NATURAL GAS PIPELINE ENGINEERING

OUR SOLUTIONS

EN Engineering offers extensive expertise and experience with gas transmission pipeline engineering. Our team of professionals have been designing, upgrading, maintaining, and operating gas transmission systems for decades, and our pipeline experience ranges from large market, expansion-driven, long haul projects, to maintenance-focused integrity projects. Our experts provide engineering support throughout the various phases of a project, including construction support and as-built activities for transmission piping and associated facilities such as regulating stations, metering facilities, and inspection facilities. EN Engineering is also experienced in the requirements of FERC 7c filings.

FEED Studies

Our team produces front-end engineering studies that further refine the project scope, thus providing clients with a fatal flaw analysis that identifies high-risk components and provides a proper schedule and capital estimate for large projects. At the on-set of projects, clients rely on our abilities to perform preliminary feasibility studies, budgetary analysis for projects, and assistance in the up-front economic analysis of a project. We work closely with operators to cost business opportunities, run hydraulic models, and present supply options to stakeholders.

EN Engineering's comprehensive services include the following:

- Evaluation of the pipeline route
- Presentation of options to identify and document potential environmental, engineering, and right-of-way challenges to route selection
- Coordination of agency or open house meetings for projects requiring FERC support

EN ENGINEERING

ENTRUST SOLUTIONS GROUP

Land/Survey Route Selection

EN Engineering provides proper coordination of any right-of-way, geotechnical, and environmental surveyors needed for proper engineering. From this information we finalize route selection; identify needed working easements; establish pipe lay down yards, construction staging, and set up areas; and provide route pipeline corridor access. This careful planning also allows us to provide stormwater control features such as diversion swales, sediment control barriers, and bladders.

Environmental Review and Permit Assistance

When it comes to environmentally sensitive areas such as wetlands, stream crossings, national forests, and other protected resources, EN Engineering takes care to evaluate and recommend the proper, most cost-effective method to installing pipelines. Our experts are very familiar with FERC-mandated construction requirements and installation methods such as use of water bladders, open cut, conventional bore, and HDD.

Construction Alignment Sheets and Detailed Engineering Design

EN Engineering provides profiles, elevation details, and material take-offs for valve settings and launcher/receiver trap designs. Lines are reviewed for HCAs and evaluated for internal inspection capabilities. Our construction package provides detailed HDD analysis and incorporates geotechnical data to develop a comprehensive profile along with proper set-back areas.

HDD Engineering

Our engineering professionals perform complete layout and design services for the successful construction of large pipeline crossings such as rivers or other obstacles. EN Engineering combines geotechnical information, offset requirements, and material selection into a recommended bore strategy. We incorporate this engineering solution into an accurate and complete HDD design package.

ASV/ROV

Safety is always at the forefront of any design. We have the expertise to incorporate remote-operated and automated shut-off valves into your pipeline design.

Cathodic Protection Design

EN Engineering takes the unique characteristics of each installation and incorporates them into the most effective CP design. As part of the evaluation, we consider potential interference, shared right-of-way issues, overhead AC systems, DC transit systems, electrical isolation, and soil resistivity. Our team has the required expertise to review, identify, and mitigate potential CP issues along proposed pipeline corridors as well as expertise in the design and installation of rectifier systems.

Integrity Management

Each and every design includes the proper material and equipment for clients to complete the necessary inspections required by code. Our design includes launcher/receiver traps and other required fittings so that Internal Line Inspections (ILI) can easily be completed without interruption.

Bid and Construction Support

EN Engineering develops construction scope-of-work documents and provides bid support, including responses to requests for information from contractors. Project management and construction support includes inspection supervision and pipeline inspection services, development, processing, and review of as-built drawings.