

## An LDI Training Course

# HAZOPS (Hazard and Operability Study)

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

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### COURSE OVERVIEW

Training ini dimaksudkan untuk memberikan pengetahuan dan pemahaman mengenai metode studi tentang *hazard* dan *operability* (HAZOPS) pada fasilitas. Pembahasan akan dimulai terminologi-terminologi yang terkait dengan HAZOPS, *Hierarchy of Hazard Control* serta *Layer Of Protection Analysis / LOPA*. Pembahasan utama dalam pelatihan ini adalah *guide words*, *flowchart*, *format* dan proses HAZOPS, serta dokumen-dokumen yang diperlukan untuk HAZOPS. Selain itu juga akan ditinjau beberapa metode *Hazards Identification*, seperti *what if*, *check list*, *even tree analysis*, *fault tree analysis*, dsb; serta aturan-aturan dan pembagian tugas dalam Tim HAZOPS. Secara umum, setelah mengikuti pelatihan ini para peserta diharapkan akan mendapatkan pengetahuan dan pemahaman mengenai *Hazard and Operability Study* secara menyeluruh.

### COURSE CONTENTS

- **Introduction to HAZOPS.**
- **Terminologies of Hazard, Safety, and Operability** (hazard, danger, risk, failure, incident, accident, near miss, etc).
- **Safety Thinking** (identify, consequences, probability, Prevention, safety code, cost, etc)
- **Hierarchy of Hazard Control** (elimination, substitution, engineering control, administration, PPE, etc).

- **Layer Of Protection Analysis / LOPA** (basic process control system, alarm, safety instrumented system, relief system, etc).
- **Overview for Methods of Hazards Identification** (what if, check list, even tree analysis, fault tree analysis, etc)
- **HAZOPS Terminologies** (node, intention, deviation, cause, consequence, safeguard, action, etc)
- **HAZOPS Guide Words** (more, less, reverse, no, other than, relief, ignition, maintenance, corrosion/erosion, human factors, etc)
- **Document Tool for HAZOPS** (PFD / Process Flow Diagram, P&ID / Piping and Instruments Diagram, legend & symbol, etc).
- **HAZOPS Flowchart & Format**
- **HAZOPS Process** (Terms of Reference, Scope of Work, Timing, Team Membership, Preliminary and main HAZOPS, etc)
- **The Role of HAZOP Team** (team leader, scribe, project manager, operations representative, risk engineering or safety representative, etc)
- **HAZOPS Practical Workshop** (practical workshop with HAZOPS real document in class)
- **Group Discussion and Case Studies**

## **INSTRUCTOR:**

Ir. In Jumanda Kasdadi is an experienced instructor and he has been conducting training for oil and gas companies since 1997. He has BS and MS in chemical engineering degrees from the Institute Technology Bandung.

Companies that have received Mr. Kasdadi's inhouse training include Chevron, Pertamina Hulu Energi–ONWJ, ConocoPhillips, Total, Medco, Petrochina, Pertamina, Star Energy, and many others.

Ir. In Jumanda Kasdadi was involved in several Front-End Engineering Design (FEED) and Risk-Based Inspection projects.

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).

## **COURSE DELIVERY**

- This offline (face to face) course is conducted in Bahasa Indonesia.
- Training hours are from 08:00 to 16:00 WIB
- Participants will receive course material prior to training.
- Participants will receive a certificate after completing the training.

## **TRAINING CONFIRMATION**

LDI Training will provide a Confirmation Letter after we receive registration according to the required quota.

**For more information please contact**

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