



## LNG Facilities for Operations and Maintenance - OT-43

### COURSE

#### About the Course

This 5-day, LNG facilities course provides an overview of field operations, and an in-depth review of the in-plant equipment and processes. The course includes the two most common types of LNG liquefaction processes, the AP-C3MR and ConocoPhillips Optimized Cascade Process. Class exercises/problems focus on the application of theory to operational trends, so operators can understand their processes and become more proficient at identifying issues and troubleshooting problems before production suffers. Course content is customizable to client needs at no additional cost.

*"The real problem solutions as exercises in the class was very helpful to understand the application. Very good instructor and material."* - Participant, Mexico

#### Target Audience

LNG facility operators who require a working knowledge of the various processes used in LNG facilities, including the common operational difficulties that may arise and operational tactics used to resolve them. Also suitable for maintenance technicians, supervisors, and managers, as well as other non-engineering personnel who would benefit from an understanding of gas processing techniques that can be applied in their daily work activities.

#### You Will Learn

- Overview of oil and gas processing, including typical field operations
- The required feed quality specifications for LNG facilities, including issues with common contaminants
- Separation equipment with a focus on critical separation equipment in LNG facilities
- Operational aspects of acid gas removal units (AGRU) for LNG facilities
- Gas dehydration processes for LNG (including pre-cooling and molecular sieve)
- Mercury removal processes for LNG, and location/performance in the facility
- Centrifugal compressor operations and issues
- Refrigeration system operational principles (propane, cascade and mixed refrigerant)
- NGL stabilization and fractionation processes (regional)
- LNG COP Cascade Process Overview
- LNG AP-C3MR Process Overview
- LNG storage operations and considerations
- LNG ship loading and boil-off gas management issues and considerations

- Application of hydrocarbon physical properties and phase behavior to understand the process operational issues within the overall facility
- Gas turbine operations and issues
- Hydrocarbon physical properties and phase behavior as the natural gas flows through the plant

## Course Content

- Overview of oil and gas processing
- Separation equipment
- LNG feed quality requirements
- LNG pre-treatment systems (AGRU / molecular sieve / Hg removal)
- Fundamentals of centrifugal compression
- Refrigeration principles (propane, cascade and mixed refrigerant)
- NGL stabilization and fractionation (regional)
- LNG COP Cascade Process Overview
- LNG APCI C3MR Process Overview
- LNG storage operations and considerations
- LNG shiploading operations and considerations
- Boil-off gas management methods
- Gas turbine fundamentals
- Hydrocarbon physical properties
- Phase behavior fundamentals
- Water / hydrocarbon behavior

## Product Details

Categories: [Upstream](#)

Disciplines: [Operations & Maintenance](#)

Levels: [Foundation](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#)

Instructors: [PetroSkills Specialist](#) [Frank Ashford](#) [William \(Bill\) Finch](#) [Kindra Snow-McGregor](#) [Chris Spilsbury](#)

