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Detecting and Deterring Metal Theft in 2015

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If you figure that a better economy these days means less metal theft, think again. Theft of copper, aluminum and other metals continues as people see a way to easily make money to buy drugs or other uses.

Just recently, a copper theft at a Texas Harris County baseball field left some Little Leaguers in the dark and put their season in jeopardy; 2,500

feet of copper wiring was stolen from Kaminski Park, leaving two of the four fields without electricity.

Overall, the U.S. Department of Energy estimates that this threat is now a \$1 billion a year problem. Construction sites, abandoned buildings and commercial heating and air conditioning units have been the biggest targets for thieves. More often than not the damage caused by illegally obtaining metal such as copper vastly exceeds the value of the metal.

Not only are businesses stuck having to repair or replace equipment stripped of metal, the damage often results in the loss of electricity, water, cellular service or heating and air-conditioning as well as discontinuing of business until the repairs are completed.

Focused Protection

Unlike more traditional corporate and industrial security strategies, more often metal theft hits remote facilities, sometimes unmanned or outdoors. So intrusion and video as well as verification and mobile notification must be focused.

“I was looking for something with no false alarms, verified alarms during a crime in progress so that law enforcement was more willing to respond,” says Brian Kelly, security manager at Miles Sand and Gravel in Puyallup, Washington. Using Videofied technology [RSI Video Technologies], Kelly says he can easily train site managers while allowing two to three people to receive video at each site. “We can easily move around the portable unit to guard construction sites, too.”

For John Bonnette, substation facilities director at Puget Sound Energy of Bellevue, Washington, the electrical and natural gas utility, “I wanted to think outside the box” when copper prices and theft showed that he needed to harden his sites. While he used intrusion on fences, Bonnette moved to video with communications by cellular, power from a battery pack and IR to see at night with constant monitoring. The technology was “effective within four hours of an initial install,” says Bonnette. He is also moving from copper to copper clad steel to reduce the incentive for metal theft. He adds that typical warning signage was not effective.

At Mt. View-Edgewood Water Company of Edgewood, Washington, Mike Craig, field manager, sought out a deterrent solution without undo false alarms such as Canada geese. “This is critical infrastructure. The Videofied technology also allowed us to communicate better among sites.”

Tom Roman, the owner of Safe Site Remote, an integrator specializing in mitigating metal theft, says that gangs are getting into the illegal business. The FBI reports it is an epidemic, he says. Many of the most vulnerable sites are remote without phone lines or power. So you want something that provides a visually verified alarm; the same video that the monitoring center sees, our client sees, he says, adding that a visually verified crime in progress with get law enforcement to respond.

Cloud Solutions, Too

In-the-cloud also is addressing metal theft. For example, Stealth Alloys, a full service metal recycling facility located just outside of Atlanta, is an i-flashback Cloud customer from ControlByNet. As with any property that maintains even a brief inventory of valuable metals, the company has to deal with intruders as well as monitor employees. The system keeps everything running smoothly and notifies Stealth when something is offline. In addition, the use of the cloud service allows a duplicate video stream to be recorded offsite for safety should something happen at the business.

The customer doesn't see a difference; he or she just logs in, and it all looks like a single system regardless of where the recorded video data is actually stored, explains Ryan Strange, CEO of ControlByNet. The solution at Stealth is remotely monitored by security personnel for intruders. In the Stealth example, there is the ability to view the SD memory card video on Axis Communications cameras directly through the Web interface from any browser or mobile device. This and other metal theft deterrent approaches also can handle other manufacturers' cameras.

According to Strange, dealers and integrators as well as end users purchase the technology and the security cameras mitigate metal theft as well as handle operational needs. With cameras at remote pickup

sites, recyclers know when to send a truck to the site. It saves time, money and gas, Strange says.

For Stealth Alloys, the relative ease of reselling the product, and the difficulty in tracking a product, make it easy for thieves to sell the product across town or even next door. That ease of resell also can impact employees directly which means Stealth has to watch out for internal and external theft.

Uniqueness of Threat

Don Erb of security firm Interface Systems agrees about the uniqueness of the threat and the need for protection. With scrap metal and recycling centers paying good money for scrap, the scrap metal thieves have found quite a lucrative enterprise. Old school, low-tech prevention involves completely encasing the equipment with fencing and barbed wire. It is not uncommon to see barbed wire around the roof perimeter of buildings in some of the more challenged areas across the country. Still to the most dedicated of thieves, these roadblocks are just a way to slow down the inevitable, he says. This is also not the most cost-effective way and has its limitations as there may not be enough room for a fence or building code restrictions.

Erb suggests a better approach to include:

- A very focused motion detector directed at the metallic assets of concern to mitigate false alarms.
- Cameras to view that specific area with geofencing to handle field of view and motion trip.
- Video verification to validate any motion detection signal.
- Anti-theft shielded copper wired directed to the alarm panel to put on same zone as motion detection.



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