Case Study
LNG #3

LNG Storage & Regasification
Conversion from Propane to
LNG for Burner Supply

Highlights:

Location — Gujarat, India

Scope of Project:

- Proprietary major equipment engineered and built by Chart for a turn-key solution.
- LNG bulk storage (VT 105 m^3/12 bar) and pre-manufactured assemblies
- Chart guaranteed the system operated & functioned as designed to deliver 26,000 SCM/day to sustain consumption & operate between 30-75 PSIG on the final line
- System designed for automatic operation with provision for manual intervention

Application:

Replacement of existing propane system to more cost-effective natural gas to feed the burners of a copper smelter.

Project Background:

Chart was requested to develop a full equipment package which took LNG from trailers through to the final line.

Significant Accomplishments:

Chart managed the entire project. System included automatic switch of liquid flow between two ambient air vaporizers to guarantee steady flow rate during continuous use. System operation controlled from a remote panel containing both PLC (Programmable Logic Computer) using pneumatic logic and HMI User Interface.

System Configuration:

Engineering, project management and skid-mounted equipment modules were provided by Chart's New Prague, MN technical center. The 105m^3 storage tank was built at the Chart facility in the Czech Republic and shipped direct to site. The vaporizers were sourced locally from Chart's indigenous business partner Shell-N-Tube.

System operation controlled from a remote panel containing both PLC (Programmable Logic Computer) using pneumatic logic and HMI user interface. The air-actuated valves in the system select the various operating modes and also serve as an emergency shutoff device. The system was completely instrumented, with pressure, level, and temperature transmitters feeding the Control System.

The system allows for automated switching of liquid flow between two ambient air vaporizers allowing time to defrost in between cycle and not affect the system flow rate during continuous use requirement.

Pressure regulation completely automated by utilizing a Proportional Integral Derivative (PID) control loop and a flow control valve sized for this specific application. Provisions are provided to mechanically control the system without the Control System, if needed.