Oil Analysis – Level 2

Course Outline

In accordance with ISO 18436-4-level 2

Oil Analysis Maintenance Strategies
- Fundamental aspect of reliability-centered maintenance(RCM)
- Fundamental of condition based maintenance (CBM)
- Predictive maintenance strategies
- Proactive maintenance strategies

Lubrication Fundamental
- Base Oil
- Additive functions
- Synthetic lubricants
- Lubrication Regimes ;-
- Hydrodynamic
- Elasto-hydrodynamic
- Boundary

Oil Sampling –level2
- Objectives for lube oil sampling
- How to find the best sampling location
- Using primary and secondary sample point
- Recommendation for sampling valve and hardware
- Oil sampling procedures
- Setting optimum oil sampling frequencies
- Sampling inaccessible equipment

Lubricant health monitoring, diagnostics –level 2
- Lubricant failure mechanisms
- Oxidative degradation
- Thermal degradation
- Additive depletion /degradation
- Setting optimum limits for viscosity trending
- Diagnosing over-limit viscosity results
- Diagnosing under-limit viscosity results
- Using Acid and Base Numbers
- Common TAN trends for different oil types
- Using FTIR for detecting common problems
- When and how to use the RPVOT (RBOT) test

Lubricant contamination measurement and control-level2
- Particle Contamination
- Moisture Contamination
- Glycol coolant contamination
- Soot contamination
- Fuel contamination
- Air contamination
- Setting target for oil cleanliness

Wear Debris Analysis and monitoring-level 2
- Test for wear element analysis
- Technologies used to analyze wear debris
- Spark emission and ICP spectrometers
- Measuring large particles with Rotrode Filter
- Understanding wear metal trends
- Setting optimum limits for wear metals
- Using machine metallurgy for diagnosis
- Potential sources of metals in oil
- Elemental analysis vs. ferrography
- Using wear particle diagnosis templates
- Creating a patch filtergram

Start & Design Oil Analysis Program
- Program implementation steps
- Basic for selecting an oil analysis lab
- Options to consider before getting started
- Goals for oil analysis
- Costs and benefits - what to expect

How to Select Routine and Exception Test Based on Reliability Goals
- Selecting routine for diesel engines
- Selecting routine for turbo machinery
- Selecting routine for bearing, hydraulic, compressors
- Selecting Exception Test
- A quick method for selecting sample frequencies

How to Set Oil Analysis Target & Alarm Limits
- Four considerations when setting limits
- Proactive goal based limits
- Predictive rate-of-change limits
- Remaining useful life aging limits
- How to use statistical limits
- Calculating statistical rate-of-change limits
- Six common data interferences

How To Read Oil Analysis Report / Data Interpretation
- Keys Requirement Before you can read report
- Understand Oil Analysis Trend
- Interpret data to:
  - detect the use of the wrong lubricant
  - detect dispersancy failure
  - detect antioxidant depletion
  - Identify failure due to lubrication starvation

Field Inspection & Tests
- Simplify oil analysis using easy field tests
- Ten easy tests you can do without instruments
- Combining field test data with lab test data
- Partnering oil analysis with vibration analysis
- The use of oil analysis software
- The anatomy of an oil analysis report
- Case studies-try to figure out what's going on

Workshop – Interactive Case Studies Workshop

Oil Analysis –level 2

- 22-25 พฤษภาคม 2555
- 18-21 กันยายน 2555

Course Fee : 22,800 Baht.- / person + 7 %VAT

บรรยายภาษาไทย