# RFID Helps Occidental Petroleum Prepare for Emergencies

**By Claire Swedberg**
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*The technology enables the company to record those entering or leaving the facility, providing critical information in the event of a natural or manmade disaster.*

Occidental Petroleum is using an RFID system to track individuals arriving at and leaving its Elk Hills Reserve natural gas facility. The Active Tag Personnel Tracking System, provided by Axcess, will allow Occidental to better track its personnel in the case of an emergency, such as an explosion, terrorist threat or earthquake, says Axcess' marketing manager Kelly Stark. By identifying employees passing through the gates leading to the facility, the system also provides Occidental with an electronic record of the hours all entrants spend at the site every day.

The 47,000-acre Elk Hills Reserve, located in Kern County, Calif., is the nation's 11th largest oil and gas field. More than 900 wells at the site produce approximately 55,000 barrels of oil and 400 million cubic feet of natural gas per day, according to the U.S. Department of Energy (DOE). It employs about 2,700 people, including contractors.

*Kelly Stark*

Occidental wanted a system that could tie into its existing software database for attendance tracking. As personnel pass through one of multiple gates to the facility, an exciter transmits a 125 kHz signal that activates their Axcess RFID badges. Each badge then transmits a 315 MHz signal containing its unique employee identification number, as well as the ID number of the exciter at that gate. The interrogator receives this data (the read range averages 35 to 300 feet, depending on the size of the reader's antenna) and sends it to Occidental's database. Software from Acrasoft then verifies the individual's ID number, automatically unlocking the gate to grant that person entrance.

The access-control badges cost about $10 without additions—such as pictures or other features, Stark says, with readers averaging $300 to $500. However, she declines to state the cost of the entire deployment.

Occidental chose an active solution because it allows hands-free tracking. "In an emergency, people won't want to present badges to a reader," she explains. With the Axcess system, multiple individuals can walk or drive through an open gate simultaneously with their badges in their pockets or handbags. The system reads tags at a rate of 15 to 20 per second, even when tag holders are driving though at speeds of up to 35 miles per hour. Because it can store the data on redundant devices, both on and

off site, the system is not subject to a single point of failure in the event of an emergency, such as an explosion, says Ben Donohue, Axcess' vice president of business development. "The data would still be intact following a catastrophic event," he adds.

Prior to acquiring the RFID solution, Occidental guards used to monitor the gates, checking picture identification cards as employees entered and left the facility. Such a system was not practical in the case of an emergency, however, as many people would be likely to crowd through the gate at once. It also failed to give Occidental an accurate count of how many people—and who—were in the facility at any given time.

BP Cherry Point, BP's oil refinery in Cherry Point, Wash., took similar measures earlier this year (see BP Refinery Uses RFID for Evacuation System). The company incorporated an IBM WebSphere software system with a custom tracking interface known as Atlas to collect data. It also used Multispectral Solutions' RFID badges with active ultra-wideband (6.0 GHz to 6.5 GHz) RFID tags, which transmit a unique ID number every second.