



Transmission Engineering and Design Relevant Experience

Mora Line Project

Client: Ameren Transmission

The Mora Line Project is a major energy infrastructure initiative in northeastern New Mexico, designed to transport renewable energy efficiently. ENTRUST has been involved since 2017, initially providing preliminary designs for the original developer, Lucky Corridor. Following the project's acquisition by Ameren Transmission in 2020, ENTRUST was officially selected as the design partner in early 2021, thanks to its proven expertise and proximity to the project site.

The 117-mile project includes the 47-mile Don Carlos – Mora 345 kV line and the 70-mile Mora – Arriba 115 kV line, delivering 180 MW of wind power to New Mexico's central grid. Designed to operate across varying terrain, the lines use efficient single-pole structures with underbuild and guyed wood H-frames for angles and deadends.

ENTRUST provided comprehensive engineering services, ensuring efficient systems and stakeholder collaboration. Core services included:

- Designing a 115 kV single-pole configuration convertible to 345 kV for future scalability.
- Conducting a routing study for the Mora - Arriba line, evaluating multiple alignment options.
- Complete transmission system design meeting Ameren's standards.
- Supporting land rights negotiations, including on-site landowner consultations.
- Developing underbuild designs for 20 miles of the Mora - Arriba segment.

Key challenges included designing a future-ready 115 kV system and optimizing the Mora - Arriba line's alignment. ENTRUST proposed three viable convertible design options, validated by construction contractors, though this design was later set aside by Ameren.

For the routing, ENTRUST analyzed GIS data and considered three alternatives before recommending a hybrid alignment, balancing technical and community needs. Extensive landowner collaboration ensured alignment refinements met all requirements.

Key Achievements

- Developed scalable designs for long-term efficiency.
- Delivered a hybrid routing solution optimized for cost, constraints, and community input.
- Maintained strong landowner engagement, fostering support for the project.
- Strengthened Ameren's transition into projects outside its Midwest base.
- Secured the Vista Trails 345 kV line project.

Currently, the design phase is 80% complete, with final easements in progress. Design completion is expected by the end of 2025, and construction will begin in 2026. ENTRUST's efforts ensure the project stays on track to support New Mexico's renewable energy goals through innovative and reliable solutions.

Montrose-Maverick-Cahone (MMC) 230kV Transmission Line Client: Tri-State Generation & Transmission Association

The Montrose-Maverick-Cahone (MMC) 230kV Transmission Line project involved upgrading 80 miles of 115kV transmission line to 230kV in southwestern Colorado to meet growing energy demands. Challenging terrains, including a 10,000 ft mountain range and a 6,512 ft span over the Dolores River Canyon, and the unexpected withdrawal of the original engineering firm required innovative solutions.

Tri-State selected ENTRUST for the final 15 months of construction, leveraging ENTRUST's expertise in mountainous terrain, familiarity with Tri-State design standards, and local presence.

ENTRUST:

- Reviewed and corrected design deficiencies, ensuring safety and quality compliance.
- Optimized the Dolores River Canyon crossing, modifying sag tensions and developing rigging solutions for the complex span.
- Addressed material shortages and supported wire stringing and sagging operations, achieving precise tolerances in challenging conditions.
- Developed and conducted offset wire clipping training, resolving prior construction issues.
- Delivered as-built drawings and conducted foundation inspections.



Key Achievements

- Corrected deficiencies to keep the project on track and minimize rework.
- Energized the line in October 2020 without incidents.
- Delivered cost-effective, high-quality solutions, ensuring completion of Tri-State's highest-priority project.

ENTRUST's expertise and problem-solving reinforced its role as a trusted partner to Tri-State.

CLCPA Phase 2 Package 3 (South Oswego - Tar Hill)

Client: National Grid

The CLCPA Phase 2 Package 3 project is part of National Grid's statewide electric transmission system upgrade under the Climate Leadership and Community Protection Act. This extensive initiative spans over 500 circuit miles and involves upgrades to 30+ transmission lines, modernizing New York's grid while adhering to ambitious in-service schedules and regulatory standards.

ENTRUST has been instrumental in supporting this program by providing independent technical reviews for design, procurement, and construction packages. With expedited review windows and challenging design timelines, the project demanded precision, adaptability, and a deep understanding of National Grid's requirements.

Key Tasks

- Conducting thorough technical reviews to ensure all designs met National Grid's stringent standards and specifications.
- Forecasting deliverable sizes and reserving dedicated staff bandwidth to accommodate aggressive schedules without sacrificing quality.
- Assigning a seasoned Project Manager with extensive National Grid experience to lead efforts, allocate tasks, and ensure client expectations were consistently met.
- Hosting regular update calls during review periods to provide progress updates, address emerging challenges, and align deliverables with project milestones.

Key Achievements

- Successfully completed five-plus review cycles, including detailed assessments of preliminary designs and procurement documentation.
- Expanded scope of involvement from one project to three, underscoring National Grid's trust in EN's capabilities.
- Delivered all reviews on time and within budget by precisely estimating required personnel hours.
- Demonstrated exceptional agility by commencing reviews immediately upon receipt of deliverables, preventing delays and ensuring progress stayed on track.

ENTRUST's expertise, affordability, and unwavering availability have established it as a vital partner in this critical infrastructure upgrade. ENTRUST is contributing to the successful realization of National Grid's statewide modernization goals under the CLCPA program.