IAS Performs Tri Blend D.O.A. Varnish Mitigation Service on Two General Electric Steam Turbines

The Situation

Noticing that increasing varnish buildup was negatively impacting turbine performance, the customer asked IAS to resolve the problem, but needed it to be done without shutting down the steam turbine.

The Solution

Retain IAS to perform turn key 24/7 Rapid Varnish Mitigation Service on the steam turbine lube oil system. The service will remove varnish and oxidation byproducts from the turbine lube oil and wetted surfaces.

IAS provided purpose-built process equipment and on-site test equipment to verify results in real time

Project Objectives

- Provide 100% turnkey project
- Complete 100% safe project
- To achieve MPC number of 25 or less
- To provide onsite testing to verify results

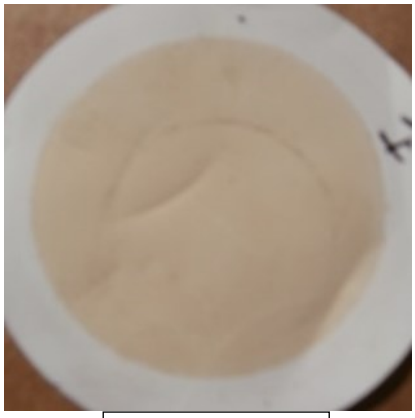
Project Scope

- Provide specialized tools, purpose built equipment and qualified personnel required for every aspect of job
- Perform all necessary connections and disconnections into the reservoir
- Provide real time onsite verification through particle counts and MPV testing
- IAS proprietary Varnish Mitigation Service includes Deoxidizing Agent (D.O.A.) and Molecular Polarization Technology (MPT)

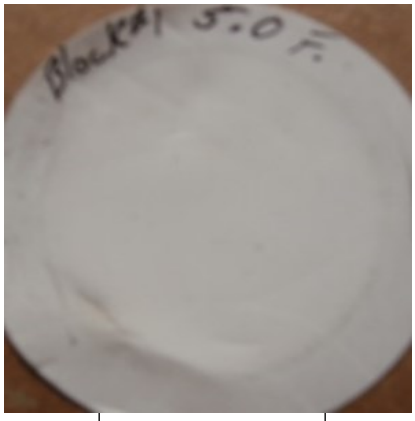
Project Results

VARNISH POTENTIAL RESULTS MEASURED ONSITE BY MPC (MEMBRANE PATCH COLORIMETRY) TESTING

Block 1



Initial MPC 47.5



Final MPC 5.0

Final ISO Cleanliness Code Particle Count: 14/12/8

Block 2

Initial MPC 36

Final MPC 6.5

Final ISO Cleanliness Code Particle Count: 14/12/7

Benefits

- ✓ Surpassed target MPC results as required by the customer
- ✓ Extend the life of turbine oil in each asset
- ✓ Ensure fluid and system cleanliness
- ✓ Zero safety incidents
- ✓ Zero environmental incidents
- ✓ Achieve 100% customer satisfaction

IAS WORKS SAFELY

IAS worked 741.50 man-hours without any safety incidents, near misses or accidents. IAS continues to be the leader in safety training and

Conclusion

Varnish conditions in heat exchangers, close tolerance hydraulic valves and lube oil control systems should be routinely monitored for signs of reduced equipment reliability. Having IAS perform this service, equipment owners can assure reliable start up and long service life of their critical production equipment.