

An LDI Training Course

# **CORROSION CONTROL and CATHODIC PROTECTION**

by

**Ir. In Jumanda Kasdadi MT.**

Corrosion is a common problem in the oil and gas fields. If it is not controlled, it can become a safety issue and cause financial losses. Therefore, corrosion must be prevented, mitigated or stopped.

This Corrosion Control and Cathodic Protection course will cover the following topics:

Metallurgy and material selection

Internal corrosion by CO<sub>2</sub> and H<sub>2</sub>S

Top of line corrosion

Corrosion caused by bacteria

Sand erosion and internal corrosion

Corrosion control using chemicals

Corrosion monitoring

External corrosion control by painting and coating

Cathodic protection methods

By attending this course, participants will:

Understand the causes of corrosion.

Know the different types of corrosion

Learn how to prevent and minimize corrosion

Understand the roles of metallurgy and material selection in corrosion control

Know the various corrosion monitoring and inspection methods

Learn how to protect both onshore and offshore structures from corrosion

## **COURSE OUTLINE**

- Corrosion Mechanism and electrochemistry
- Internal Metal Loss
  - CO<sub>2</sub> and H<sub>2</sub>S Metal Loss Corrosion, Top of Line Corrosion
  - Galvanic Corrosion, Bacterial Corrosion, Sand Erosion
- Control of Metal Loss due to 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
- Cathodic Protection Methods - Sacrificial Anode System and Impressed Current Method
- Examples of Impressed Current Cathodic Protection (ICCP), the Sacrificial Anode Cathodic Protection (SACP)
- The equipment used to control and monitor pipeline corrosion: Pigging, In-Line Inspection (ILI)
- , Inspection using Acoustic Emission (AE) for Storage tanks
- Drill Pipe Corrosion Control

## **WHO SHOULD ATTEND**

Production engineers and supervisors  
Drilling engineers and supervisors  
Well service engineers and supervisors  
Corrosion specialists  
Oilfield chemists and lab personnel

Maintenance personnel

**For more information on the course, please visit [lditraining.com](http://lditraining.com)  
or contact LDI Training at [lditrain@indo.net.id](mailto:lditrain@indo.net.id)**

LDI's Outline /Corrosion Control Cathodic Protection/