



# **WECC 2025 ANNUAL PROGRESS REPORT**

**RioSol 500 kV Transmission Project**

**Submitted by**

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## Introduction

The RioSol 500 kV Transmission Project (“RioSol Project” or “Project”) is a proposed 550-mile, 500 kV transmission project from Central New Mexico to Arizona as depicted in **Figure 1**. The Project will consist of a 500 kV single circuit transmission line from a proposed RioSol wind generation collector station (RioSol East) in Central New Mexico and will initially terminate at the Arizona Public Service’s (APS) Saguaro 500 kV Substation. The Project also proposes to interconnect to Tucson Electric Power’s (TEP) Winchester 345 kV Substation in Arizona and to the El Paso Electric’s (EPE) 345kV system near Deming, New Mexico at a new RioSol South 500 kV/345 kV substation. The RioSol South substation will enable the Project to connect to the EPE’s existing Macho Springs – Luna 345 kV transmission line. RioSol is also anticipating interconnecting to the Public Service Company’s (PNM) transmission system at the RS Puerco (aka Tom Wray) substation, additional analysis to be included in Phase 2 of the WECC Three Phase Rating Process. A future interconnection to Salt River Project (SRP) will also be considered but expected to interconnect at a later date to be determined. The RioSol Project is expected to have a planned non-simultaneous rating of 1,600 MW metered at the RioSol East 500 kV collector substation. Bidirectional ratings will also be evaluated as the Phase 2 analyses and capacity interest is confirmed. Other potential interconnections to the underlying system may also be evaluated. The expected commercial date of the Project is prior to spring 2029.

RioSol Project is essentially Line 2 of the SunZia Transmission Project (SunZia). SunZia was originally conceived and permitted as comprising two 500 kV transmission lines. The first line of the original 2 lines of SunZia (Line 1) is currently under construction as a nominal 500 kV DC transmission line facility with an Accepted Rating of 3000 MW. RioSol is the second parallel circuit to SunZia (Line 2) on separate structures and adjacent right-of-way.

The RioSol Project achieved Phase 1 of the WECC three phase rating process in April 2024 following the submittal of a Comprehensive Progress Report to WECC. A WECC Project Review Group has since been formed to conduct additional studies necessary to obtain a WECC Accepted Rating of 1600 MW.



Figure 1: Transmission Route Overview of RioSol Project

## **Project Description**

The RioSol Project will consist of a 500 kV single circuit transmission line from a proposed RioSol generation collector station (RioSol East) in Central New Mexico to APS' existing Saguaro 500kV substation near Red Rock, Arizona. Intermediate interconnections to TEP's Winchester Substation in Arizona and EPE's 345kV transmission system (looping in the existing Macho Springs – Luna 345 kV transmission line). An interconnection to the PNM 345kV transmission system is also being evaluated.

The RioSol East to RioSol South segment of the Project, which measures about 265-miles, will have a 70% series compensation. The RioSol South – Winchester 500 kV line will also be 70% compensated while the Winchester – Saguaro 500 kV line portion of the RioSol Project will have 50% compensation.

## **Proposed Planned of Service**

The proposed Planned of Service for the Project is detailed as follows:

- New 500 kV collector substation (RioSol East 500 kV substation) to be located near Corona, New Mexico
- New 500/345 kV substation (RioSol South 500 kV substation) to be located near Deming, New Mexico
- New 265-mile 3x1590 ACSR 500 kV line from RioSol East to RioSol South 500 kV switching station with 70% series compensation
- New 500 kV Winchester substation station
- New 164-mile 3x1590 ACSR 500 kV line from RioSol South to Winchester 500 kV substation with 70% series compensation.
- New 300/400/500 MVA, 500/345 kV transformers at Winchester and RioSol South
- New 83-mile 3x1590 ACSR 500 kV line from Winchester 500 kV substation to Saguaro 500 kV substation with 50% series compensation at the Rancho Saguaro series capacitor station, located approximately 6 mile from the Saguaro 500kV substation.
- Loop-in of the existing Macho Springs – Luna 345 kV line through RioSol South 500/345 kV switching station

A conceptual single line diagram of the project configuration is depicted in Figure 2.

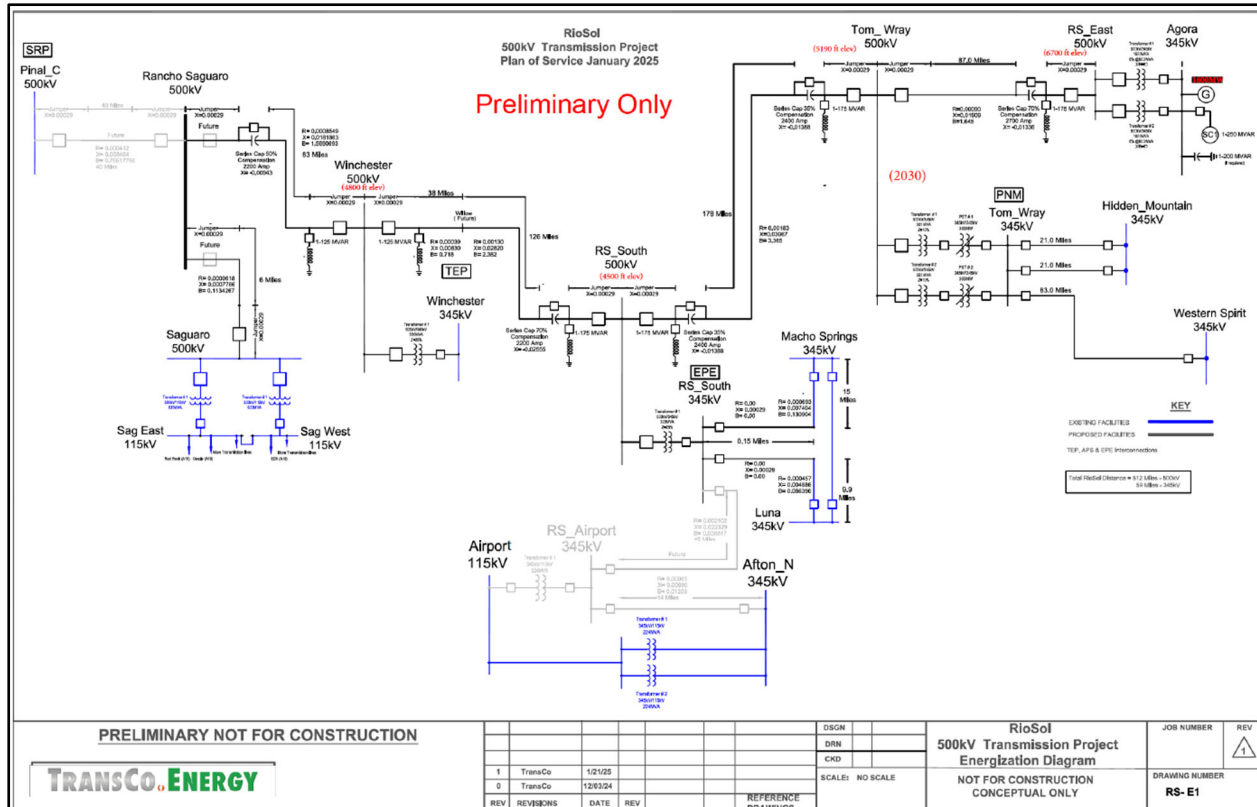


Figure 2: Conceptual Single line diagram of RioSol Project

## Project Current Status and Planned Operational Date

The RioSol Project is currently in Phase 2 of the WECC three phase rating process. It is anticipated that the Project will achieve an Accepted Rating by December 2025.

The planned in-service date is December 2028.