

Project Overview

A Health System in Nebraska

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The Company

This Nebraska Health System has hospitals and clinics around the state in sizes from 50 beds to 250 beds. Each hospital has the following departments: Biomedical Equipment, Central Sterilization, Diagnostics (Radiology), Environmental Services (ES), Food Services (Kitchen), Gastrointestinal (GI) Lab, Laboratory, Laundry, Oncology, Pharmacy, Plant Operations, Radiation Oncology, and Surgery. These departments use a variety of chemicals and processed for their respective tasks.

PROJECT DESCRIPTION

Because this healthcare organization produces a significant amount of waste and management of that waste in an environmentally ethical way is a priority, a waste assessment was performed at five System hospitals and a System laboratory. In addition to a comprehensive assessment and identification of environmentally friendly alternatives to hazardous waste, the 2005 summer project also included defining the waste types, quantities, and processes involved in the sanitary discharge from the facilities and identifying areas, processes, or wastes that can be reduced, eliminated, or better managed.

POLLUTION PREVENTION BENEFITS

To avoid a discharge of prohibited chemicals into the sewer and the potential for a regulatory fine, this summer's project helped determine exactly what quantities of chemicals were being disposed into the sanitary sewer. To identify pollution prevention alternatives, this knowledge was used to define where exposure to toxic chemicals is occurring so that replacement of toxic chemicals with non-toxic ones could be suggested. Replacement will eliminate both the discharge to the sewer and the potential exposure to employees.

RESULTS

A microfiber mopping system (3M Easy Scrub) was suggested to conserve a total of 264,000 gallons of water annually. This system reduces the amount of disinfectant chemical used in the mopping process, save labor time in mopping rooms, and potentially reduce the amount of slip, trip, and fall incidents of employees, visitors, and patients in the rooms. Recommendations were also made to eliminate the use of a toxic chemical, CIDEX, for disinfecting endoscopes, to label and date universal waste containers to comply with NDEQ regulations, and to obtain a xylene distillation unit or a microwave processor to eliminate the xylene waste in the Laboratory. Also, unused ethyl acetate and alcohol hand gel was donated to College of St. Mary's laboratory and the Open Door Mission, respectively. Table 1 summarizes the quantifiable projects and results of the assessments.

Table 1. Summary of Opportunities

Opportunity	Quantification	Savings
Microfiber Mopping	264,000 gallons of water annually saved	\$53,033 in chemicals and mops annually
Donation of Ethyl Acetate and Alcohol Hand Gel	1.29 gallons of ethyl acetate and 15.9 gallons of alcohol hand gel saved from disposal	\$850 in disposal costs
Switch from CIDEX to CIDEX OPA	26.4 gallons of toxic chemical eliminated from being exposed to employees	*(\$6084) in chemical costs annually
Label and date universal waste containers	Comply with universal waste handling regulations	N/A
Use a xylene distillation unit or microwave processor	Using a xylene distillation unit would reduce the amount of waste xylene in the Core Lab by 2/3 and using a microwave processor would eliminate xylene use	6,005 pounds of hazardous waste reduced annually

*(\$) denotes an expense