DES-CASE®

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Off-Line Filtration a Solution for Water Contamination in Hydroelectric Plant

Success Story

INDUSTRY DESCRIPTION:

Hydroelectric power is beneficial beyond electricity production, also assisting with flood control, irrigation and clean drinking water availability.

Hydropower provides affordable electricity and durability compared to other sources of energy and is used in more than 160 countries. To produce electricity, water flows through a pipe and pushes against turbine turn blades that spin generators. These generators utilize hydraulic proportional valves to control pressure and failure can lead to additional, costly downtime.

THE CHALLENGE:

HE Mavčiče, a hydroelectric power company in Slovenia, was having issues with failure of the proportional valves in the generators of two of its plants due to water contamination. Contamination when tested was an ISO 4406 cleanliness code level of 21/18/15. The company reached out to Des-Case for a solution.

THE SOLUTION:

Des-Case's RMF Systems OLUW2B Off-Line Units with water-absorbing H_2O Sorb spin-on pre-filters were selected due to the water contamination. These pre-filters are constructed with a unique medium containing water absorbing polymer that chemically bonds water and functions by pumping the fluid through first to remove most water and larger solid contamination. Next, the fluid passes through the RMF Systems cellulose microfilter for final water and solid particle removal.

OLUW2B Off-Line Unit with Pre-Filter

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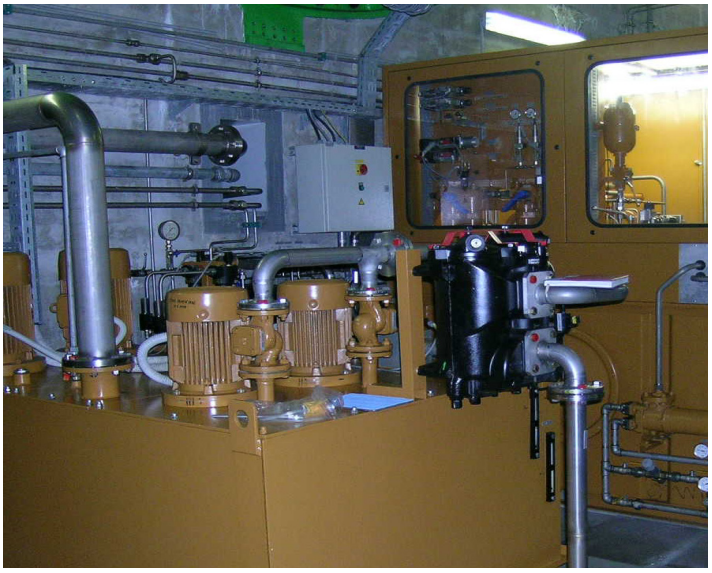
THE RESULTS:

After four months of filtering with the OLUW2B units, the ISO 4406 cleanliness code level went from 21/18/15 to 15/11/4. According to relative hydraulic component life calculations, this improvement in oil cleanliness will lead to a three to five times increase in asset life.

ISO 4406 Cleanliness Code Level

Before:		After:
21/18/15	to	**15/11/4**



FACT:

Wound cellulose depth filter elements are an inexpensive method to obtain high-efficiency filtration in light-viscosity oils such as hydraulic oils. This element helps clean the oil by dislodging the contaminant and achieves greater than 99.9% capture efficiency at 3 microns.

HOW CAN WE HELP?

Managing fluid contamination levels is a key factor in hydraulic system reliability. Particle contamination in the oil is responsible for the majority of hydraulic valve failures. Let the experts at Des-Case get you on the path towards lubrication excellence and extended asset reliability.

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