An Award-Winning, DIY Oil Analysis Success Story at the Home of the US Space Program

Jacobs - Test & Operations Support Contract (TOSC) | Aerospace Launch Systems and Operations | United States

The Challenge

Since 2013, Jacobs has been the primary contractor for management and maintenance of ground systems, flight hardware, and launch operations for TOSC at Kennedy Space Center. With the goal of modernizing and optimizing the facility, Jacobs immediately envisioned improvements to the way lubricants were received, stored, transported, tested, and analyzed.

The "Oil Pharmacy" Solution

Forming the Maintenance & Reliability (M&R) Group, four engineers and technicians secured training, attended conferences, acquired front-line user feedback, and studied resources to adapt to TOSC priorities. Within two years, they developed an in-house oil analysis lab and executed changes to storage & distribution, inventory consolidation, lubrication codes, air conditioned co-location, procedural documentation, and employee training. The M&R Group named its comprehensive program the Oil Pharmacy, operating in conjunction with a broader reliability team that uses vibration analysis, thermography, and other condition monitoring technology. Since 2013, eight TOSC engineers and technicians have earned MLT-I and/or MLA-I certifications, and six secured MLA-II in 2018.

The Results

The procedural changes implemented through the Oil Pharmacy have enabled the M&R Group to switch from a time-based maintenance schedule to a proactive CBM schedule, thus significantly optimizing the TOSC maintenance program. MLT-I certification is now required for all new-hires, and MLA-I is required for anyone regularly involved with oil analysis. In 2017, Jacobs earned ICML's Augustus H. Gill Award for Oil Analysis Excellence on the TOSC contract.

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"TOSC's oil analysis has provided the largest return on investment and has become the example of reliability culture at Kennedy Space Center." *-- Sean Hollis, MLA-II, MLT-I, Jacobs TOSC Reliability Engineer*