

Advanced Lubrication Principles for Turbine Engineers

Highly refined turbine oils require a very specific knowledge base to successfully manage this vital asset. Gain a more detailed understanding of oil analysis techniques and strategies to implement a world class oil management program for your machinery with this specialized course.

COURSE AIM

This course is specifically designed to provide engineering staff with the knowledge to proactively maintain lubricants, in particular turbine oil. By providing a better understanding of turbine oil we aim to increase its service life and minimise oil related problems on equipment.

COURSE STRUCTURE

This course is a mix of theory and practical with training exercises, demonstrations, interactive presentations as well as hands on workshop activities. References to actual case studies are included.

COURSE CONTENT (details on page 2)

ATTENDANCE

All personnel required to interpret and act upon oil analysis reports, including reliability and turbine engineers, condition monitoring personnel, etc

DURATION

1 Day, with appropriate breaks

YOUR TRAINER—Keith Nicholson



Keith has over 20 years experience in the industrial fluid power and lubrication industries and is dedicated to sharing his sound understanding of, and passion for, lubrication management for heavy industry. With experience gained from a career with companies including RAAF, Pall Filtration, Shell Services & Hydac he now runs his own business, Clean Lube Solutions, which provides specialised lubrication training, products and services to enhance the predictive maintenance needs of major companies within a wide range of industries throughout both Australia and overseas.

Keith is based in Brisbane and has qualifications in Technology & Engineering, Certificate 4 in Training & Assessment & has published several technical articles & case studies as well as presenting at national

Clean Lube Solutions carries out a range of on-site hydrocarbon training courses that are designed around your site operations and specific requirements.

We are a hydrocarbon management company that is focused on supplying your vital training requirements where they are most needed and to personnel who are in most need of them.

Our courses may be customized to your specific industry needs and may be booked to be held onsite (sufficient numbers required) or at one of our planned classes held in major and regional cities throughout the year.

COURSE MATERIAL

A course manual is supplied to all attendees.

ASSESSMENT

Successful achievement will involve completion of the practical exercises and a pass in a theory exam.

CERTIFICATION

A course certificate is presented upon successful completion



For more information on any of our products, services or training courses please visit us online at:

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Advanced Lubrication Principles for Turbine Engineers

Clean Lube Solutions' Advanced Lubrication Principles for Turbine Engineers course includes interactive presentations, videos and discussion, as well as hands on workshop activities.

Course Content

This workshop is aimed at providing participants with the skills and knowledge to enable understanding of the following:



INTRODUCTION

- > Lubrication Costs
- > Maintenance Strategies
- > Machinery Failures
- > Changing the way we go about business
- > Contamination Control approach
- > Manufacture Lubricating Oils

REVIEW OF BASE OILS & ADDITIVES

- > Turbine Oil Chemistry
- > Types - Group I vs Group II vs Group III

GREASE

- > Review of composition, base oils, thickeners, additives, types
- > Grease vs Oil
- > Selection
- > Application

CONTAMINATION CONTROL

- > Cause of premature failures
- > Total Contamination Control
- > Sources of contamination
- > ISO Cleanliness Code
- > Cleanliness Monitoring

FILTRATION PERFORMANCE

- > Performance ratings
- > Filter element & housing design
- > Media types
- > Breathers
- > Mobile filter units

WATER CONTAMINATION

- > Associated Problems
- > Bearing Life Extension
- > Detection Methods
- > Removal Methods

OIL CHANGE PROCEDURES

- > Flushing
- > High velocity turbulent flow
- > Benefits and limitations
- > Procedures

OIL OXIDATION

- > What is Oxidation
- > Causes
- > Effects
- > Prolonging oil life & reducing effects

TURBINE OIL ANALYSIS TESTING

- > Types of tests
- > Recommended limits

VARNISH & OXIDATION TESTING

- > Why test for V&O insolubles
- > Types of tests
- > Reporting

TURBINE OIL ANALYSIS REPORTS

- > Familiarisation with Turbine Test Reports
- > Interpretation
- > Producing proactive recommendations

Successful achievement will involve completion of the practical exercises and a pass in a theory exam.

Clean Lube Solutions' training courses are designed to assist organisations with their journey towards best practice in fluid management and incorporate vital steps to introduce and carry out a world class Total Fluid Management Program. Ongoing training and knowledge improvement is helping to achieve a safe, contaminant free lubrication environment within heavy industrial companies throughout Australia and the world.

For more information on any of our products, services or training courses please visit us online at:

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