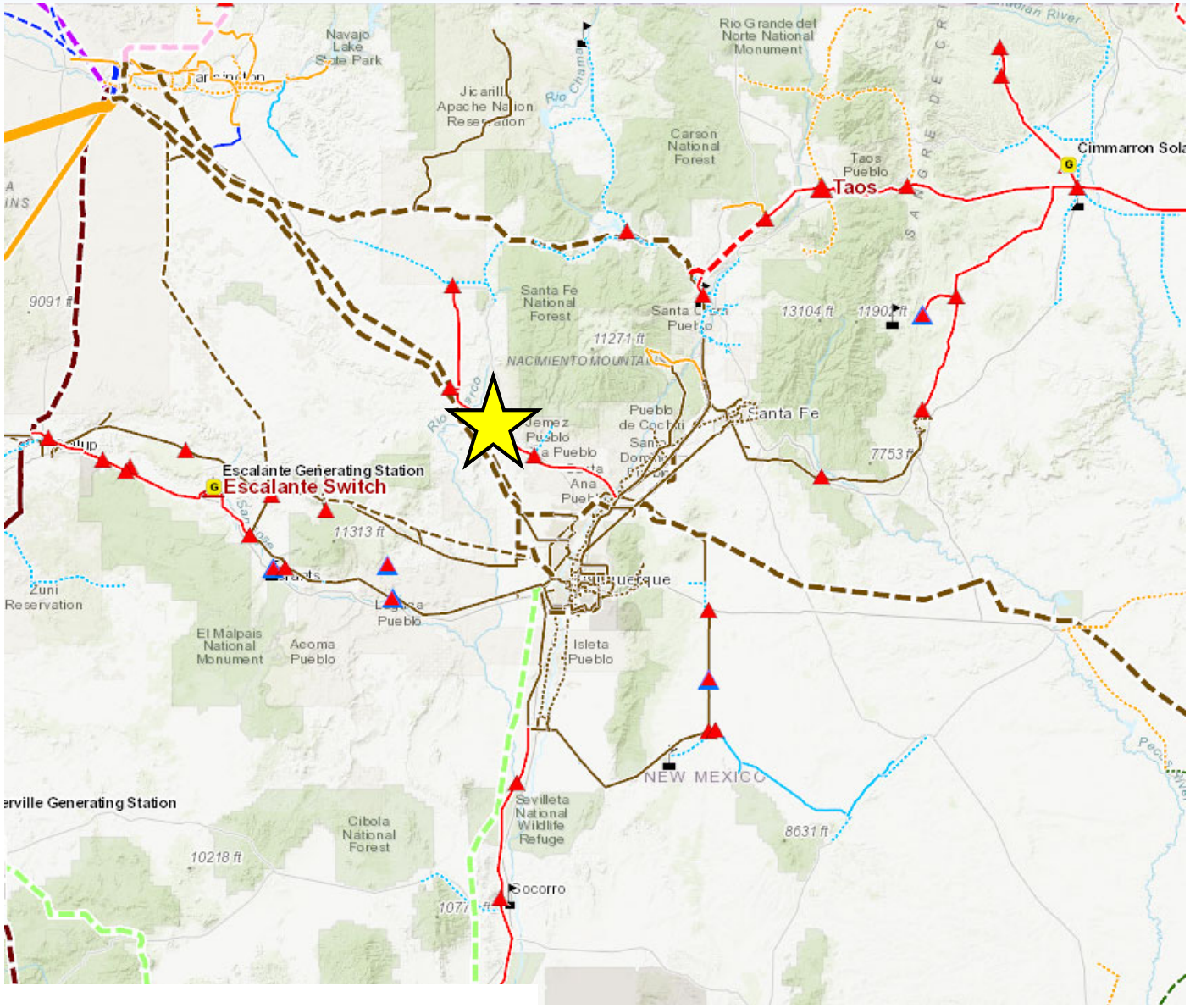


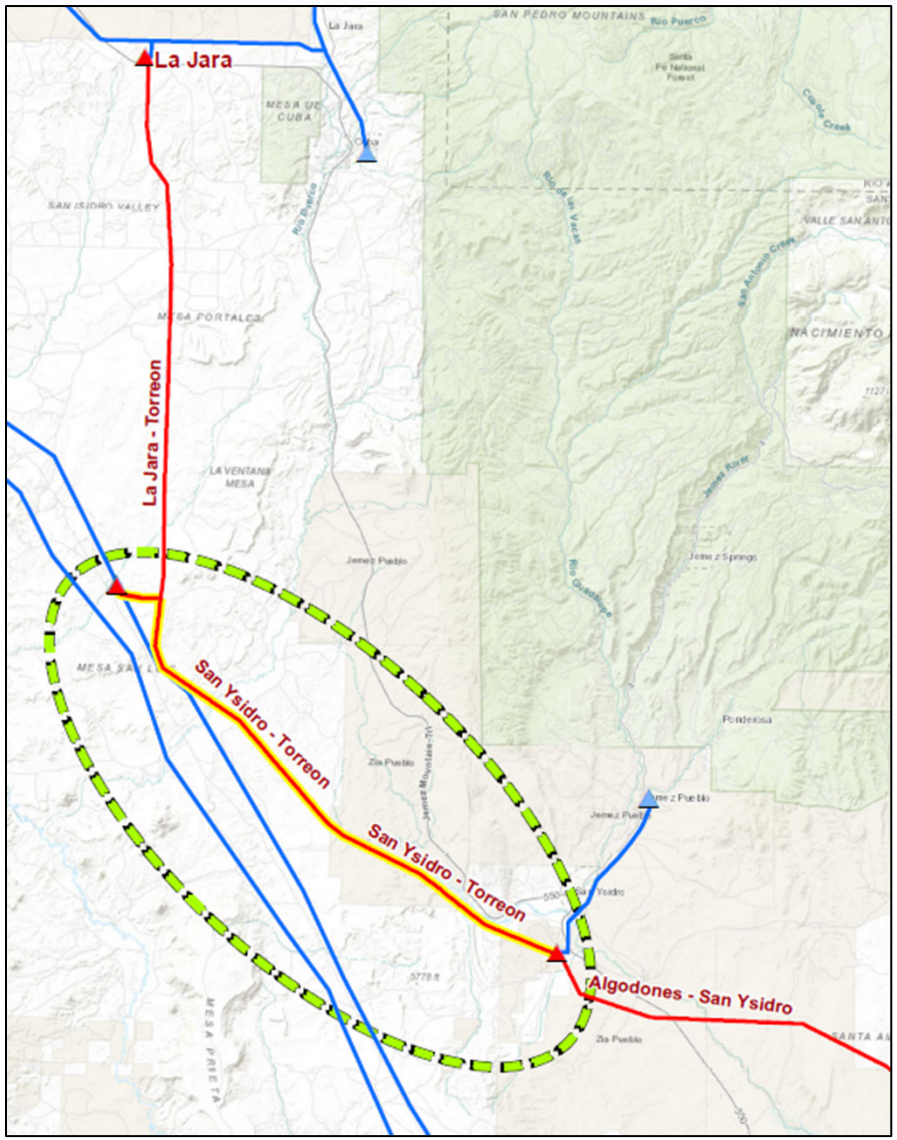


NENM Transmission Improvements Phase II

Description:	Sectionalize Gladstone – Bravo Dome West (Hess) at the new Antelope Springs Substation; Sectionalize Clapham – Bravo Dome 115kV at the new Mosquero Substation; Construct a new 115kV line from the planned Antelope Springs Substation to the planned Mosquero Substation; Convert Gladstone – Antelope Springs 115kV to 230kV.
Voltage:	115 kV
Length:	29 miles
Type:	Line
Status:	Conceptual
Planned ISD:	TBD
Purpose:	Reliability; Load Serving.

San Ysidro – Torreon 115 kV to 69 kV





San Ysidro – Torreon 115 kV to 69 kV

Description:	Decommission San Ysidro Substation. Convert Torreon – San Ysidro line from 115 kV to 69 kV, creating a Torreon – Jemez 69kV line.
Voltage:	115 kV and 69 kV
Length:	24 miles
Type:	Substation and Line
Status:	Planned
Planned ISD:	2023
Purpose:	Load Serving

Other Projects

Ongoing Transmission Maintenance (Replacement & Efficiency)

- **Colorado**
  - Durango – Hesperus 115 kV line
  - Meeker – Rangley (Str. 156) 115kV line

- **New Mexico**
  - Alta Luna – Caballo 115 kV line
  - Alta Luna – Mimbres 115 kV line
  - Frontier – Picacho 115 kV line

Independent Transmission Projects under Development

- **New Mexico**
  - SunZia
    - https://sunzia.net/project-details/
  - Lucky Corridor
    - http://www.luckycorridor.com/
    - Includes Mora Project w/ Don Carlos Wind and Vista Trail Project
- **Wyoming**
  - Transwest Express
    - http://www.transwestexpress.net/

For more information

Tri-State webpage:

www.tristategt.org

click "*Operations*"
then see "*Transmission Planning*"

Tri-State Email:

(transmissionplanning@tristategt.org)

CCPG Comment Form (for Colorado projects):

(http://regplanning.westconnect.com/ccpg_stakeholder_opportunities.htm)

CCPG Responsible Energy Plan Task Force:

(http://regplanning.westconnect.com/ccpg_responsible_energy_plan_tf.htm)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