

A LDI Training Course

SAFETY ENGINEERING IN DESIGN

by
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COURSE OVERVIEW

Pelatihan ini dimaksudkan untuk memberikan pengetahuan dan pemahaman mengenai *safety engineering* dalam perancangan (*safety engineering in design*). Pada bagian awal pelatihan ini akan dibahas istilah-istilah dalam *safety engineering* seperti *hazard*, *danger*, *risk*, dan sebagainya. *Process design*, *engineering drawing*, serta *protection layer* dalam *safety engineering* akan dibahas akan dibahas satu persatu dalam pelatihan ini. Berbagai teknik untuk mengidentifikasi bahaya pada *safety engineering* dalam design juga dibahas dalam pelatihan ini seperti HAZID, HAZOPS, FTA, dan ETA. Secara umum, setelah mengikuti pelatihan ini, para peserta diharapkan akan mendapatkan pengetahuan dan pemahaman mengenai *safety engineering* dalam perancangan (*design*) secara menyeluruh.

COURSE CONTENTS

- **Introduction to Course**
- **Safety Engineering Terminologies** (hazard, danger, risk, event, incident, accident, etc)
- **Design Process & Safety Engineering** (basic engineering design data, example of process calculation, front end engineering design / FEED, detail design, etc)
- **Layers of Protection for Safety & Reliability** (independent protection layer / IPL, process control, alarm system, relief system, etc)
- **Engineering Drawing in Design** (process flow diagram / PFD, piping & instrument diagram / P&ID, etc)
- **Basic Process Control System / BPCS** (process control loops, measuring element, controller, final control element, etc)

- **Safety Instrumented System / SIS** (sensor, logic solver, final element, safety integrity level / SIL, etc)
- **HAZID / Hazard Identification** (project safety activity, checklist, what if, process hazard analysis, etc)
- **Hazard and Operability Study / HAZOPS** (nodes, deviation, causes, consequence, recommendation, etc)
- **FTA** (Fault Tree Analysis)
- **ETA** (Event Tree Analysis)
- **Hazardous Area Classification / HAC** (class, division, zone, temperature class, material class, etc)
- **Discussion, Case Study & Film**

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)**.

To enroll or get more information, please contact

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