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CASE STUDY

Integrated Engineering-Procurement-Surveying for 2-Bcf/d LNG Supply System

CLIENT

Confidential energy infrastructure company

LOCATION

Beauregard Parish, Louisiana

SERVICES

- Detailed engineering + design
- Document control
- Procurement
- Pipeline as-built survey
- Digital data management

Developing its first turbine-driven compression station for LNG export presented complex challenges for a North American energy operator—from poor soil conditions and unique coastal regulations to a limited timeline without an active vendor network.

Audubon Companies brought an integrated project solution across interconnected assets to deliver a premier, high-capacity LNG supply system.

CHALLENGE

Build critical new infrastructure for LNG export under environmental and supply chain constraints.

To connect Haynesville, Marcellus, and Utica shale resources to a global LNG export terminal, an energy infrastructure operator set out to build its first turbine-driven compression station in southern Louisiana to handle 2 Bcf/d of natural gas. The scope extended beyond a single facility, requiring two custody-transfer metering stations and a pipeline interconnect to Port Arthur, Texas.

Environment proved a key challenge for the project—the compression site's history as a flooded rice field and the delivery metering station's location near the hurricane-prone coast required specialized civil design and regional expertise. The 72-mi, 42-in pipeline would traverse state and utility crossings, along with sensitive marshes, swamps, and shallow lay lakes. Furthermore, an inherited legacy vendor list and many long-lead items made the procurement phase a risk to schedule and execution.

SOLUTION

Integrate engineering, design, procurement, and surveying across compression, metering, and pipeline assets.

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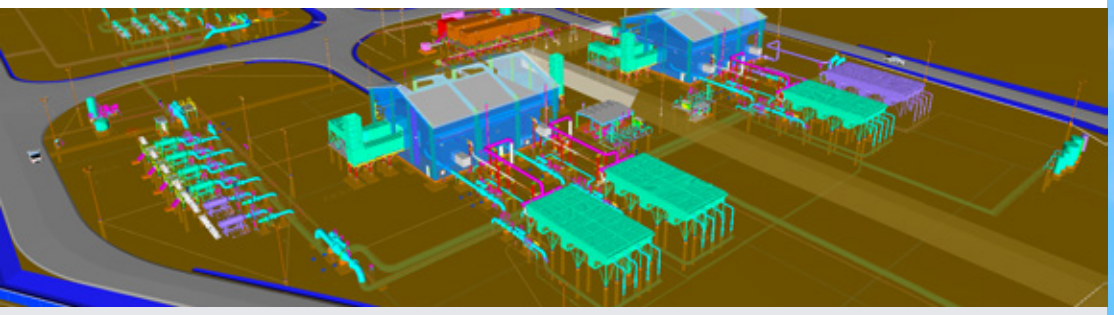

Integrated project solution for 2-Bcf/d LNG supply system

Engineering + design: High-performance compression + metering infrastructure

With engineering proficiency and turbine-compression expertise, the Audubon team designed the operator's new 2-Bcf/d facility using three Solar® Titan™ 130 units for reliable, efficient performance. We also incorporated all balance-of-plant equipment: skids, vessels, tanks, filter separators, coolers, backup generators, sampling systems, and control systems. For the system's two metering stations, our engineers and designers focused on accuracy, redundancy, and compliance to support reliable custody-transfer measurement.

Audubon addressed the sites' Gulf Coast environment with specialized foundation design to ensure infrastructure safety and stability on top of challenging soil. For the near-coast delivery metering station, we designed the facility on an elevated platform to protect critical equipment from storm surge and flooding. Our regional expertise also contributed to seamless navigation of regulatory requirements across multiple federal, state, and local agencies, while meeting the operator's objectives for emissions reduction.

"Combining advanced pipeline-facilities engineering with turbine-driven efficiencies provided reliability and performance this LNG system wouldn't have experienced otherwise. We're proud to bring region-specific solutions that protect infrastructure and steward the environment."

Cory Sparwasser
Director of Pipeline Engineering
Audubon Companies

- Reliable compression performance
- Confident custody transfer
- Storm protection
- Emissions reduction

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Integrated project solution for 2-Bcf/d LNG supply system

Procurement: Disciplined, coordinated document control, purchasing, + expediting

Audubon stepped in for the North American energy company with end-to-end procurement services to resolve a gap in resources and protect the project's schedule. We leveraged established contracts and relationships to source, evaluate, and produce 37 bid packages across 24 suppliers—for a total procurement value of $50+ million, with Audubon assuming full commercial responsibility.

On the front end, our in-house procurement team collaborated with engineering and document control groups to ensure accurate documentation and prevent delays. The group paid special attention to expediting long-lead items, coordinating logistics, negotiating with stakeholders, and prioritizing critical packages. We also rolled out a new Oracle Aconex® system for consistent workflows going forward.

37 bid packages

24 suppliers

$50 million

—all on Audubon paper

"Collaboration and disciplined touchpoints were key for getting procurement right on this LNG project. Our in-house team stayed on top of every detail to make sure materials and equipment were never a bottleneck."

Julie Labrosse
Senior Buyer
Audubon Companies

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Integrated project solution for 2-Bcf/d LNG supply system

AMPM: Centralized, interactive project dashboard

- Data integration
- Management of change

AIMS: Real-time data collection-management-reporting

- Materials tracking
- Weld mapping
- Inspection

Surveying: As-built confidence + integrated life-cycle data management

For the new LNG supply system on the Gulf Coast, Audubon surveyed the 72-mi, 42-in pipeline connector between the compression station in Beauregard Parish and the export terminal in Port Arthur. We performed an as-built survey across diverse, environmentally sensitive landscapes, while navigating state, utility, highway, bayou, canal, and river crossings. Highly accurate spatial datasets were captured utilizing advanced imaging technologies, ensuring alignment and constructability from installation through tie-in.

To achieve traceable, verifiable, and complete (TVC) records according to Pipeline and Hazardous Materials Safety Administration (PHMSA) regulations, material tagging and tracking was optimized with our proprietary data management platforms, Audubon Mapping and Project Management (AMPM) and Audubon Integrated Management System (AIMS). Together, the systems created a complete source of truth that the owner will use over the life of the asset for compliant engineering and construction data.

“Surveying this LNG interconnect wasn’t just about capturing the pipeline; it was about delivering trustworthy data for our client. Having every segment traceable and every record connected sets the foundation for decades of safer, smarter operations.”

Abel Tello
Project Manager, Mapping
Audubon Companies

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RESULTS

Deliver an on-time, essential supply system for LNG export with 2-Bcf/d capacity, environmental stability, and TVC data for long-term performance.

Applying an integrated project delivery model for engineering, design, procurement, surveying, and data management—along with regional and disciplinary expertise—Audubon delivered a new, 2-Bcf/d gas transmission system along the US Gulf Coast. With efficient power, resilient infrastructure, and traceable data, this LNG supply system will not only create lasting returns from domestic natural gas; it will serve as a major avenue for energy security and economic growth for decades to come.

- Efficient, powerful compression
- Accelerated project execution
- Infrastructure reliability + resilience
- Long-term asset compliance + traceability
- Cross-disciplinary, cross-regional collaboration
- Environmental stewardship

We design, build, and sustain **what matters.**

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