

## Gas Transmission Design Services

As a leading provider of natural gas transmission engineering services, EN Engineering's capabilities span across all disciplines of the industry. Our experienced team has unsurpassed expertise in the transmission and midstream segments of the natural gas industry. While most companies focus on one phase of the industry, EN Engineering offers a full service design package including mechanical, electrical, civil, structural, corrosion control, pipeline integrity, metallurgical services, purchasing, automation and controls, and commissioning support.

EN Engineering's vast experience encompasses pipelines—including new large diameter, looping, expansion, flow reversal, maintenance, and integrity driven assessment projects—as well as facilities such as compressor stations, custody transfer, meter and regulator stations, production, storage, and process plants. Our natural gas transmission professionals have decades of operational and project experience. They have worked as owners and operators in many of the same industries as our clients, and have the expertise to complete all phases of a gas transmission design project from preliminary engineering and costing to detailed design and commissioning. Our services are customized, engineered, and delivered with a focus on exceeding expectations and building long-term relationships with our clients.



### Transmission Pipeline Services

- FERC 7c—preliminary and final submittals
- Pipeline alignments
- Survey coordination
- Route selection and mapping
- Right-of-way activities
- Crossing drawings and analyses
- Environmental assessments
- Pipeline designs
- High Consequence Areas (HCAs) reviews
- Integrity assessment of pipelines
- Horizontal directional drills/trenchless installations
- Valve automation
- Launcher/receiver designs
- Permitting support
- Public information meeting support
- AC mitigation



### Transmission Facility Services

- Equipment sizing, specification, request for information/quotes, and bid analyses (electrical, codes, and corrosion)
- FEED studies, feasibility studies, site layouts, and cost estimates
- Auxiliary systems design (oil, JW cooling, intake and exhaust systems, fuel gas, and gas cooling)
- Comprehensive integrity reviews (mechanical, electrical, codes, and corrosion)
- Electrical design (substations, distribution systems, lighting, and commissioning)
- Instrumentation and control systems
- Construction management and commissioning support
- Process Hazard Analysis (PHA)
- Facility risk, operational assessments/compliance audits, operational support, and procedure development
- Emission control retrofit designs
- Noise investigations
- Piping vibration and pulsation problem investigations

### Engineering Design Services

- Front End Engineering Design (FEED) studies
- Hydraulic modeling
- FERC 7c—preliminary and final submittals
- Survey coordination
- Land acquisition assistance
- Right-of-way
- Environmental assessment and permit support
- High Consequence Areas (HCAs)
- Permitting support
- Public information meeting support
- Construction management and commissioning support

### Project Planning and Feasibility Studies

- System optimization
- Owner's engineer
- Project development
- Pipeline routing
- Cost estimating
- Facility reviews
- Hydraulics modeling
- Permitting support
- Project scheduling

### Project Management

- Budget Development & Cost Controls
- Project Design & Execution
- Project Planning & Scheduling
- Project Controls
- Construction Management
- Contractor and Supplier Oversight
- Procurement

### Procurement

- Technical specifications
- Bid solicitation and evaluations
- Expediting
- Purchase order development
- Metallurgical expertise to perform quality assurance and mill inspections

### Construction Support

- Construction planning and scheduling
- Preparation of bid packages
- Bid solicitation and evaluation
- Engineering support
- Commissioning support

### Operations Support

- Engineering support of operations
- Operator Qualification (OQ)
- Facility reviews
- Procedure development