

Western Area Power Administration - RMR 2011-2019 Transmission Plan

Central Wyoming Transmission Improvements

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Network Transmission Request
Voltage Class:	115-kV
Facility Rating:	300-MVA
Point of Origin:	Miracle Mile Substation
Point of Termination:	Dave Johnston area substation
Intermediate Points:	Alcova, Casper
Length of Line (in Miles):	160
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	South to North
Subregional Planning Group:	CCPG
Purpose of Project:	Re-built 115-kV lines between DJ area and Miracle Mile substation to accommodate a Network Service request from the Common Use System (CUS) to the Loveland Area Transmission Project Transmission (LAPT) system. Purpose of Project
Estimated Cost (in 2010 Dollars):	\$80,000,000
Schedule:	
Construction Date:	2015
Planned In-Service Date:	2020
Regulatory Status:	
Contact Information:	Bob Easton aeaston@wapa.gov 970-461-7272

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Central Wyoming Transmission Improvements (Continued)

Map



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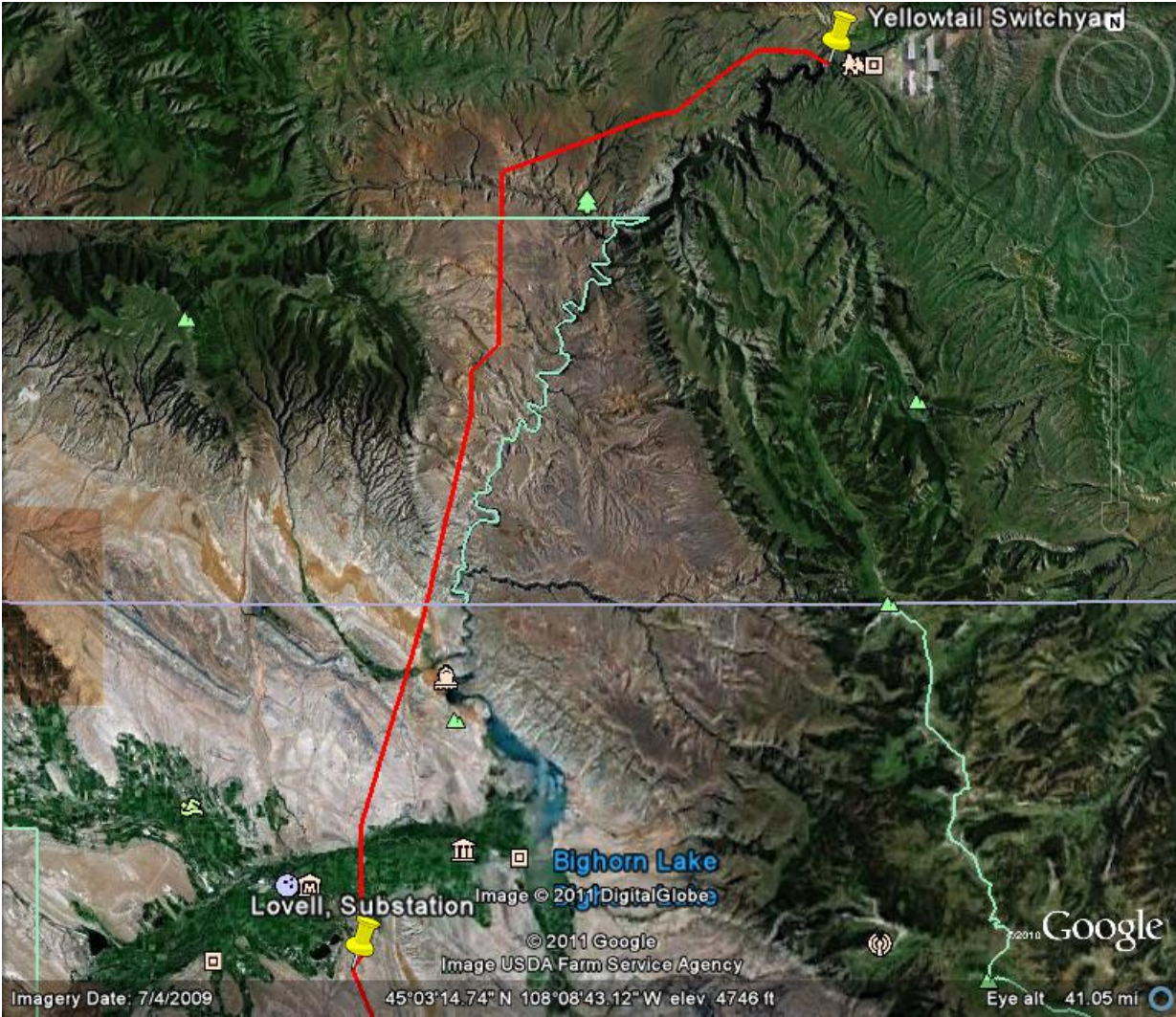
Lovell - Yellowtail #1 and #2 Rebuild

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Rebuild old 115-kV lines between Yellowtail, MT and Lovell, WY
Voltage Class:	115-kV
Facility Rating:	330-MVA
Point of Origin:	Yellowtail Substation
Point of Termination:	Lovell Substation
Intermediate Points:	n/a
Length of Line (in Miles):	94
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	North to South
Subregional Planning Group:	CCPG
Purpose of Project:	Re-build 2 parallel 115-kV wood pole lines to 115-kV constructed with wood structures and 795 ACSS conductor. Will increase the overall transfer capability of the Yellowtail - South path (YTS) above the existing 625 MW.
Estimated Cost (in 2010 Dollars):	\$40,000,000
Schedule:	
Construction Date:	2011
Planned In-Service Date:	2014
Regulatory Status:	
Contact Information:	James Hirning hirning@wapa.gov 970-461-7550

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Lovell - Yellowtail #1 and #2 Rebuild (Continued)

Map



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Lovell – Basin 115-kV Uprate

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Uprate line by reconductoring with 477 ACSS between Lovell, WY and Basin, WY
Voltage Class:	115-kV
Facility Rating:	230-MVA
Point of Origin:	Lovell Substation
Point of Termination:	Basin Substation
Intermediate Points:	Nahne Jenson Substation
Length of Line (in Miles):	40
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	North to South
Subregional Planning Group:	CCPG
Purpose of Project:	Increase line rating to support planned increase to Yellowtail South in conjunction with Lovell - Yellowtail #1 and #2 115-kV rebuilds
Estimated Cost (in 2010 Dollars):	\$3,000,000
Schedule:	
Construction Date:	2012
Planned In-Service Date:	2014
Regulatory Status:	
Contact Information:	James Hirning hirning@wapa.gov 970-461-7550

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Lovell – Basin 115-kV Uprate (Continued)

Map



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Granby - Windy Gap Transmission Rebuild

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	Tri-State G& T
Project Description:	Re-build 12 miles of an existing 69-kV line to double-circuit 138-kV, operate one circuit at 138-kV and the other at 69-kV.
Voltage Class:	138/138-kV
Facility Rating:	136
Point of Origin:	Windy Gap Substation
Point of Termination:	Granby Pumping Plant Switchyard
Intermediate Points:	n/a
Length of Line (in Miles):	12
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	East-West
Subregional Planning Group:	CCPG
Purpose of Project:	To provide a second transmission line in the Granby, CO area to create a looped system to improve contingency voltage support and increase operational flexibility for the Farr Pumping Plant.
Estimated Cost (in 2010 Dollars):	\$13,000,000
Schedule:	
Construction Date:	2012
Planned In-Service Date:	2013
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Granby - Windy Gap Transmission Rebuild (Continued)

MAP



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Weld 230/115-kV Transformer

Project Sponsor: Western Area Power Administration - RMR
Additional Project Participants: Public Service Company of Colorado
Project Description: Install a 3rd 230/115 150 MVA power transformer and associated substation additions at Weld Substation near Greeley, CO

Voltage Class: 230/115-kV
Facility Rating: 150 MVA
Point of Origin: n/a
Point of Termination: n/a
Intermediate Points: n/a
Length of Line (in Miles): n/a
Type of Project: Transformer
Development Status: Planned
Routing: n/a
Subregional Planning Group: n/a

Purpose of Project: Address transformer overloading during certain contingency conditions

Estimated Cost (in 2010 Dollars): \$5,100,000

Schedule:

Construction Date: 2011
Planned In-Service Date: 2012
Regulatory Status:

Contact Information: Randy Medicine Bear
medicinebear@wapa.gov
970-461-7283

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Frenchman Creek 115-kV, 7.5 MVAR Capacitor

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Install a 7.5 MVAR shunt capacitor and associated substation additions at Frenchman Creek Substation near Frenchman Creek, CO
Voltage Class:	115-kV
Facility Rating:	7.5 MVAR
Point of Origin:	Frenchman Creek
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Substation
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	CCPG
Purpose of Project:	Contingency Voltage Support
Estimated Cost (in 2010 Dollars):	\$1,100,000
Schedule:	
Construction Date:	2011
Planned In-Service Date:	2011
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Ault 230/115 kV Transformer Addition

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	Tri-State G & T
Project Description:	Install a 230/115-kV, 200 MVA power transformer and associated substation additions at Ault Substation near Ault, CO
Voltage Class:	230/115-kV
Facility Rating:	200 MVA
Point of Origin:	Ault
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Transformer
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	CCPG
Purpose of Project:	The new transformer will provide a new connection at Ault for the 115-kV lines to Owl Creek/Cheyenne Substations to the north and Timnath/Poudre Substations to the west.
Estimated Cost (in 2010 Dollars):	\$8,000,000
Schedule:	
Construction Date:	2011
Planned In-Service Date:	2012
Regulatory Status:	
Contact Information:	Randy Medicine Bear medicinebear@wapa.gov 970-461-7283

Western Area Power Administration - RMR 2011-2019 Transmission Plan

Hayden 230/138 kV Transformer KZ1A Replacement

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Replace failed transformer KZ1A and failed 13.8 shunt reactors at Hayden Substation near Hayden, CO
Voltage Class:	230/115-kV
Facility Rating:	250 MVA
Point of Origin:	Hayden
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Transformer
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	CCPG
Purpose of Project:	Replace temporary 100 MVA unit; Replace 2 - 21 MVAR reactor banks
Estimated Cost (in 2010 Dollars):	\$4,000,000
Schedule:	
Construction Date:	2010
Planned In-Service Date:	2011
Regulatory Status:	
Contact Information:	Diane Keirn keirn@wapa.gov 970-461-7236

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Willoby 115-kV Substation

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	Tri-State G & T
Project Description:	Sectionalize the Kiowa Creek – Weld 115-kV line at Prospect Valley Tap with a new three breaker ring substation approximately 15 miles east of Greeley, CO
Voltage Class:	115-kV
Facility Rating:	n/a
Point of Origin:	Prospect Valley Tap / now Willoby
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Substation
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	CCPG
Purpose of Project:	Sectionalize 115-kV line, improve voltage support in area, prepare for load growth
Estimated Cost (in 2010 Dollars):	\$5,000,000
Schedule:	
Construction Date:	2011
Planned In-Service Date:	2012
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Estes-Flatiron 115-kV Transmission Rebuild

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Rebuild the existing 115-kV wood transmission lines between Estes and Flatiron Substations
Voltage Class:	115-kV
Facility Rating:	166 MVA
Point of Origin:	Estes
Point of Termination:	Flatiron
Intermediate Points:	Pole Hill
Length of Line (in Miles):	17
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	East West
Subregional Planning Group:	CCPG
Purpose of Project:	Replace deteriorating wood structures and eliminate right of way encroachments and improve fire survivability by improve ROW and using single pole steel structures rather than wood structures.
Estimated Cost (in 2010 Dollars):	\$19,000,000
Schedule:	
Construction Date:	2013
Planned In-Service Date:	2014
Regulatory Status:	
Contact Information:	Diane Keirn keirn@wapa.gov 970-461-7236

Western Area Power Administration - RMR 2011-2019 Transmission Plan

Estes-Flatiron 115-kV Transmission Rebuild

(Continued)

MAP



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Cheyenne 2nd 230/115-kV 200MVA Transformer

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Install 2nd 230/115-kV, 200MVA transformer and associated substation equipment at Cheyenne Substation in Cheyenne, WY
Voltage Class:	230/115-kV
Facility Rating:	200 MVA
Point of Origin:	n/a
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Transformer
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	n/a
Purpose of Project:	Improve reliability for providing redundancy and contingency support.
Estimated Cost (in 2010 Dollars):	\$4,750,000
Schedule:	
Construction Date:	2012
Planned In-Service Date:	2013
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Stegall transformer KV1A replacement

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Replace 230/115-kV, 100 MVA transformer with 200 MVA unit and associated substation equipment at Stegall Substation near Gering, NE.
Voltage Class:	230/115-kV
Facility Rating:	200 MVA
Point of Origin:	n/a
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Substation
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	n/a
Purpose of Project:	Improve reliability for providing redundancy and contingency support.
Estimated Cost (in 2010 Dollars):	\$3,750,000
Schedule:	
Construction Date:	2015
Planned In-Service Date:	2016
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Cheyenne South Substation

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	Black Hills Power
Project Description:	New 230/115-kV substation near intersection of Archer-North Park 230-kV and Archer-Ault 230-kV transmission lines south of Cheyenne, WY
Voltage Class:	230-kV
Facility Rating:	200 MVA
Point of Origin:	n/a
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Substation
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	n/a
Purpose of Project:	New network connection to support load growth.
Estimated Cost (in 2010 Dollars):	\$10,000,000
Schedule:	
Construction Date:	2013
Planned In-Service Date:	2013
Regulatory Status:	
Contact Information:	Jared Griffiths jgriffit@wapa.gov 970-461-7603

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Sidney 115-kV, 15 MVAR capacitor

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Install 15 MVAR shunt capacitor bank and associated substation addition at Sidney Substation near Sidney, NE
Voltage Class:	115-kV
Facility Rating:	15 MVAR
Point of Origin:	Sidney West
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Substation
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	n/a
Purpose of Project:	Contingency voltage support
Estimated Cost (in 2010 Dollars):	\$1,100,000
Schedule:	
Construction Date:	2011
Planned In-Service Date:	2011
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

Western Area Power Administration - RMR 2011-2019 Transmission Plan

Fort Morgan West 115-kV, 15 MVAR capacitor

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Install 15 MVAR shunt capacitor bank and associated substation addition at Fort Morgan West Substation near Fort Morgan, CO
Voltage Class:	115-kV
Facility Rating:	15 MVAR
Point of Origin:	Fort Morgan West
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Substation
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	n/a
Purpose of Project:	Contingency voltage support
Estimated Cost (in 2010 Dollars):	\$1,100,000
Schedule:	
Construction Date:	2011
Planned In-Service Date:	2011
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Craig-Rifle 230-kV Transmission Line Uprate

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Reconductor 4 spans of line near Rifle, CO and 2 spans near Craig, CO; replace electrical equipment at Rifle Substation to raise current rating to a minimum of 1600 AMPS
Voltage Class:	230-kV
Facility Rating:	637 MVA
Point of Origin:	Craig
Point of Termination:	Rifle
Intermediate Points:	n/a
Length of Line (in Miles):	100 miles existing line; approximately 1 mile being uprated.
Type of Project:	Transmission Line
Development Status:	Planned
Routing:	existing
Subregional Planning Group:	CCPG
Purpose of Project:	Increase rating on current limiting elements to address contingency overload conditions.
Estimated Cost (in 2010 Dollars):	\$1,500,000
Schedule:	
Construction Date:	2012
Planned In-Service Date:	2013
Regulatory Status:	
Contact Information:	Diane Keirn keirn@wapa.gov 970-461-7236

Western Area Power Administration - RMR 2011-2019 Transmission Plan

Curecanti 230/115-kV Transformer Addition

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Install second 230/115-kV power transformer and associated substation additions at Curecanti Substation near Montrose, CO
Voltage Class:	230/115-kV
Facility Rating:	100 MVA
Point of Origin:	Curecanti
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Transformer
Development Status:	Conceptual
Routing:	n/a
Subregional Planning Group:	CCPG
Purpose of Project:	Improve reliability and operational flexibility by installing redundant transformer
Estimated Cost (in 2010 Dollars):	\$5,000,000
Schedule:	
Construction Date:	2014
Planned In-Service Date:	2016
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Flaming Gorge KY1A Transformer Addition

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Install second 230/138-kV, 250 MVA power transformer at Flaming Gorge Substation near Dutch John, UT
Voltage Class:	230/138-kV
Facility Rating:	250 MVA
Point of Origin:	Flaming Gorge
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	Na/
Type of Project:	Transformer
Development Status:	Conceptual
Routing:	n/a
Subregional Planning Group:	CCPG
Purpose of Project:	Redundancy
Estimated Cost (in 2010 Dollars):	\$6,000,000
Schedule:	
Construction Date:	2016
Planned In-Service Date:	2018
Regulatory Status:	
Contact Information:	Roy Gearhart rgearhar@wapa.gov 970-461-7333

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Hayden transformer KZ2A replacement

Project Sponsor:	Western Area Power Administration - RMR
Additional Project Participants:	n/a
Project Description:	Replace existing transformer with 250 MVA unit at Hayden Substation, near Hayden, CO
Voltage Class:	230/138-kV
Facility Rating:	250 MVA
Point of Origin:	Hayden
Point of Termination:	n/a
Intermediate Points:	n/a
Length of Line (in Miles):	n/a
Type of Project:	Substation
Development Status:	Planned
Routing:	n/a
Subregional Planning Group:	n/a
Purpose of Project:	Improve reliability and operational flexibility by replacing transformer with larger unit and separating the control and protection equipment for the two parallel transformers.
Estimated Cost (in 2010 Dollars):	\$6,900,000
Schedule:	
Construction Date:	2012
Planned In-Service Date:	2014
Regulatory Status:	
Contact Information:	Diane Keirn keirn@wapa.gov 970-461-7236