

Tri-State Generation and Transmission Association 2014-2023 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):	27.0
Type of Project:	Distribution
Development Status:	Under Construction
Routing:	
Subregional Planning Group:	CCPG
Purpose of Project:	Increase conductor thermal rating.
Estimated Cost (in 2013 Dollars):	\$5,616,000
Schedule:	
Construction Date:	2012
Planned In-Service Date:	2017
Regulatory Info:	
Regulatory Date:	
Permitting Info:	
Permitting Date:	
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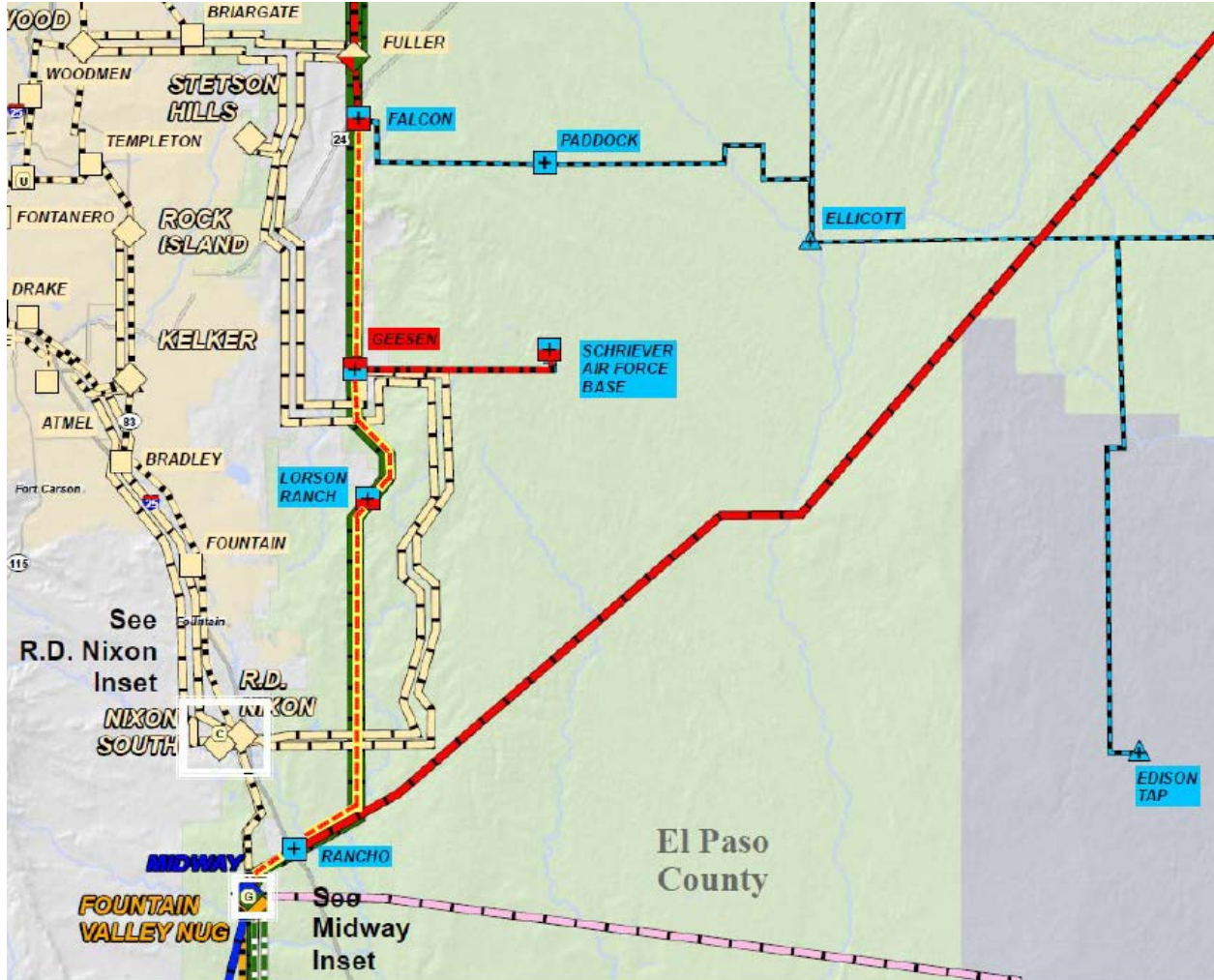


Figure 9: Falcon – Midway 115 kV Line Uprate Project Map

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.

The Falcon – Midway 115 kV Line Uprate Project will uprate 26.7 miles of Tri-State’s 115 kV line between the 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 allows 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 and 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. This project is presently planned to be financed and constructed solely by Tri-State.