

White Rock Substation Reliability Plan



Electric Distribution Division

Report to the Board of Public Utilities

September 3, 2025



Unit 1
Transformer in
White Rock
(which failed)



Substation Transformer T1 Failure

- The primary transformer was due for maintenance on Monday, August 11.
- White Rock was transferred to the backup transformer on Thursday, August 7.
- The backup transformer failed at 3:20 am on Friday morning August 8th.
- Service was restored on the primary transformer at 6:00 am.
- The transformer tank was very hot when examined by personnel indicating internal failure.
- White Rock is an electrical island with no ties to LANL or Los Alamos.



Emergency Options if T2 Fails

- Tie the system to a LANL Circuit through town.
 - Utilize a mobile substation.
 - Acquire a used transformer on the market.
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Emergency Option 1

- ▶ White Rock operates at 12,470/7,200 Volts while LANL operates at the same voltage as Los Alamos 13,200/7,620 Volts.
- ▶ LANL has a circuit through the edge of town from their substation South of White Rock.
- ▶ We evaluated several options to tap their line with the LANL utility department and selected SR4 at South Monte Rey as the best point.
- ▶ LANL will construct the line to the boundary point and DPU will construct the last span and a regulator station near the switch.
- ▶ This process is anticipated to take approximately 4 weeks.

Emergency Option 1



Typical Voltage Regulator Station





Emergency Option 2


- A second and logical option is to utilize a mobile substation to serve load.
- This could take a full day to move and set up if one were available and agreements are in place.
- The entrance into the substation from the adjacent property would make moving one into the actual substation difficult and likely not possible.
- We will evaluate nearby locations where one could be parked, connected and secured.
- DPU requested to enter into mutual aid type agreement with PNM who owns a mobile substation.

Emergency Option 2





Emergency Option 3

- The configuration of the transformers at White Rock are standard but not the most common.
 - The lower voltage bushings are side mounted for connection to an enclosed and attached set of switchgear.
 - Many utilities have the low voltage bushings on top that connect to an open bus and breakers in open air.
 - A search with marketers of used transformer equipment found very few options that would meet our growth needs.
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Procurement

- ▶ Proposals for new and refurbished transformers have been requested.
 - ▶ Some manufacturers have very long delivery times for new transformers.
 - ▶ Some representatives anticipate an optimistic delivery time.
 - ▶ Proposals for the old transformer are requested so that we can remove it to start work on the replacement transformer installation.
 - ▶ A larger transformer will require a larger foundation. When a replacement transformer is selected, the foundation work will begin
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