



**BASIN ELECTRIC
POWER COOPERATIVE**

A Touchstone Energy® Cooperative 

Antelope Valley Station Coal Modernization Opportunity (DE-FE0032780)

Josh Raynes, Performance Engineer

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- **Acknowledgment:** This presentation is based upon work supported by the Department of Energy under Award Number DE-FE0032780.
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Certain information set forth in this presentation contains forward-looking statements under applicable securities laws, including “forward-looking information”, “future-oriented financial information” and “financial outlook” (collectively referred to herein as “forward-looking statements”). Except for statements of historical fact, these forward-looking statements include (without limitation) statements relating to the Antelope Valley Station Coal Modernization Opportunity and its projected completion and results.

Although we believe that the expectations reflected in these forward-looking statements are reasonable, these expectations may not prove to be correct, or we may not achieve the financial results, savings or other benefits anticipated in the forward-looking statements. These forward-looking statements are necessarily estimates reflecting the best judgment of our senior management and involve a number of known and unknown risks and uncertainties, some of which may be beyond our control, and which may cause actual performance and financial results in future periods to differ materially from any projections of future performance or result expressed or implied by such forward-looking statements.

These forward-looking statements speak only as of the date stated and we do not undertake any obligation to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise, even if experience or future events make it clear that any expected results expressed or implied by these forward-looking statements will not be realized. These forward-looking statements are not guarantees of future performance and undue reliance should not be placed on them.



BASIN ELECTRIC POWER COOPERATIVE

A Touchstone Energy® Cooperative 

138 Members in 9 States

3 million member-owners

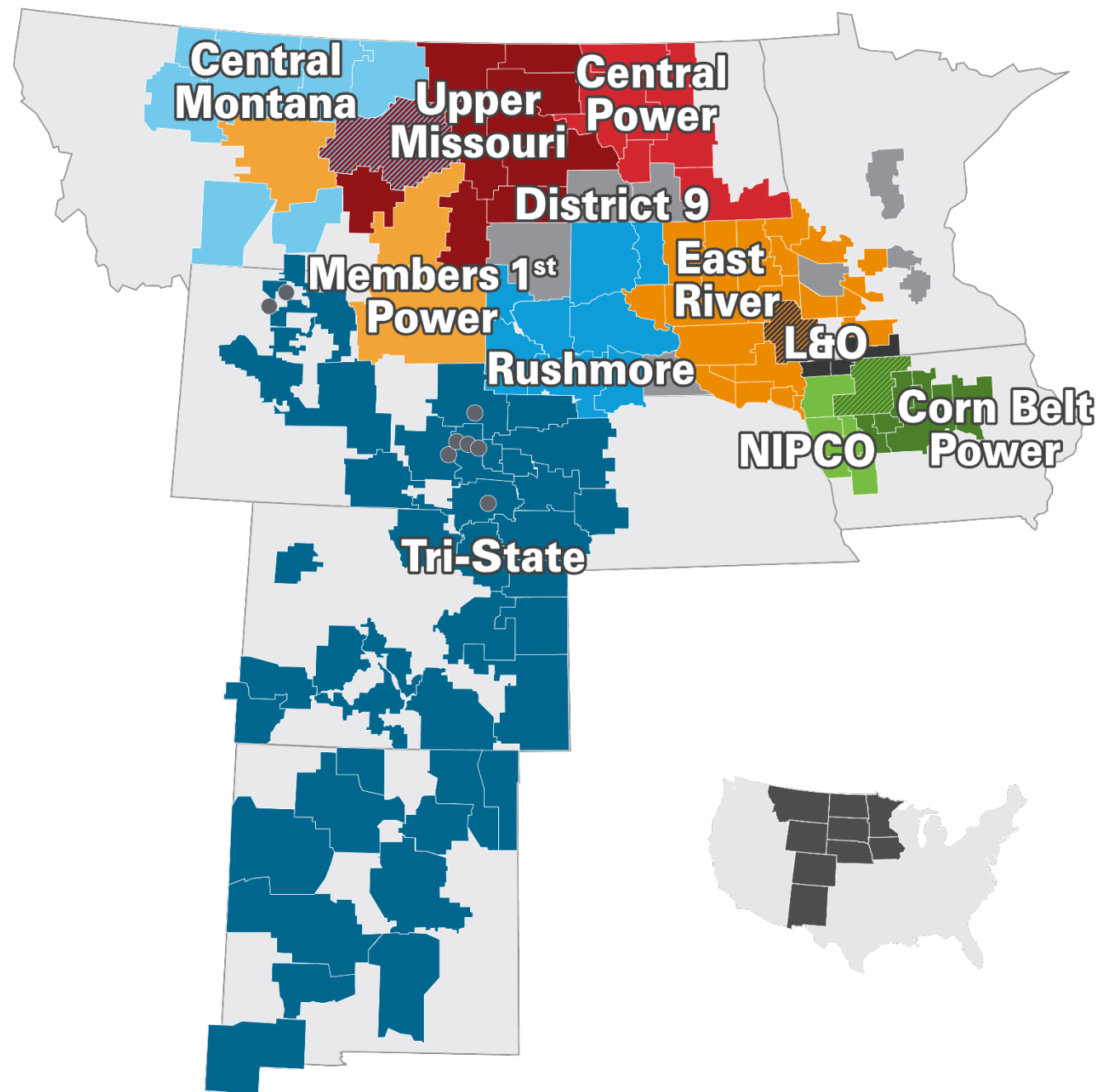
Over 9,000 megawatts
of winter capacity

Largest G&T:

- Total MWh sales
- Member sales
- Total Operating Revenue
- Geographic territory served

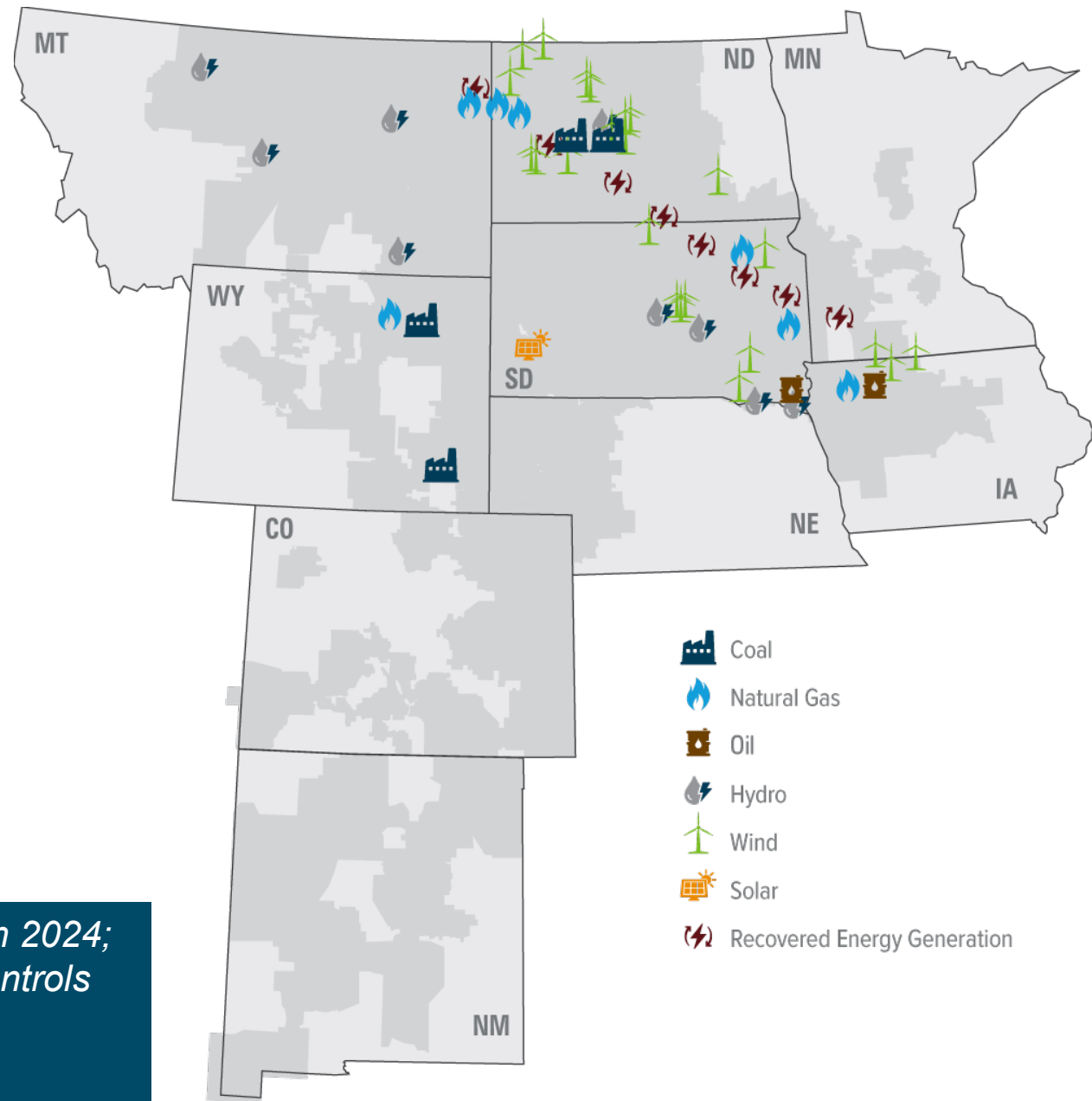
2nd largest G&T by assets

January 2025 Billing Peak Demand
Record – 5,150 MW

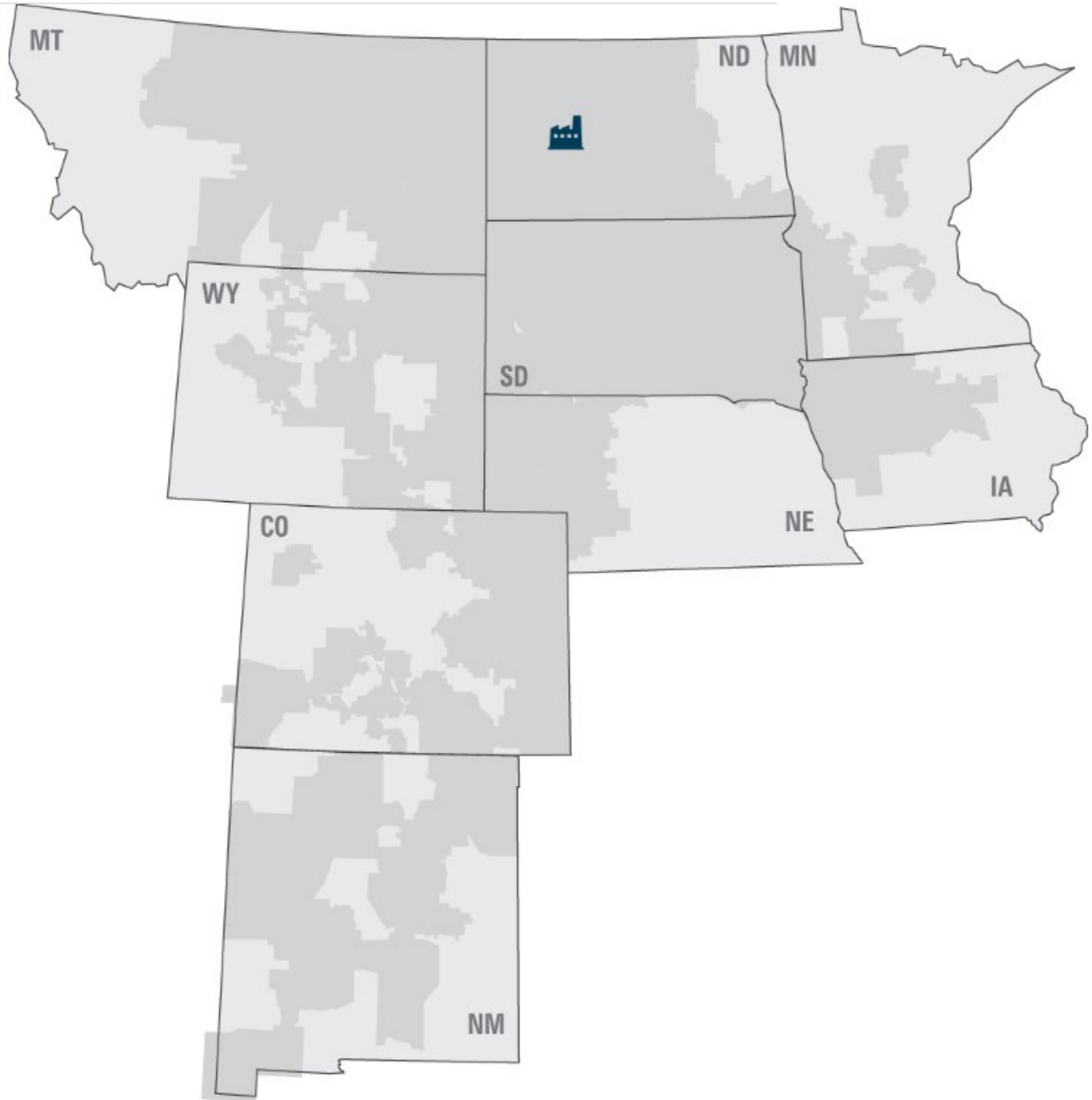


Basin Electric Generating Resources

\$2 billion invested in environmental controls through 2024;
\$190 million invested annually to operate those controls
(Basin Electric & subsidiaries)



Antelope Valley Station



Antelope Valley Station

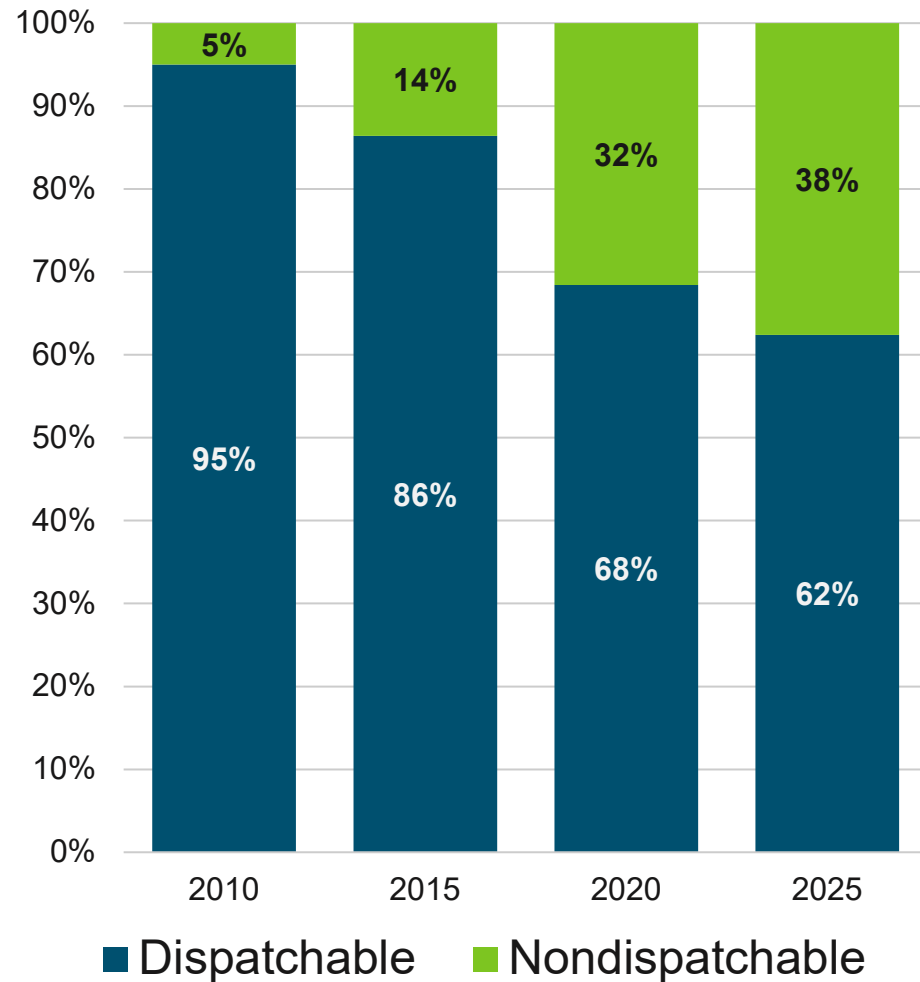
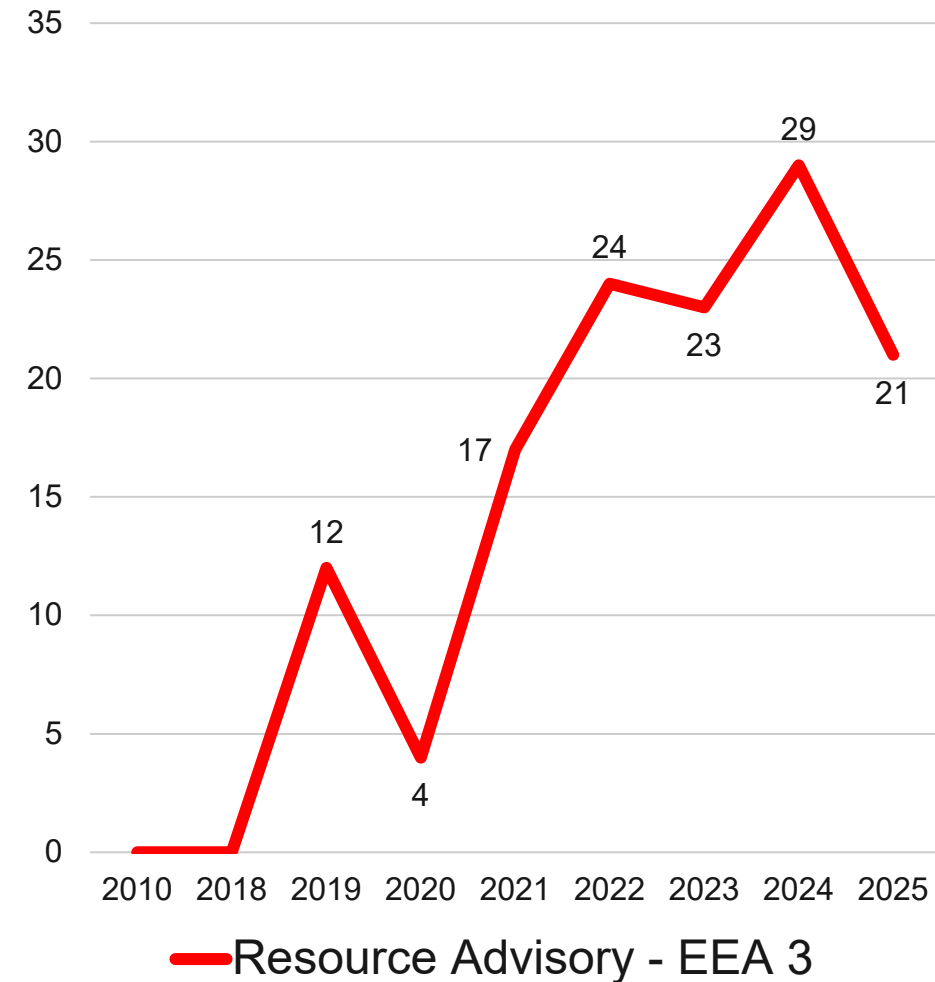
- Located in Mercer County, North Dakota population 8,350
- 2 units, 450 MW
 - COD 1984 & 1985
 - Lignite Coal
 - Natural Gas secondary fuel
 - CE tangential fired boiler
 - Westinghouse turbine
 - SOFA Low NOx commissioned 2014 & 2016



Project Background

- Turbine Degradation
 - Worn, eroded and damaged trailing edges of rotating blades and stationary diaphragms.
 - Increased heat rate and decline in performance.
- Aging Electrical Equipment and Infrastructure
 - Original equipment requires replacement to ensure safe, reliable, and maintainable operations.
 - A catastrophic failure of equipment may cause an extended unit derate or outage due to long lead times.
 - New equipment will provide additional protection against arc flashes.

Regional Challenges (SPP East)



Antelope Valley Station

Coal Modernization Opportunity

- Units 1 & 2 HP/IP Turbine Refurbishment
 - A like-in-kind replacement of all rotating blades and stationary diaphragms and seals pertaining to the high-pressure/intermediate-pressure (HP/IP) turbine
 - Fall 2027 Unit 1 Construction
 - Spring 2029 Unit 2 Construction
- Unit 1 6900V Isolating and Main Plant Switchgear Upgrades
 - Replacement of non-segregated bus, isolation switchgear, 6900V switchgear, cable buses, and associated power cables serving plant loads contained within a new Power Distribution Center building.
 - Spring 2030 Unit 1 Construction
- **Federal Funding: \$27,441,000**
- **Non-Federal Funding: \$42,429,654**
- **Total Value: \$69,870,654**

Antelope Valley Station

Coal Modernization Opportunity

- Performance Metrics
 - Improved performance
 - Reduced unplanned outages
 - Enhance overall efficiency
 - Supporting reliable power generation
- Key Project Participants
 - **Business Point of Contact:** Sarah Scherm, Vice President & Treasurer
 - **Technical Point of Contact:** Matt Ehrman, VP of Engineering & Construction
 - **Principal Investigator:** Josh Raynes, Performance Engineer
 - **Project Lead:** Tyler Mickelson, AVS/LOS Plant Engineer

Basin Electric's Commitment to Reliability



“This award represents more than reliability...it reflects the hard work, ownership, and teamwork demonstrated by every employee at our plant. I couldn’t be prouder of what this team has accomplished. Achieving the highest reliability is a direct result of the dedication, professionalism, and commitment our people bring to work every day.”

- Cory Bryngelson, plant manager at Antelope Valley Station and Leland Olds Station, August 2026.