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As the fifth largest chemical company in the world, Dow Chemical is known for the manufacturing of chemicals, plastics, energy, agricultural products, and other consumer goods and services. But to manufacture these products on such a large scale means stocking a lot of equipment to maintain the operation.

At the company's Fort Saskatchewan plant in Alberta, Canada, Roy Lura, process leader, estimated an inventory of more than 15,000 pieces of equipment. Until recently, however, there was no way to adequately track the items. With the help of a barcode-driven tracking system, this has changed.

Tool tracking challenge

There are eight different toolrooms at the Fort Saskatchewan site, and each had its own method to issue equipment. For the most part, this meant using the honor system, except for the more expensive items that were tracked using a handwritten record of issues and returns. "It was a lot of work," reported Dave McLaughlin, warehouse technician. "You almost needed two staffers at the counter to work the book."

Another difficulty was each tool crib worked independently. Operators from the individual cribs did not know what was available from other locations on-site, so specialty items would be purchased for multiple cribs when fewer were needed for the site as a whole. In addition, if one crib ran out of an item, operators either ordered another or contacted a rental company to supply it, when the item could have been available somewhere else at the plant. "There was no documentation," Lura said, noting that a lot of money was spent on the purchase and rental of replacement tools when it may not have been necessary.

Until 1997, management at Dow had not given the issue a second thought, but then the company began to re-engineer how its plants were run, and more accountability was mandated. "We wanted to control 99-100 percent of our tools," said Jeff Bowes, warehouse technician.

Barcode solution

To do this, the plant introduced a barcode-driven tool tracking system called Tool Hound from HOUNDware Corp., Edmonton, AB, Canada. The system works similarly to a library issue/returns program. Assets with a value of more than $50 are labeled with individual bar codes, while items of lesser value are bar coded by bin number. Tradespeople are identified by

an ID number as well. When an employee checks out a tool, his ID number is scanned with a handheld scanner, followed by the bar codes of the items being issued. The process is reversed when items are returned.

Like a library system, the program tracks who has the item, where it is, how often it is used, and when it is due back. Reporting capabilities offer information on inventory value, asset locations, and equipment usage. In addition, the radio frequency scanners Dow uses with the system mean that the operator is not chained to the computer. He can communicate with the PC in real time from anywhere in the toolroom.

Scanned data is sent to the database instantly, and information about the status of both the equipment and the employees can be accessed from the handheld. If, for example, the employee at the counter has an overdue tool or is not certified to use the item he is trying to sign out, the PC will send that information to the scanner instantly where it will be displayed on the screen.

Improved communication

The system is proving to be of great benefit to the Fort Saskatchewan operation. Lura reported that after only a few months, it "totally changed the way we manage tools."

The most significant change is that the plant now has a consistent method of tracking tools in all eight toolrooms at the site. This has resulted in a change in purchasing habits. Orders are no longer going out just because one crib runs out of an item. Instead, operators can use the networked system to check for the item's availability in other tool cribs. "It's better to get it from the site than to go off site," Lura advised.

Accurate accounting

In addition, by forcing operators to catalog their tools, the system is helping Dow create an accurate count of its own assets at the Fort Saskatchewan plant. An equipment surplus was discovered that is large enough to stock 60 percent of a ninth crib which will be set up soon. "It's given us the opportunity to inventory our tools," Bowes reported.

New attitudes

An attitude change accompanied the installation of the tool tracking system; it brought a sense

of accountability to the site, something that was lacking before. "It really made the guys think about it," Lura said.

In the past, items may not have been returned for a number of reasons. The employee may have simply forgotten to return the tool, or perhaps left it at a job site with the intention of using it later. These items could be left unclaimed for months, or perhaps mistakenly packed with a contractor's equipment and removed from the site altogether.

With a computerized sign-out system, tradespeople seem to have gained a sense of accountability for the items they are issued, and tools are now being returned with amazing regularity. Lura believes the shift in the employees' outlook is a result of the fact that Dow's attitude toward their tools has changed. "Before they had a 'they don't care, so why should I' attitude," he explained.

Additional applications

As time goes by and the labeling and cataloging process continues, the plant finds additional uses for its tool tracking system. While it was purchased with the intention of bar coding only hand tools, the system now is used to track the usage of a number of other items. For example, the plant has started using the system to track the site's company trucks. This allows the staff to monitor how often the vehicles are used, and if they are returned on time.

By introducing accountability and effective reporting functions, as well as reducing the need for large annual expenditures for asset purchases and rentals, the system is expected to save the Fort Saskatchewan plant a significant amount of money annually. "We're adding value to our jobs," Lura said, and he expects the system will spread to other Dow sites in the future. **MT**

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