

## A 3 DAY COURSE OF

# ADVANCE GAS TREATMENT PROCESSES AND OPERATIONS

By

**Ir. In Jumanda Kasdadi, MT.**

## OBJECTIVES

- Appreciate the Many Aspects of Gas Treating and Sulphur Recovery Processes
- Identify the Main Process Steps and Discuss the Key Features of Gas Treating
- Demonstrate an Understanding of Many Facets of Amine Sweetening Technologies
- Understand the Technology, Chemistry and Thermodynamics of Gas Processing
- Evaluate, Monitor, and Troubleshoot Gas Treating Operations

## PARTICIPANT WILL BE ABLE TO:

- Identify the types of Gas Plant Products
- Be familiar with gas Production Facilities.
- Understand the field processing system of natural gas.
- Be familiar with gas processing equipment.
- Understand LPG / NGL fractionation.
- Understand gas handling & transmission systems.
- Be familiar with safety & environmental aspects.

## COURSE CONTENT :

1. Basic of Gas Handling Processing and Conditioning
  - Objectives & principle of gas processing/ conditioning
  - Types & properties of gas to be processed
  - Field condition & processing facility requirements
2. Gas Processing Scope
  - Production of pipeline transportable gas stream

- Production of salable gas stream
- Production of condensate
- 3. Separation Phase
  - Gas-Liquid-Water separation
  - Two-Phase and Three-Phase separators
  - Separator: Operation & Maintenance
- 4. Treating & Gas Treatment
  - Sour gas production: Health Safety & Environment
  - Gas sweetening processes
  - H2S and CO2 Removal: Operation & Maintenance
- 5. Gas Dehydration
  - Hydrate formation & control
  - Dehydration with liquid absorbent & solid-adsorbent
  - Glycol Contactor: Operation & Maintenance
- 6. Compression
  - Compression & recompression for pipeline transport
  - Compression in condensate recovery
  - Compression gas re-injection
  - Compressor operation
- 7. Heat Exchange
  - Heating & cooling operations
  - Refrigeration in liquid hydrocarbons recovery
  - Heat Exchanger: Operation and Maintenance
- 8. Additional Facilities
  - Automatic safety systems
  - Production facility & environmental protection
  - Utilities: electricity, instrument air & water

## WHO SHOULD ATTEND

- Production and Processing Personnel
- Operations Staff, and Shift Supervisors
- Environmental Specialists
- Facilities and Process Engineers
- Geologists and Reservoir Engineers
- Line Managers, and Sales or Business Development Staff
- Industry Newcomers

## COURSE LEADER

**IN JUMANDA KASDADI (IJK)** has experienced an instructor at the industrial training since the year 1997, both the in-house training and public training.

Experience in-house training in international **copper mining companies in Papua** (Year 1997-1998) and incorporated in the ITC (Industrial Training Center) company in Field Instrumentation & Process Control. IJK joint team is also experienced in-house training in the chemical industry company operating in Karawang (Year 2007) in Field Operations & Processing Unit, and The Oil&Gas Companies operating in the region of Palembang, Balikpapan, and the Natuna (Year 2006) Sector Oil & Gas Processing, Equipment and Control. The experience of other in-house training them in oil & gas companies that operate the Thousand Islands became one of the instructors in Field Safety Aspect Gas Operation, in the year 2008.

In recent years also do in-house training in the major oil companies in Riau Rumbai, Duri, Jambi, and Balikpapan. As for the public training, IJK & team have experienced more than 225 execution of training in Jakarta, Bandung, Surabaya, Balikpapan, Jogjakarta, Denpasar, Lombok, and Batam. In addition to training, IJK is also experienced in some job-related training materials include **Field of Risk Assessment** in the oil & gas company for 9 gas plant in South Sumatra onshore & Natuna offshore, Field Processing on the design process and waste treatment equipment laboratory environment in Pare-Pare in South Sulawesi, Field piping and feasibility study on a pipeline from the offshore pipeline tie-in on the pipe in the Straits of Malacca to the onshore pipeline distribution on the Island of Batam.

The international experience of IJK is the conduct of FEED (Front End Engineering Design) of Oil Pipeline Distribution at **Dili, Timor Leste (2015)** and an instructor at the training Corrosion Control Management & Coating with participants of Titas Gas Company, **Bangladesh (2016)**.

IJK has also taken courses for 9 topics in The Oil & Gas fields at **PETEX (Petroleum Extension), University of Texas at Austin, in Houston, Texas, USA (2018)**.

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