

LNG Operator Demands Integrated Industrial Solutions for Plant Startup

An operator of an onshore Liquefied Natural Gas (LNG) micro fuel facility sought integrated solutions from a single source contractor. Ongoing activities with multiple construction groups were working compressed schedules in order to ready the facility for a re-purposed product. Direct technical commissioning support became a value target during the early phase of project execution, as pressure testing and torque value verification for 600+ connection joints demanded specific expertise.

PLAN OF EXECUTION

1. Project Planning & Preparation

- Reviewed P&ID's and Isometric drawings from two different engineering firms. Identified manufacturer's recommended torque values.
- Planned with client for Customs requirements and entry. Evaluation of tools for SOW completion. Developed a serialized weatherproof torque verification tag containing all relevant data per joint.
- Reviewed test and cleaning procedures/requirements. Utilized teams of cross trained personnel for both bolting and pressure testing.

2. Scope Execution

- Hydraulic Bolting and Flange Management System coordination.
- On site project management support.
- Connection integrity management on all joints.
- Reviewed test packs and verified test pressures, durations, and boundaries.
- All bolted joints were checked to verify proper joint alignment.
- All studs were checked for proper material, size, length, and lubrication.
- All bolted joints were torqued to client specifications.
- Cleaned systems with compressed air in accordance with client procedures.

TECHNICAL ACHIEVEMENTS & BENEFITS

- Successful integration with end user and general contractor management, consultants, and field personnel.
- Provided integrated management and project controls.
- Reviewed and mapped bolted connections as per design and construction drawings.
- Changed test medium selection from demineralized water to readily available nitrogen. This provided cost savings on the testing and drying phase.
- Provided final reports on torqued connections, and applied a tagging system verifying work was performed and completed in accordance with the regulation/standard.

LOCATION

San Juan, Puerto Rico

SPECIFICATIONS

Operator Type: Downstream
Facility Type: Micro Fuel Handling
Hydrocarbon Type: LNG

CHALLENGE

- 600+ flanges
- International equipment logistics
- Working at heights
- Expedited time line for planning and mobilization
- Project planning and readiness required efficient communication without a site survey
- Inadequate pressure testing tie-in points warranted a Management of Change process that required an approved deviation from best practice approaches
- Due to welded valve placement, standard isolation practices required additional safety measures