

A LDI Training Course

OIL & GAS PROCESSING PLANT FOR PRODUCTION

by

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Introduction

By attending this course, the participants will understand the basic technology and equipment on how oil and gas produced from a well are processed and refined.

If your work is related to oil and gas production and you are not familiar with the processing techniques and the equipment used, this course is for you.

In the course you will:

- Learn the techniques and equipment to process crude oil into stock tank oil
- Know the technology and equipment to process wellhead gas into pipeline gas
- Understand the refinery processes to refine crude oil into refined products
- Know how to read a Process Flow Diagram (PFD)
- Learn how to read a Piping and Instrument Diagram (P&ID)

Who Should Attend

This course is designed for the following professionals whose works are related to oil and gas production:

- Engineers
- Technicians
- Support personnel
- Accounting and auditing professionals
- Lawyers and contracts management people
- And anyone who wants to know how oil and gas are processed.

Course Content

- 1. Pre-Test**
- 2. Physical Properties & Chemistry of Oil & Gas** (Molecular weight, Vapor pressure, Critical properties, Heat of combustion, etc)
- 3. Overview of Production Processes** (Well fluid, Gas-Oil Separator, Units of Oil Processing Plant, Units of Gas Processing & Conditioning, etc)
- 4. Production Separator & FWKO** (2 & 3-phase separator, vertical & horizontal separator, Factors affecting separation, internal & external separator components, Separator Control, Routine Checking of Separator, etc)
- 5. Flash, Scrubber, and Distillation Process** (Vapor Liquid Equilibrium (VLE) Principles, Phase Behavior, Antoine Equation, Fractionation Process, Tray & bed columns, etc)
- 6. Gas Sweetening Plant** (sour & sweet gas, Amine (MDEA) processes, Acid Gas Pick-up, Operating Problem (corrosion, solution degradation, foaming), Amine Reconcentration, etc)
- 7. Gas Dehydration Plant** (wet & dry gas, TEG Dehydration System, MEG Injection, Amine Reconcentration, etc)
- 8. Oil Processing Plant** (Oil-Water Emulsion, Heater Treater, Emulsion Treater, Desalting, Coalescers, Mercury Removal, etc)
- 9. Plant Piping and Pipelines** (oil pipeline, gas pipeline, multiphase pipeline & flowline, metal & non-metal pipe, etc)
- 10. Process Control and Safety Systems** (Elements of a process control system, Control loops, Control modes, PID, Layer of Protection, IPL / Independent Protection Layer, SIS / Safety Instrumented System, etc)
- 11. Post-Test**

About Instructor

In JumandaKasdadi (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 inhouse training in the major oil companies in Riau Rumbai, Duri, Jambi, and Balikpapan. As for the public training, IJK & team have experienced more than 200 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)**.