



CAGE/NCAGE Code: 3FNFO

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High Quality Data Acquisition and Embedded Control Products

ICPDAS USA Products Instrumental in CriticalDAQ™ Success

As environmental regulations become more stringent, the landfill industry is faced with increasing regulatory compliance challenges. Waste Management, the largest landfill operator in the US, turned to CriticalWireless' CriticalDAQ™ web-based, wireless remote monitoring and data acquisition solution to help the company more efficiently manage some of these challenges.

Most municipal landfills generate methane and other greenhouse gases as part of the waste decomposition process. To minimize harm to the environment, most landfills are required to have systems in place that capture and collect the gas before it is released to the atmosphere. Once captured, the gas is either burned (flared) or used as fuel for other processes such as electrical power generation. In addition, most landfill operations are required to have systems in place to collect storm water runoff (or leachate) before harmful contaminants can enter the water supply.

Landfill operators must continuously collect data from these air emission and groundwater pollution control systems, archive that data, and generate periodic reports for various regulatory agencies.

CriticalDAQ: Easy Web-based Remote Data Acquisition

Normally, data such as flare temperature, gas flow, and leachate tank levels is captured by onsite chart recorders or data loggers, and a site visit is required to retrieve the data. The data is then entered or merged into database or spreadsheet programs back at the office, and periodic reports are generated manually.

In contrast, at the landfill sites where CriticalWireless' web-based CriticalDAQ solution has been deployed, Waste Management has been able to greatly streamline and automate their data collection and reporting activities. With CriticalDAQ, data at the landfill is captured every 5 minutes and uploaded offsite to the CriticalWireless Data Center once an hour via a wireless cellular data connection. Customers access data from all of their sites by logging into their own secure, encrypted web portal application. From the CriticalDAQ web portal, users have access to data visualization tools such as graphs and virtual gauges, and can run customized reports or download data to external applications with just a couple of clicks. Additionally, with a robust suite of event-based alarm notification services including a map-based graphical alarm interface and automatic notifications to mobile devices, appropriate Waste Management personnel know instantly when and where problems are occurring before they result in potentially costly or dangerous control system malfunctions.

ICPDAS USA: A Valuable Partner

The CriticalDAQ solution greatly simplifies and lowers the cost of remote data acquisition and reporting...once the system is installed. However, since each landfill site has a different mix of sensors and equipment to monitor, installation and set up can be a complicated task. "We're lucky to have ICPDAS as a partner," says Charles Christie, Vice President of CriticalWireless. "Their wide arrays of I/O modules, controllers, signal converters, and signal conditioners have played a crucial role in making our wireless, web-based solution so flexible and cost-effective. We employ ICPDAS 7000 series I/O modules such as the I-7041D in a number of our wireless installations, picking the modules that best fit the I/O set of each particular site. Also, since sensors are typically shared by multiple pieces of data recording equipment in landfill applications, ICPDAS loop isolators (such as the SG-3081) and thermocouple isolators (such as the SG-3011) are often mandatory."

The operating conditions at landfills can also prove to be a challenge. For instance, a flare can typically run at over 1,000 degrees and most control panels are adjacent to the flare. "The many ICPDAS modules we have deployed have proven to be very robust and reliable, even in extreme environmental conditions," says Charles. "That of course makes us look great to a very valuable customer. Plus, the 24/7 support we get from John & company is unsurpassed."