

## **Course objective**

To provide technical knowledge of membrane CO<sub>2</sub> removal, as well as an overview of the system, its operation (including start-up, shutdown, troubleshooting), and maintenance.

## Who should attend?

Engineers, operators, and technicians working on production units.

# Upon completion of the course, participants will know the following:

- Fundamentals of CO<sub>2</sub> membrane separation
- Details of the CO<sub>2</sub> membrane unit and pre-conditioning/conditioning operations
- CO<sub>2</sub> removal unit control and safety philosophy
- CO<sub>2</sub> removal unit key parameters
- Unit operation: start-up, shutdown, emergency shutdown, and troubleshooting
- Equipment maintenance and maintenance schedule for the main equipment

## **Deliverables**

- Training documentation
- Training execution
- Workshop participation

#### Location

Selected NOV training centers or client preference. Preferably on site due to membranes unit vicinity. Training can also be offered online.

## Duration

3 days, depending on complexity.

## Contact

wellstreamprocessing@nov.com

## Training course includes

- Training by experienced technology personnel
- 3 days training for up to 10 trainees
- Hard and soft copies of training material in English



## **Course content**

#### Welcome

- · Safety moment
- · Review of agenda
- Course objectives
- Introduction of participants and their expectations

#### **Overview**

- Sweetening with membranes application practice and best available technology
- Evonik SEPURAN® NG membranes key characteristics
- · Process design basis of the unit
- Review of process flow diagram and P&ID explanation
- Site visit or 3D model presentation

#### **Fabrication**

- Fabrication
- Main specification applicable
- Material selection

## Control and safety philosophy

- Process description and equipment key parameter
- Cause and effects chart
- · Shutdown philosophy

#### Operation

- Start-up preparation
- · Unit stabilization
- Troubleshooting

#### **Maintenance**

- Maintenance of equipment
- Maintenance schedule
- Spare parts management

#### **Evaluations**

- · Q&A session
- Review have the learning objectives been met
- · Evaluation of course

