

# WHAT A WASTE SYSTEM

Sears taps waste compactor monitoring to lower hauling costs.

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Even before the recent economic downturn, competitive pressures in the retailing industry had caused retailers of all sizes to re-examine virtually every aspect of their operations and seek out improvements.

While most of the public attention has been on the front end of merchandising, every aspect of the business needs critical review. About 4 years ago, Sears began to take a fresh look at the back end of the business — waste removal. The exercise has proven to be very worthwhile.

Retailers the size of Sears generate large volumes of waste and recyclable materials. These are inevitable byproducts of general operations, shipping materials, unsaleable goods and more. Typically, these materials are disposed of in compactors, whose containers are picked up by the contracted waste hauler. This process can be a costly one, especially in metropolitan areas.

Retailers have tried to keep a lid on rising waste removal cost through a variety of methods. The most obvious one is to competitively shop for the most cost-effective hauler. And there can be real benefit here, as rates and approaches to billing can vary widely. However, rates



A Sears store in Brockton, Massachusetts.

alone don't tell the whole story. How the service is performed is also of importance. The most common methods of contracting with a hauler are either on a scheduled pickup basis or a per "pull" (call-on-demand) arrangement.

Scheduled pickups are popular because they are convenient. The hauler picks up the container on a regular schedule, whether it needs it or not. And that is also the problem with scheduled pickups. Because the containers are not always full or even close to it, a great many of the scheduled pickups are unnecessary. Much more material can go into the container without risk of an overflow. This makes the scheduled-pickup approach to contracting with a hauler the most expensive.

With on-demand container pickups, the customer decides when the container is almost full and should be picked up. On a compactor equipped with a pressure gauge and even a so-called "full light," this is an almost impossible task. Pressure gauges and full lights (which

simply signal when a preset ram pressure level has been reached) are easily fooled by temporary blockages, again resulting in an early pickup. And calls to the hauler are usually placed by a maintenance or dock worker. It doesn't take long for that worker to realize that if he calls in late and there is container overflow or rush charge, he gets into trouble. But if he calls for pickups more frequently, no one is the wiser, and he stays under management's radar. No one realizes that unnecessary pickups were called in and more money was spent.

In an effort to improve upon on-demand pickups, some stores have engaged third-party service companies to help them. These companies negotiate rates with the hauler and assess whether a pull is needed. They do this while paying attention to avoiding more costly weekend or holiday pickups. Most service companies do not use any type of monitoring technology. Instead, they talk regularly with maintenance

people, exchange comments on pressure readings, take an educated guess and finally place a hauler pickup call. As you can probably guess, in most cases, this ends up being no improvement.

The story at Sears was no exception.  
(Please see case study below.) **PRSM**

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COMPACTOR MONITORING SYSTEM WAS PROVIDED BY ONE PLUS CORPORATION, A NORTHBROOK, ILLINOIS-BASED MANUFACTURER OF WASTE COMPACTOR MONITORING SYSTEMS.

## SEARS: A CASE STUDY

**A**t Sears, we found that waste compactor containers were regularly being picked up well before they were full. This meant that the company was paying for more pickups than were actually necessary. While we were satisfied with our hauler, we could see that there was an opportunity to improve our combined efficiencies.

### TECHNOLOGY PROVIDES A SOLUTION

It was pretty clear to us that if we were going to make our waste stream a more efficient operation, some monitoring technology was going to have to be part of the solution. And we had some basic requirements that needed to be met by whatever technology was brought to bear.

1. Be compatible with our existing hauler, as we did not want to make a change.
2. Be compatible with our existing waste compactors.
3. Reduce waste hauling expenses by at least 10%.
4. Be fully automated, not requiring any time from personnel, so workers are not responsible for calling in pickups.
5. Provide a means of documenting hauler pickups to facilitate approval of hauler invoices.
6. Be adaptable to seasonal schedules and help to avoid any type of higher cost for rush, weekend or holiday pickups.
7. Do not require ongoing maintenance charges.
8. Be suitable for application nationwide and possibly worldwide.

### A SOLUTION CAME INTO VIEW

With our hauler, we looked at various approaches to monitoring compactor fullness and found that one system seemed to consistently get high marks from the users we spoke to. It appeared to meet or exceed all of our basic requirements and offered some additional enhancements that we had-

n't considered. The system we selected to evaluate was a self-contained monitoring system that installs near the compactor. An average electrician or building engineer can con-

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nect the monitor to the compactor. All that is required is power and a phone line connection.

Here's the secret of how it works. Every time the compactor's hydraulic ram pushes waste into the container, the monitor takes a sort of snapshot of the pressure that was required. That information is stored in a built-in computer's memory and is compared by a microprocessor to other compaction cycles. It takes real computer intelligence to tell when the compactor is really filling and when it's a false full.

The system does all of its monitoring automatically, and here's the cool part, it actually sends a fax or computer message to our hauler to come and pick up the container. There are no Sears employees responsible for watching how full the compactor is or making any calls! And we can set the level of fullness before it places the call.

#### **SUCCESSFUL TRIAL RUN**

The first of our monitors was installed on a compactor at a Sears store in Texas, followed by 11 others, to ensure a real test of what results we could expect. On that first store, initial results showed a 50% reduction in required pickups without any overflows or other problems. The biggest issue was making sure that everyone let the monitor do its work and did not circumvent the system by calling in for an early pickup. In other words, hands off!

As more stores were added, we saw hauler cost reduc-

tions ranging from 20% to 60%. An unforeseen bonus was that service from our hauler actually improved, because there were no late or emergency pickup calls.

Based on the results of the first dozen stores, Sears has installed the system on compactors at over 400 stores nationwide. On average, this has yielded a 30% reduction in waste hauling costs, well above our initial target of 10%. The system has had the biggest impact where scheduled pickups were the rule previously. Also, the busier the store, the greater the benefit and the shorter the payback.

#### **AN EFFECTIVE MANAGEMENT TOOL**

It has been pretty easy to demonstrate the payback on the compactor monitors. Aside from the economic benefits, the system has proven to be an effective tool for management to gain a much better understanding of what's really going on in our waste stream. We can look at graphs and see patterns of how the compactors are being used and easily compare results by store. We can also identify some potential compactor maintenance problems.

Finally, technology has done for our waste management what computers have done for other operational aspects of our operation. And if that parallel continues, the benefits of using reliable compactor monitors will also grow. **PRSM**

— Tom Buser