



23RD – 27TH MARCH 2015

DRY GAS SEALS AND SYSTEM

This 5-days course will help attendees understand the important features in a gas seal, so they can better understand why they may want to buy one seal over another. They will also learn what is required in a support system to ensure the reliability of dry gas seals.

This course is designed with practical application of theoretical knowledge in mind. Hence, hands-on involvement and the following exercises will be shared:

- Discussion on components and features provided by the different dry gas seal manufactures.
- Reviewing a dry gas seal application, seal selection and system.
- Case study on a dry gas seal failure and identifying a solution.



Mechanical Division

Register Now!

For full details on the programme principal facilitator and to register, do not hesitate to contact us.

E-mail: enquiry@petro1.com.my

Tel: +603-7727-3952

www.petro1.com.my

Topic Outline

Introduction

- Sealing of centrifugal compression equipment
- Compressor principals of operation
- Pressure / Velocity through compression stage
- Axial force, balance piston and bearings
- Compressor parameters effecting seals
- Axial and Beam style compressors, turbo expanders, and centrifugal pumps
- Shaft sealing
- Cavity design for dry gas seal

Physical and Principals of Operation and Design

- History of dry gas seals
- Physical principals
- Engineering design
- Materials
- DGS arrangements
- Secondary sealing elements
- Discussion comparing features for different seal manufactures
- Dry Gas Seal – Testing API-617

Support Equipment

- Quality of sealing gas
- Sources of sealing gas
- Gas conditioning
- Sealing gas controls and monitoring
- Secondary seal monitoring
- Alarms and shutdowns
- API-614 requirements and testing

Examples of Applications

- Production (offshore and onshore)
- Pipelines, LNG, and refineries
- Low pressure refrigeration
- Chemicals and toxic

Seal Installation & Commissioning

- Process prior to installing seal
- Tooling
- Seal installation
- Process after start up

DGS Failures and Troubleshooting

- Liquid contamination
- Particulate
- Incorrect Installation
- System Failures

DGS Retrofits

- Assessing feasibility of a retrofit
- Why rotor dynamics
- Cavity considerations and seal selection
- Compressor modification
- Tooling