



Keeping it in the Family Results in Cool Filtering Solution

Location:

Glenolden, PA

Segment:

Aerospace

Problem:

To reduce coolant disposal costs

Solution:

Eaton's customized portable filtration system

Results:

Reduction in waste and disposal costs

Contact Information:

Eaton Corporation
Filtration Division
44 Apple Street
Tinton Falls, NJ 07724
USA
732-212-4700
www.eaton.com/filtration

"With the new setup, we eliminated the need to dispose of some 44 drums of used coolant a year or roughly 20,000 pounds of waste. That translated to about \$10,000 of disposal cost reductions on an annual basis."

David Demarest, environmental, health, safety, and facilities manager at Eaton Sensing & Controls

Background

In the aerospace industry, Eaton is a leading supplier of a wide array of components and systems for commercial and military aviation, military weapons, marine, and off-road markets around the world. Since 1999, the Eaton Sensing & Controls business, located in Glenolden, Pennsylvania, has been supporting that business with the manufacturing of various fluid monitoring devices and other industrial and aerospace components.

With the bulk of its products ticketed for use with turbine engines in the aviation industry, the Glenolden location also supports marine craft and military tanks that are powered by turbine engines as well.

An important key to Eaton's success is a machine shop for the precise cutting of metals with very tight tolerances. Computer controlled lathes and other tools are used to monitor and manage the types of cuts and finishes.

The process requires the use of coolants to keep the high-speed equipment operating precisely and at maximum efficiency.

Challenges

That same coolant needs to be clean essentially at all times. The cleaner it is, the better it performs. However, coolant over time becomes grimy with the build-up of oils, metal fines, and other materials that negatively affect the tolerances and finishes of the goods produced. For years the machine shop had been remedying that by disposing of its used coolant and replacing it with a new supply on a semiannual or more frequent basis.

By mid-2008, however, the Glenolden facility was experiencing increasingly larger demands for its products. Business was booming. Along with the boom, unfortunately, were ever-increasing coolant disposal costs.



Powering Business Worldwide

Eaton Corporation is a diversified power management company ranked among the largest Fortune 500 companies. Eaton is a global leader in electrical components and systems for power quality, distribution and control; hydraulics components, systems and services for industrial and mobile equipment; aerospace fuel, hydraulics and pneumatic systems for commercial and military use; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety. Eaton has approximately 70,000 employees and sells products to customers in more than 150 countries. www.eaton.com

©2011 Eaton Corporation, All Rights Reserved, September 2011

"We were in a predicament at the time and paying over \$200 a barrel to get rid of the coolant as a hazardous waste," explains David Demarest, environmental, health, safety, and facilities manager at Eaton. "The increased volumes of waste were also going to result in our losing our status as a small quantity generator of waste, and we were about to be classified as a large quantity generator. That's the type of classification that an oil refinery will typically receive."

"We did not want to go there. Eaton is a company committed to sustainable business practices. We never lost sight of that, and something needed to be done."

Solution

It didn't take long to solve his dilemma because Demarest quickly found what he needed in his own backyard.

"We thought filtering the coolant might bring us a solution," says Demarest. "Knowing that Eaton has a filtration division, we contacted them."

Working with Richard Barreto, regional sales manager for Eaton's filtration business, the pair developed a portable cart with a pump and an Eaton FLOWLINE™ filter with DURAGAF™ filter bags. The pump has an intake hose and an outtake hose that connect to the facility's existing air pieces. Completely self-contained, the cart, pump, and filtration system require no electricity."

We go from one machine to the next and simply suck out the coolant and put it in an empty 55-gallon drum," explains Demarest. "We then slowly run it through the filtering apparatus. The process runs over night, and in the morning we again have a drum of clean, usable coolant."

Barreto notes that the stainless steel, single-line FLOWLINE filter has long been the choice for industrial and commercial applications similar to those at the Glenolden facility.

"The lightweight, fabricated vessel has excellent sealing capabilities to meet the demands of a variety of filtration applications," he says. "And the DURAGAF filter bags inside are our extended life media bags, which work exceptionally well with the coolant."

Results

"With the new setup, we eliminated the need to dispose of some 44 drums of used coolant a year or roughly 20,000 pounds of waste," notes Demarest. "That translated to about \$10,000 of disposal cost reductions on an annual basis."

He adds that because the coolant is now being recycled and reused, additional savings of about \$3,500 a year has been realized by not buying as much new coolant.

Before computing any financial gains, Demarest wanted to confirm that the process was working well and teamed with his coolant supplier to conduct extensive testing to determine whether the coolant's lubricity performance was where it needed to be following the recycling process.

"Not only was it good the second time around, we went 18 months before having to dispose of any of the recycled coolant," adds Demarest. "It's been more than three years now since we did this and it's been a great, great success."

That success also continues to benefit more than Eaton and two of its business units. The environment and Glenolden specifically, are much better off, as well.



Eaton's FLOWLINE filter housing with their high performance DURAGAF™ filter bag during the coolant filtration process.