In today's competitive business environment, even the smallest details can provide plants with a competitive edge. Many manufacturing plants are in continuous operation, striving to meet critical deadlines. That kind of workload on industrial machinery requires hydraulic fluids that protect equipment and help eliminate unscheduled downtime.

"Whether it's rugged working conditions or a relentless production schedule, companies need advanced protection to keep hydraulic systems up and running," says Marc Bouchebl, Hydraulic Oil Category Portfolio Manager, Petro-Canada Lubricants.

When it comes to special considerations for today's plants, an operation's own environment can also play a crucial role in determining the right hydraulic fluids for the job.

Problem

Diesel-engine manufacturer DuraMax was exploring ways to extend coolant life and thereby reduce consumption. In the DuraMax plant, proper coolant efficien cy is essential.

It operates machine tools with centralized coolant systems

(50k and 46k usg reservoirs) and more than 80 stand-alone coolant systems (200-1000 usg reservoirs). To find a solution,
DuraMax
enlisted the help of Mark Helke, its environmental specialist at HAZMAT.

“On large centralized systems, coolant was lasting only two to three years and only about three months on smaller, individual systems,” notes Helke. “It was costing the company thousands to continually replace.”

The primary cause of the coolant degradation was tramp oil contamination, which occurs when lubricants in the machines mix with the coolant. This type of problem worsens when the lubricant contains zinc, a common anti-wear additive found in typical hydraulic oil. The tramp oil bonds more tightly to the water/coolant mixture, causing the tramp oil to form an emulsion, which can lead to serious problems.

DuraMax needed a zinc-free hydraulic fluid that, when mixed with the coolant, would allow the emulsion to break and, therefore, extend the life of the coolant and improve equipment performance.

Solution
DuraMax switched to ENVIRON, a zinc-free hydraulic fluid that, when mixed with a coolant, lets the emulsion break down. ENVIRON is a hydraulic fluid manufactured from Petro-Canada’s 99.9% Pure base oil— *among the purest in the world.* It has an extremely long-life service, due to its advanced oxidative stability, and provides better wear pro tection and lasts up to eight times longer than the leading vegetable-based hydraulic fluid. ENVIRON is also non-toxic, inherently biodegradable, recyclable, odorless and metals free.

Return on investment
The end result of the switch has been substantially longer coolant life and better coolant performance.

According to Heike, switching to ENVIRON and PC Waylube* has greatly extended the life of the coolants—*some up to eight years without changeouts*. As he puts it, “by maintaining the

cool-ant in operational order for longer peri-ods of time, we've saved thousands on coolant costs, minimized downtime and maintained a more efficient operation."

DuraMax has even been able to remove the tramp oil and, in some cases, reclaim parts of it for other applications. It also has stopped zinc-containing materials from entering the water table, thus meeting a crucial EPA guideline.

At DuraMax, all major hydraulic systems now run on ENVIRON. **MT**

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