



## **Access Increases Workers' Safety at Nation's Largest Environmental Cleanup Site**

*Access' MicroWireless RFID Technology Saves Government Time and Money at the U.S. Department of Energy's Site*

Over the last four years, [Access International](#) has been providing [Washington Closure Hanford](#) a MicroWireless™ tagging system that continues to increase worker safety and efficiency while reducing their time on task and cost of operations.

The U.S. [Department of Energy's Hanford Site](#), a 586-square-mile decommissioned nuclear production complex along the Columbia River in southeastern Washington State, was created in the 1940s as part of the top secret Manhattan project by the federal government to produce plutonium for an atomic bomb. The plutonium manufactured at the site was used in the bombs tested at Trinity and the first bomb that was detonated over Nagasaki, which contributed to the end of the war five days later.

During the Cold War that ensued, Hanford continued the expansion with a total of nine nuclear reactors, five massive plutonium processing facilities, 177 underground waste storage tanks and hundreds of support facilities. Hanford scientists made numerous technological achievements, but many of the safety procedures and waste disposal practices were not as stringent as they are today. As a result, Hanford's operations left behind 53 million gallons of high-level radioactive waste, hundreds of contaminated buildings and thousands of contaminated waste sites.

A 1989 agreement between DOE, the U.S. Environmental Protection Agency and the Washington State Department of Ecology governs Hanford cleanup.

### **Major Challenges: Time and Cost, Worker Safety and Accurate, Real Time Data**

The 1,100 employees and subcontractors working for Washington Closure Hanford, one of DOE's contractors cleaning up the Hanford Site, face numerous challenges on the \$2.2 billion River Corridor Closure Project. They must demolish 370 contaminated buildings and transport nearly a million tons per year of cleanup debris to the Environmental Restoration Disposal Facility. ERDF is located in the center of the 586-square-mile Hanford Site. The contents and quantity of each waste shipment to ERDF must be documented accurately.

### **Manual Process Prior to Access**

Prior to using Access' technology, the workers drove the transport trucks to the weigh station more than 200 times daily, climbed down, took out paper and pencil and recorded the weights before climbing back into their trucks. Todd Nelson, a spokesman for Washington Closure, said, "The paper had to follow the waste containers from the cleanup site to the disposal site and had to be handled many times. The data then had to be entered into the computer. The process had too many opportunities for error."

### **Automated Process with Access**

Access' patented MicroWireless system uses small, battery-powered dual-frequency RFID tags that, when automatically activated with a wake-up signal, transmit a wireless ID message typically

30 to 100 feet to nearby, often hidden palm-size receivers. The receivers are connected via an industry standard interface to existing security alarm equipment and a gate controller to open a gate automatically when an authorized tag is present. Data is relayed to system software where reports are automatically generated.

Specific details include:

- Metal mounted FleetTags™ are affixed to the 28 transport trucks and 720 waste containers to identify them.
- As the trucks are driven across the scales into the staging area, Access' reader picks up the identification on the trucks and containers and their profiles, which includes tare (empty container) weight.
- Simultaneously, the containers' tags are being read to determine the weight of the load (waste management tracking).
- All the information is transferred real-time to the database without human intervention.

### **Access' Technology Saves Time, Money, Errors and Injuries**

An average of 250 containers or 6,500 tons of waste is disposed of daily. The drivers will log more than one million miles in 2009 while disposing of nearly one million tons of waste into the landfill

- Staff Reduction – Prior to automating the processes, Washington Closure employed drivers on two shifts, plus a person whose job it was to enter the data from the paper trail. Automating the data collection eliminated the need for a data entry person.
- Worker Safety – “One of the biggest hazards for the truck drivers was the repetitive motion of getting in and out of the truck and climbing the five feet up and down to record information on the scales,” said Frank Farmer, Deputy Operations Manager for Waste Operations at Washington Closure. “Automating that process has completely eliminated the potential fall hazard at the weigh station. What was an injury prone, repetitive process with errors became a transparent operation.”
- Time Savings – Automating the process of weighing the loads lessened that process time from about 10 minutes to 30 seconds, and the data entry time was eliminated.
- Real Time Reporting – “Access' technology automatically identifies the trucks and containers. As the trucks go through the scale to be weighed, the truck and container weights, the load weight and the load contents are automatically reported and accessible. This is a much more efficient way of record keeping,” said Todd Nelson, a spokesman for Washington Closure. “It gives us a record of exactly what was transported and placed in the disposal facility.”

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### **About Axxess International**

Axxess International Inc. provides intelligent Wireless Credentials for business encompassing local location identification, tracking and control capabilities using its patented [MicroWireless™ technology](#) platform. The complete system solutions supersede existing manual personnel badges by automating various workforce management tasks that increase productivity, security, safety and business intelligence. Real-time data from labor activities also enable previously unattainable business intelligence and analytics initiatives, MicroWireless – based on active RFID principles – is the economic and technological sweet spot for autonomously-powered low cost, miniature, remote communication devices. Axxess is a portfolio company of [Amphion Innovations plc](#) (AIM: AMP). For more information on Axxess, visit [www.axcessinc.com](http://www.axcessinc.com).

### **About Washington Closure Hanford LLC**

Washington Closure manages the \$2.2 billion River Corridor Closure Project for the DOE's Richland Operations Office. The company is responsible for demolishing 486 buildings, cleaning up 370 contaminated wastes sites and managing the Environmental Restoration Disposal Facility, an engineered landfill for low-level radioactive and mixed waste generated during Hanford cleanup operations. For more information on Washington Closure Hanford, visit [www.washingtonclosure.com](http://www.washingtonclosure.com).