

AFL Provides Fiber Optic Perimeter Intrusion Detection System to Secure Water Treatment Plant

Summary

AFL installed its fiber optic perimeter intrusion detection system around the perimeter of Charleston Water System's (CWS) Hanahan plant. The system provides an additional layer of security at the fence line and is integrated with the existing camera and alarm systems to enhance the site's overall security capability.

Challenge

CWS needed a single system that could protect a two-mile perimeter, integrate with existing alarm and camera systems, monitor automated gates and be configured to match existing camera coverage zones. The new system needed to be immune to EMI and RFI from nearby power substations and could not have active electronics along the facility perimeter.

Solution

AFL deployed its Fiber Security system around the perimeter to provide CWS with a completely passive system that will detect vibrations associated with intrusions. Unlike most competing fiber systems Fiber Security utilizes two wavelengths (instead of just one) to better determine both the vibration intensity and location.

With all passive field components and all fiber construction, AFL's Fiber Security is immune to interference from the multiple power substations and overhead power lines surrounding the property. The interference from these stations caused countless false alarms and sensitivity issues with the original system at the plant and AFL's Fiber Security was selected to eliminate such issues.

To enhance the existing video surveillance and security software at CWS, AFL's Fiber Security was integrated with the 20 existing zones using the standard solid state relay outputs tied-in with a simple interface module. The interface communicates with the facility's alarm system as well as triggering the perimeter cameras to pan toward the zone under alarm.

Results

AFL's Fiber Security System provides intrusion detection capability along 100 percent of the CWS perimeter and entry gates. By integrating the solid-state relay outputs with the existing alarm system, CWS operators receive instant updates on activity at the fence while the software delivers a simple visual reference for plant operators.

