Case Study
LNG #2

LNG Production and Trailer Loading Facility at Gas Processing Plant

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Highlights:

Location — Hawkins, Texas

Scope of Project:

- Engineering and Project Managed to support the design, manufacture, installation, startup, and commissioning for LNG truck load facility
- Project Completion Late 2015
- Pre-Engineered, Factory Fabricated Modules

Application:

Cryogenic gas processing (Nitrogen Rejection Unit) produces LNG as part of the process, providing low cost LNG for the merchant market.

Project Background:

Chart Industries was requested to develop an LNG storage and truck loading system, as part of an existing natural gas processing plant, located in Hawkins, Texas.

Significant Accomplishments:

Chart had developed pre-engineered truck loading modules, including 50,000 gallon storage tanks, and automation control systems that were instrumental in shortening the time from order to installation.

The automated truck loading system eliminated driver filling errors and reduced filling time.

LNG was required to traverse 2,500 feet, and in some cases 3 stories above ground to fit within the existing site constraints. To minimize installation cost and provide a safer installation, prefabricated vacuum jacketed pipe was chosen.

System Configuration:

Pre-engineered, factory pre-tested modules accelerated the system installation resulting in the commissioning process to take only two weeks to complete. The existing gas compression equipment enabled vapor recovery of the truck filling process, eliminating the need for cryogenic pumps. The system design eliminated the need to vent natural gas vapor to the atmosphere during the desaturation of the LNG and the truck filling process. The excess gas was compressed and injected into the natural gas pipeline.

The fully automated truck filling process is designed to fill trailers with LNG to comply with DOT load limits for tractor trailer combinations of 80,000 lb gross vehicle weight. Once the hose connections are made, the computer controlled system takes over and performs all the necessary functions from start to finish, including a purge process that forces any remaining LNG from the hose into the trailer by use of a small volume of inert nitrogen gas.