

## An LDI Training Course

# CORROSION CONTROL and CATHODIC PROTECTION

by

Ir. In Jumanda Kasdadi, MT.

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### Overview

Corrosion is a serious problem in the oilfields as oil and gas production facilities are constantly in contact with produced corrosive effluent. Their surrounding such as soil and sea water can also cause corrosion.

In this Corrosion Control and Cathodic Protection course, participants will understand the causes of the corrosion problems commonly experienced in the oilfields and how to prevent and control them.

The course will cover topics on metallurgy and material selection. Internal corrosion by CO<sub>2</sub> and H<sub>2</sub>S, top of line corrosion, bacteria corrosion, sand erosion, control of internal corrosion by chemicals and corrosion monitoring, external corrosion and its control by painting, coating and cathodic protection will be covered. Drill pipe corrosion control will be also discussed.

Here are the benefits of attending this course:

1. Understand the causes of corrosion.
2. Know the different types of corrosion
3. Learn how to prevent or minimize corrosion
4. Understand the roles of metallurgy and material selection in corrosion control
5. Know the various corrosion monitoring and inspection methods
6. Learn how to protect both onshore and offshore structures from corrosion

## Course Outline

- Introduction to Oil and Gas Production
- Corrosion Mechanism, Electrochemistry
- Internal Metal Loss:
  - CO<sub>2</sub> and H<sub>2</sub>S Metal Loss Corrosion, Top of Line Corrosion
  - Galvanic Corrosion, Bacteria Corrosion, Sand Erosion
- Control of Metal Loss Corrosion (Design, Chemical Treatment, Material Selection, and Coating)
- Monitoring of Internal Corrosion
- Metallurgy and Material Strength
- External Corrosion • Atmospheric Corrosion • Sea water Corrosion • Corrosion in Soil
- Control of External Corrosion • Principles of Cathodic Protection
- Protection of Onshore and Offshore Facilities by Cathodic Protection • Sacrificial Anode System
- Impressed Current System • Cathodic Protection Design
- Examples of Impressed Current Cathodic Protection (ICCP), the Sacrificial Anode Cathodic Protection (SACP), the inspection (the measurement) of the ICCP and SACP systems,
- The equipment used to do the inspections and measurements including pigging or In Line Inspection (ILI), and Acoustic Emission (AE) for Storage tanks
- Drill Pipe Corrosion Control

## Who Should Attend

1. Production engineers and supervisors
2. Drilling engineers and supervisors
3. Well service engineers and supervisors
4. Corrosion specialists
5. Oilfield chemists and lab personnel
6. Maintenance personnel
7. Anyone who deals with corrosion

## About Instructor

Ir. In Jumanda Kasdadi is an experienced instructor who 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.

Mr. kasdadi has conducted training for 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 course registration and more information please email to**

**PT. Loka Datamas Indah**  
**LDI Training**

**Telephone:** +62 21 6326911  
**E-mail :** [Lditrain@indo.net.id](mailto:Lditrain@indo.net.id)  
**Web site :** [www.Lditraining.com](http://www.Lditraining.com)