



**PHOTO:** Alfred Girard, a maintenance mechanic on the 737 program, pumps wastewater containing oil into a tank for trucking to the Renton, Wash., plant's treatment facility. GAIL HANUSA/BOEING

# Oil change

Engaged employees drive environmental gains

By Bill Seil

**This is the first in a series of articles that focus on how Boeing employees across the enterprise are making a difference in Boeing's wide-ranging commitment to environmental stewardship.**

Reducing oil waste at Boeing's jet-making plant in Renton, Wash., was accomplished with a "twist."

In 2007, environmental leaders at the site began looking into ways to recycle the approximately 171,500 pounds (77,800 kilograms) of liquid hazardous waste generated each year by machines and vehicles around the plant.

Since that time, the site has successfully reduced hazardous waste oil disposal by 97 percent. It is on track to recycle more than 100,000 pounds (45,360 kilograms) of oil and oily water during the calendar year; during the first half of 2010, the site had to dispose of only 2,270 pounds (1,030 kilograms) of liquid hazardous waste oil. Oily water is produced, in part, when oil is diluted to use as a coolant for machining operations. Highly diluted oily water can be treated at the plant's on-site wastewater treatment facility, which has accounted for a large part of the reduction in hazardous liquid waste.

Renton's liquid waste recycling program contributes to Boeing's five-year target of reducing hazardous waste disposal by 25 percent, on a revenue-adjusted basis, by 2012.

The effort was led by a team at the plant known as TWIST (The Waste Information Sharing Team), but its success was a group effort involving personnel from throughout the facility. Those involved used Lean+ tools and methodologies to analyze disposal processes and find ways to isolate recyclable oil in a safe, efficient manner.

Steven Webb, environmental control technician in Renton Hazardous Materials Management, said employees were open to the idea of changing their processes to support the recycling effort.

"We had the idea, but it took the cooperation of the folks in the shops to actually make it happen," he said.

In the past, some workshops put waste solvents into disposal containers with waste oil. The mixture was then put into the plant's large hazardous waste container, which was regularly emptied by an outside waste disposal vendor. The waste was then properly destroyed by incineration.

Blake Boling, an Environment, Health and Safety environmental scientist supporting the 737 airplane program, said the shops are now separating specific types of liquid waste into individual containers. They are then collected by Oregon-based Oil Re-Refining Co. The site has even been able to remove its central hazardous waste tank, as it's no longer needed.

In some cases, the Oregon company reimburses Boeing for the waste oil. This takes place when the liquid waste meets the regulatory definition of "used oil." It must be at least 75 percent oil and cannot be contaminated by other materials, such as solvents.

"Developing an oil recycling program required developing a solid understanding of how the guys on the shop floor operate," Boling said. "We took the time to interview different groups during different shifts. The concept of recycling oil is not new, but when you have a complex manufacturing operation, it takes a lot of planning and effort to change the way things are done."

Oil recycling is a good option for other sites, according to Boling, but planners must keep in mind that hazardous waste recycling regulations vary from state to state. The availability of recycling vendors also varies from region to region. But it is well worth the effort, Boling noted, and supports the company and employees' commitment to a quality environment for everyone. ■

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