EPT™
CLEAN OIL

SUCCESS STORIES

BACKGROUND

Application:
ECR® 12000

Location:
USA

PROBLEM

The Operator has 3 coal fired steam power plants that use phosphate ester hydraulics for the turbine main steam stop/control valves. The three plants have suffered greatly from varnishing, high acid levels, water ingress, and particulates for years, with ETD pilot spools/directional valves sticking all the time. As well, internal components of the main control header pressure block, prematurely failing due to high acid levels. Finally, due to high varnish and acid levels, there is actuator cylinder wear patterns and chrome etching.

SOLUTION

After introducing the legacy ECR 8000 skid years ago, the Plant started seeing improved reliability in weekly ETD servo tests, less wear and corrosion on hydraulic components in the main control header pressure block. The ECR 12000 skid took the technology from the ECR 8000, and added ICB®, TMR® and particulate filters, combined into one package. The ECR 12000 system has resulted in significant decreases in weekly ETD tests that result in stuck or failed tests. Hydraulic component inspections on plant/turbine overhauls indicate cleaner and still functional conditions of the components. The added onboard inline sensing of moisture, ISO codes, ECR voltages and milliamp draw, helps operators to monitor the skid's performance and determine frequency of filter changes on the skid.

TEACHING THE WORLD A BETTER WAY.

LAB RESULTS

The ECR® 12000 significantly improved fluid quality, as evidenced by the following metrics.

Resistivity Improvement:

Over the monitoring period, fluid resistivity increased dramatically, reaching over 25 Gohm▪cm by February 2024. This improvement indicates a significant reduction in fluid degradation.

Acid Number Reduction:

The acid number (AN) consistently decreased, demonstrating effective removal of acidic contaminants. By February 2024, the acid level was reduced to 0.05 mg KOH/g, highlighting the system's efficiency in maintaining fluid quality and acid levels in the phosphate ester fluids.

ETD Valve Reliability:

Before ECR 12000: 11 sticking incidents in 96 ETD tests (11.5% failure rate)

After ECR 12000: 0 sticking incidents in 32 ETD tests (0.0% failure rate)

CUSTOMER FEEDBACK

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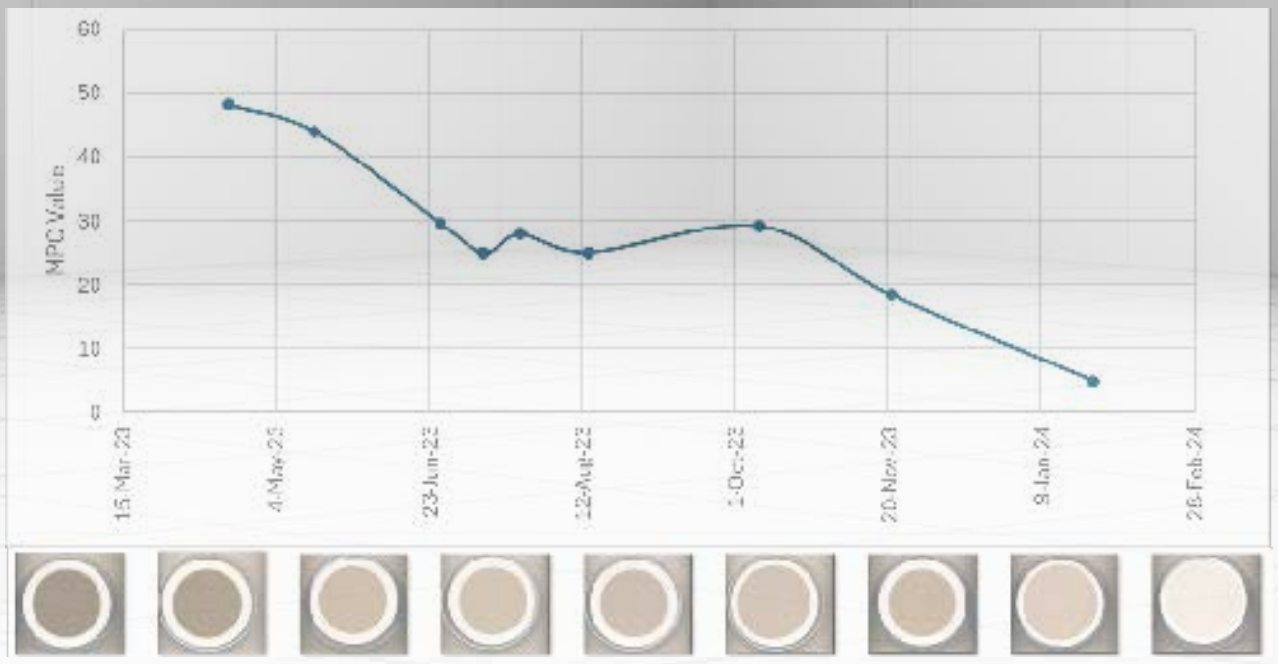
This is the only filtration technology on the market, that can address all the common fluid contamination issues found on EHC systems using phosphate ester fluids. The ECR 12000 is a specialized piece of equipment that is truly a MUST HAVE for anyone that is using phosphate ester fluids in EHC and, turbine control hydraulic systems. The Operator highly recommended this ECR 12000 system to those in the power generation industry with steam turbines.

The technology combined in a compact skid can tackle all the common fluid contamination issues that are found in phosphate ester fluids.



Eliminate lubricant-related failures with our Lubricant Chemistry Management solutions.

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LUBRICANT CHEMISTRY MANAGEMENT

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