

## Benefits of Grid-Enhancing Technologies (GETs)

Grid-Enhancing Technologies (GETs) are a suite of grid solutions that can increase the capacity, efficiency, reliability, and flexibility of existing transmission infrastructure. Rather than relying solely on new, capital-intensive transmission builds, PNM has widely deployed GETs solutions to extract greater value from existing assets while maintaining system reliability.

By improving real-time line ratings, controlling power flows, and optimizing system topology, PNM's GETs have helped manage congestion, supported production costs, and supported renewable integration while maintaining reliability. The variety of GETs PNM has deployed has also provided flexibility to help maintain FERC requirements by maximizing use of existing assets before investing in new transmission. PNM's capability expansions for most of the last 20+ years has been largely the result of GETs deployment.

- 1) **Line Ratings:** PNM is deploying Ambient Adjusted Ratings (AARs) pursuant to FERC Order 881, to extract additional capability from system by adjusting the operational rating of any (conductor-limited) lines according to ambient temperature at the time
  - a) PNM is also working towards dynamic line ratings which additionally incorporate real-time wind speed and solar insolation in the transmission line operational rating
  - b) PNM has installed monitoring equipment to allow for temporary emergency ratings based on actual ambient temperature and wind conditions
  - c) PNM has increased ratings of transmission lines by using higher wind speed assumptions, where technically justified and cleared several lines for short-duration high-temperature operation during critical conditions
- 2) **Power Flow Control:** Includes series compensation on transmission lines, phase shifting transformers (PST), and other technology to optimally manage flows on the system
  - a) PNM has deployed the following Power Flow Control GETS solutions:
    - i) Rio Puerco and Abo series compensation – aiding Four Corners to and Western Spirit Transmission Lines
    - ii) Belen PST
    - iii) Series Reactors at Norton and Belen
    - iv) Albuquerque power factor control (RCCS) system
  - b) PNM also utilizes redispatch and battery charge/discharge to control power flows
- 3) **Topology Optimization:** Includes redirection of power to avoid congestion or overloads
  - a) Remedial Action Schemes (RAS), which are automated protection schemes designed to increase transmission capacity all over the system – PNM has deployed nearly a dozen of these across the system to maximize transmission capability beyond traditional operational limits
  - b) Energy Imbalance Market participation (EIM) and future extended day-ahead market (EDAM) systems optimize dispatch and transmission schedules across the region, beyond PNM's system
  - c) Advanced planning methods such as hosting capacity, grid strength assessments – both of which are in progress and flow gate analysis which is planned for future operations
  - d) Pursuant to FERC Order 2023, PNM published public-facing, interactive heatmap software in Q3 2025 to inform generation and economic developers on optimal locations to build new generation or loads
- 4) **Advanced Conductor:** PNM is actively using advanced conductors and evaluating its continued use as part of its 10- and 20-year planning and generation interconnection processes

as well as economic development studies – benefits will continue to be unlocked over time as more advanced conductor is deployed across the system

a) In 2026 PNM is rebuilding an existing 115 kV line using advanced conductor (ACCC) to optimize line flow capability within existing easements and pole heights and will continue to deploy to maximize capability

5) **Other:** PNM uses *Flexible AC Transmission Systems* (FACTS) devices which allow for greater utilization of the transmission system

a) PNM's FACTS include:

i) Rio Puerco and Guadalupe Static Var Compensators (SVC) – Voltage support to maximize the capacity of the transmission system

ii) Blackwater synchronous condenser –Provides short circuit capability to maximize utilization of existing transmission assets which has allowed for increased wind integration and transfers from eastern NM