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Major: Chemical Engineering

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COBHAM

COMPANY PROFILE

Cobham Davenport is a manufacturer of aircraft components and systems for commercial and military aircraft, with headquarters in the United Kingdom. The products manufactured at Cobham Davenport are found in the air, on land and beneath the sea, with technologies that include oxygen systems, fuel tank inerting, aerial refueling and mechanical systems. The company's mission statement "Every Mission Matters" reflects the company's commitment to producing only the highest quality products.

PROJECT BACKGROUND

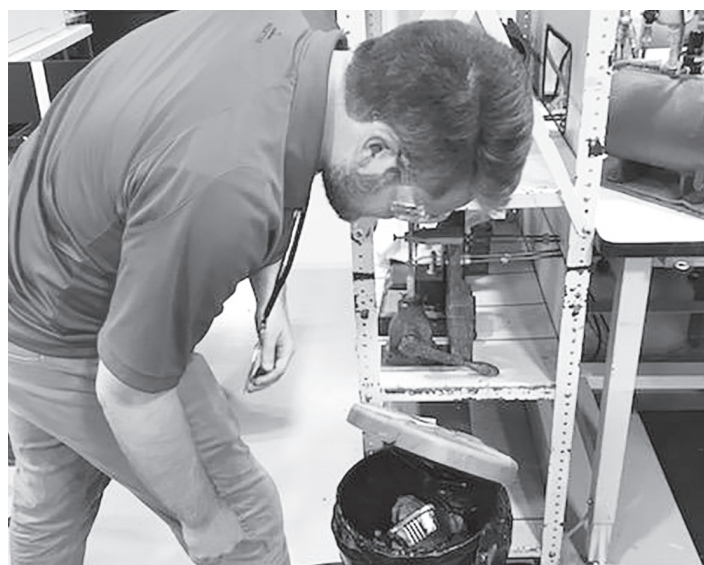
Cobham is investigating potential solutions to reduce solid and hazardous waste streams at the Davenport plant. As part of this intern project, potential source reduction and pollution prevention strategies were investigated to set the stage for achieving site waste reduction goals. A 24-week intern with the Pollution Prevention Program provided dedicated support to research opportunities, consider impacts, and develop solutions for reducing the challenging waste streams. Strategies researched in the hazardous waste category include solvent recycling, potential chemical substitutions, and strategic purchasing practices. The intern also evaluated online document storage and electronic documentation to reduce paper usage.

INCENTIVES TO CHANGE

Cobham strives to improve environmental awareness and reduce environmental impacts across all locations. Sustainability goals at the Davenport site include a ten percent reduction in paper usage and waste, and a two percent reduction of the hazardous waste stream. Material classified as hazardous is costly both to purchase and to dispose of. Reductions in the use or disposal of this waste stream can also reap significant benefits in compliance risk, employee health, lower insurance costs and transportation for disposal or treatment. Documentation is a critical part of Cobham's processes. Procedural improvements to reduce printing and paper use provides economic savings while also reducing environmental impact.

RESULTS

Solvent-Contaminated Wipes Exemption: The Resource Conservation and Recovery Act (RCRA) creates the framework for proper management of hazardous and non-hazardous waste and assigns authority to the U.S. Environmental Protection Agency (EPA) to make rules and determinations regarding the RCRA framework. Under a rule set by EPA,



certain solvent-contaminated wipes may be excluded from hazardous waste regulation, provided that the company meets specified management requirements.

The intern developed a program to segregate RCRA-exempt solvent-contaminated wipes from the hazardous waste stream. The project involved installing designated yellow bins and signage to collect only wipes that meet the RCRA exemption. An education program was developed to inform all affected employees of the procedural change and included training on exempt wipes and proper disposal procedures. In addition to the training, a process for regular auditing, and testing of the yellow bins was developed as part of the project's implementation plan. This monitoring is necessary to ensure ongoing conformity with EPA program guidelines. Employee education and audits will continue as part of this initiative in order for the site to ensure compliance with the new practice.

Solvent Recycling: Various solvents are used throughout the production process to clean parts. The used solvent must be disposed of as hazardous waste. Solvent recovery would allow these solvents to be reused, thus reducing overall hazardous waste generation. Onsite solvent recycling was considered but was not feasible due to the low volume of solvent waste produced at the site and associated costs of implementation. Offsite solvent recycling through a hazardous waste disposal vendor was determined to be a more financially viable option. The solvent waste was tested to determine whether it met recovery specifications and unfortunately, it was determined that the various types of solvent would need to be segregated to meet the specifications. At the end of the internship, Cobham was considering options and barriers to segregating the solvent waste for recovery.

Chemical Substitution: Identifying effective, less toxic substitutions to hazardous chemicals offers environmental, health, and safety benefits that are difficult to quantify but are of critical value to Cobham. The intern researched possible substitutions for a number of hazardous chemicals used onsite and identified one application where a less hazardous solvent was viable. The less hazardous alternative is more expensive to purchase, but offers a measurable decrease in toxicity due to having a slower evaporation rate than the current solvent. This decreased evaporation rate lowers the employees' exposure time to the chemical and is also a less toxic air pollutant, generating environmental, health and safety benefits for employees and the site. In addition, the lower evaporation rate is expected to decrease quantity of use and a 20 percent reduction in overall annual solvent is projected as a result of this change. At the end of the internship, the replacement solvent was approved and on order.



Paper Reduction: Cobham's Davenport facility has placed a high priority on reducing overall paper use. The intern gathered data on paper use for each department across the company and used the data to develop source reduction solutions to lower paper use and decrease waste. Online forms for specific internal repair orders were developed, replacing a paper intensive process. Additionally, dual monitors were installed for specific employees in high paper use areas of the facility. This change resulted in a 50 percent decrease in paper usage for those employees. Other printing reduction initiatives were identified and at the end of the internship, were in progress.

Wood Recycling: Wood waste is produced as a packaging byproduct from incoming parts and raw materials. Cobham's current wood waste vendor was no longer viable and an alternative was needed to ensure wood waste was not sent to the landfill. The intern identified a new, cost effective vendor that could provide a consistent collection schedule. A larger staging space is required for the new vendor as a collection container would need to be stored onsite and would be picked up when full. At the end of the internship, the space was not yet made available for the project to be fully implemented.

PROJECT	ANNUAL COST SAVINGS	ANNUAL ENVIRONMENTAL RESULTS	STATUS
SOLVENT-CONTAMINATED WIPES EXEMPTION	\$441	11 tons	IMPLEMENTED
SOLVENT RECYCLING	\$1,280	17.5 tons of solvent	RECOMMENDED
CHEMICAL SUBSTITUTION	—	0.5 tons of solvent	IN PROGRESS
PAPER REDUCTION	\$121	0.08 tons	IMPLEMENTED
WOOD RECYCLING	\$1,368	26 tons	IN PROGRESS

