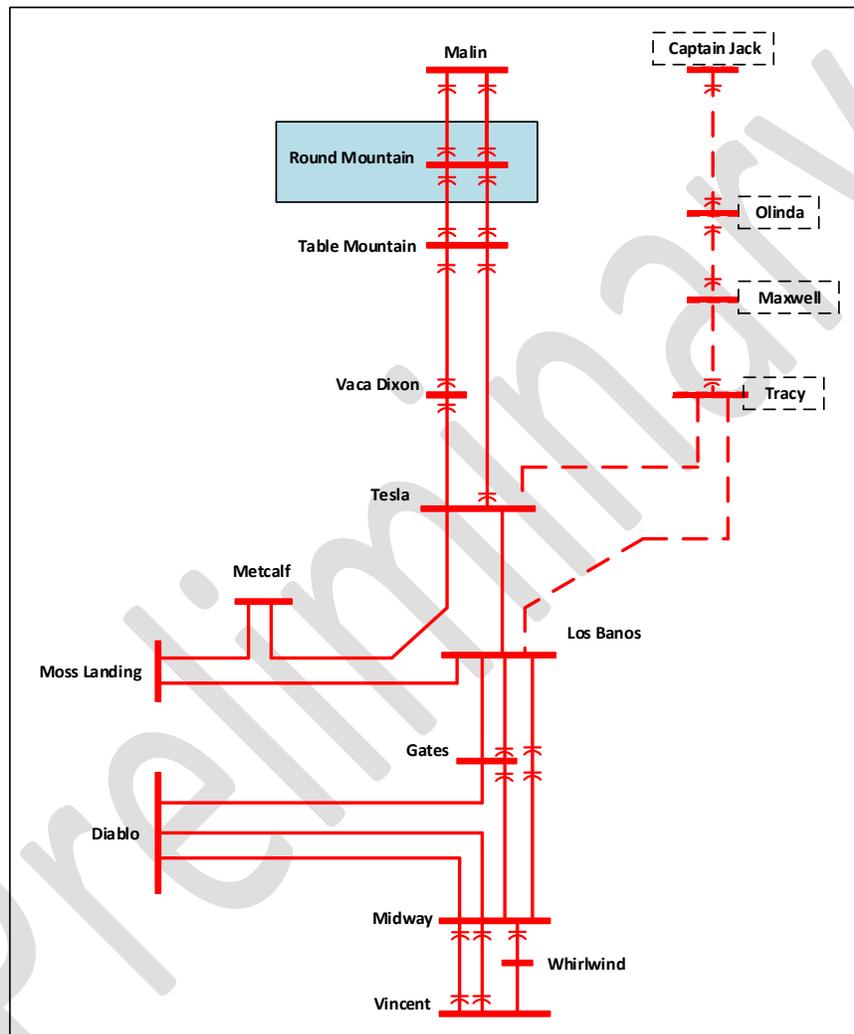


**Round Mountain 500kV Dynamic Reactive Support  
Description and Functional Specifications for Competitive  
Solicitation**

## 1. Description

In the 2018-2019 Transmission Plan, the ISO has identified a reliability-driven need for a +/- 500 MVAR dynamic reactive power support connecting in vicinity of the Round Mountain 500 kV substation as depicted below.



Further review of the engineering detail for the termination of the Round Mountain 500 kV Reactive Project is required due to siting issues at Round Mountain for the project. Board of Governor approval is recommended, and the additional detail will be posted as an addendum to the transmission plan. The functional specification for the project and the competitive procurement process for the project will commence after that has taken place.

## 2. Functional Specifications

### Dynamic Reactive Power Support Functional Specification

Point of Interconnection: TBD<sup>1</sup>

Rated Real Power Output: 0 MW

Rated MVAR: +500/-500 MVAR. The entire inductive (absorption) range should be continuously available when the voltage is in the 500 kV – 550 kV range and the entire capacitive (injection) range should be available when the voltage is in the 473 kV – 540 kV range.

Response time: The time required for the output to go from 10% of the final value to 90% of the final value shall be less than 100 ms.

Nominal Terminal Voltage: 500 kV (typically the bus voltage is at 530 kV)

Latest in Service Date: June 1, 2024

Inverter Ride Through Capability: NERC PRC-024 requirements and NERC industry recommendation on momentary cessation<sup>2</sup>.

Availability and Reliability requirements: Proposed dynamic reactive power support solutions shall be designed for high availability. All proposals shall provide a calculation identifying the designed annual availability of the dynamic reactive support device proposed.

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<sup>1</sup> Further review of the engineering detail for the termination of the Round Mountain 500 kV Reactive Project is required due to siting issues at Round Mountain for the project. Board of Governor approval is recommended, and the additional detail will be posted as an addendum to the transmission plan. The competitive procurement process for the project will commence after that has taken place.

<sup>2</sup> [https://www.nerc.com/pa/rrm/bpsa/Alerts%20DL/NERC\\_Alert\\_Loss\\_of\\_Solar\\_Resources\\_during\\_Transmission\\_Disturbance-II\\_2018.pdf](https://www.nerc.com/pa/rrm/bpsa/Alerts%20DL/NERC_Alert_Loss_of_Solar_Resources_during_Transmission_Disturbance-II_2018.pdf)