Lubricants Testing Services

AGAT Laboratories

Turbine

Equipment Reliability and Lubricants Testing Services

The reliability of turbine operation requires condition monitoring that mitigates or eliminates oil degradation and varnish potential, the most common causes of turbine inefficiency and ultimate failure. The common causes of lubricant deterioration are the degradation of anti-oxidant additives, localized high temperatures, internal oil friction resulting in electrostatic spark discharge, micro dieseling, aeration, water, acidic products and metal particles, all of which cause auto-degradation, that results in oxidation, sludge and varnishing of turbine components like journal bearings, inlet guide vane control valves, fuel pilot and servo valves.

Recommended lubricant testing includes two important analyses.

The 250 hour Varnish Potential Report includes:

- Kinematic Viscosity
- Spectrographic Analysis (wear metals, additives and contaminants)
- Membrane Patch Colorimetry
- RULER Test (Remaining Useful Life Evaluation Routine)
- Ultracentrifuge Rating (to monitor insoluble contaminants)
- Acid Number
- Particle Count
- Water Content by Karl Fischer
- Recommended lubricant testing package 30-003

The Annual Turbine Health Report includes:

- Kinematic Viscosity
- Acid Number
- Visual Sample Inspection (hazy, dirty, milky, free water, acidic or rotten egg odour)
- Spectrographic Analysis (wear metals, additives and contaminants)
- RPVOT Test (Rotating Pressure Vessel Oxidation)
- Membrane Patch Colorimetry (MPV Varnish Potential)
- RULER Test (Remaining Useful Life Evaluation Routine)
- Water Content by Karl Fischer
- Ultracentrifuge Rating
- Membrane Filtration (Patch) Test
- Particle Count
- Conductivity (Recommended for group II and III base oils)
- Recommended lubricant testing package 30-004