

## **PWC SAN DIEGO PREVENTS INJURIES AND CTD'S WHILE IMPROVING PRODUCTIVITY AND REDUCING COSTS**

The recycling plant at Public Works Center (PWC) San Diego uses dump trucks to transport wastes from the base to off-site disposal facilities. After loading waste material into the truck beds, PWC is required to cover the beds with tarps to keep the material from spilling or blowing out of the truck bed during transport. The heavy tarps used to be lifted manually and pulled over the loads and side rails of the dump trucks. Workers had to bend and twist into awkward positions in order to pull the tarp cover over the loads.

The workers risked back and shoulder injuries and cumulative trauma disorders (CTDs) from repeatedly reaching, bending, and pulling heavy tarps over truck beds. They were also at risk for foot, leg, and knee injuries from crawling along the metal side rails of dump trucks. Uneven footing on the side rails put workers at risk of losing their balance and falling from the dump trucks onto the floor of the plant.



**Ergonomic Improvement - Sky hook automatically covers load and eliminates risk of injury and falls**

PWC's safety coordinator initiated an ergonomic discomfort survey to find out the source of work-related injuries at the recycling center, and to correct the problem. Ergonomics is the science of fitting the work task to the worker, instead of requiring the worker to adapt to existing working conditions. Work tasks that require using a group of muscles and support tissue, such as tendons, frequently or for long periods during each work shift tend to fatigue those muscles and their support tissue. This repeated overburdening may lead to a CTD, a disability that usually involves weakness and discomfort. Work-related CTDs commonly involve the wrists, arms, shoulders, neck, legs, or back. CTDs often improve after discontinuing the actions that trigger the pain or discomfort and getting medical treatment.

The goal of an ergonomics program is to reduce the frequency and severity of injuries and CTDs by redesigning work tasks or workstations using procedures, tools, and equipment that minimize the risk of those injuries and

CTDs. Work tasks, equipment, and tools that are ergonomically designed help to reduce the risk of work-related injuries and CTDs by making it easier for the worker to avoid repetitive motions, awkward positions, and unnatural postures.

As a result of the safety coordinator's ergonomic survey of the PWC recycling plant, the hazards associated with covering dump trucks were brought to the attention of the Employee Driven Cultural Safety Forum (EDCSF).



**Ergonomic Improvement - tarp pulls easily over load from ground**

The EDCSF is a group of safety representatives from each San Diego PWC workshop who meet once a month to discuss safety challenges within the workshops and to brainstorm solutions. The EDCSF responded by promptly evaluating an automated system for covering the beds of loaded dump trucks and recommending it for the PWC recycling plant. As a result, the automated system, called a *sky hook*, was approved, and PWC San Diego now uses the *sky hook* automatic system to cover dump trucks that transport wastes from its recycling plant. The CNO's Hazard Abatement Program funded the initial purchase of the automated truck covering system.

PWC San Diego utilizes their own funds for additional purchases of this ergonomic equipment for PWC employees.

Recycling plant employees operate the *sky hook*, with the press of a button, from ground level. The *sky hook* eliminates fall hazards as well as injuries and CTDs from awkward work postures and positions previously required to cover dump truck beds. Once the tarp is raised by the automated system, a worker at the rear of the truck guides the tarp, without pulling or pushing, over the truck bed and its load. The tarp is then secured around the edge of the truck bed to keep the load inside the truck bed during transport.

PWC recycling center employees are pleased with the ergonomic improvement the *sky hook* provides and with the decrease in the number of injuries they have experienced since the automated system was installed. In addition to reducing the risk of injuries and CTDs, the *sky hook* has increased

productivity. Using the automated system, a worker can cover a dump truck in ten minutes. Previously, this task took the worker 25 minutes to complete.

The *sky hook* also reduced costs by over \$74,000.00 a year, representing a 60% decrease in cost, at the recycling plant. A summary of the cost saving is presented in the table, below:

<b>COST SAVINGS DUE TO AUTOMATED COVERING SYSTEM</b>	
Annual Cost of Manual Truck Covering	\$124,950.00
Annual Cost of Automated Truck Covering	\$ -49,980.00
Annual Cost Savings	<u>\$ 74,970.00</u>

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