

SIXNET[®]

APPLICATION STORY

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SIXNET System Helps Keep Nuclear Reservation Secure

With more than 2,800 I/O points, a SIXTRAK system watches buildings and storage areas to keep unauthorized individuals and stray animals away from the sensitive material.

SYSTEM OVERVIEW

The federal government has entrusted a SIXNET system to be the eyes and ears for the Emergency Response Services at the Hanford Nuclear Reservation in Richland, Washington. Originally used for

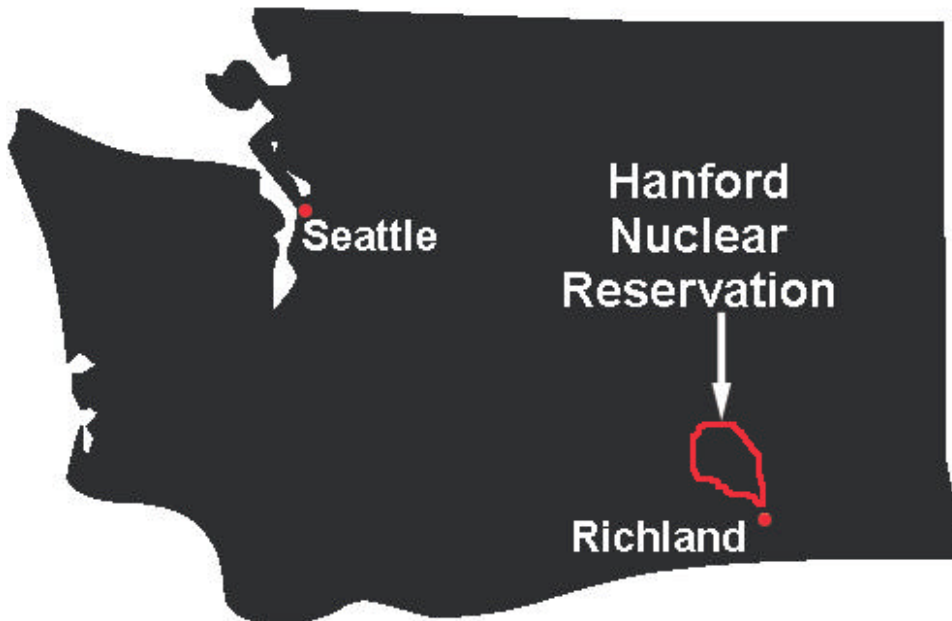
nuclear weapons production and assembly, the U.S. government site now is used for storage of plutonium as well as other materials used in the process. The reservation is also in the environmental cleanup stage, which is expected to take about 30 years.

Because the site contains materials that could be dangerous if they fall into the wrong hands, site security and instant information is critical to national security.

The SIXNET system polls the entire site – 2,800 I/O points – to track entries and to dispatch security, fire and

ambulance responses. The site has its own security officers – a formidable force necessary to protect and defend a nuclear weapons site. And the SIXTRAK system helps the force keep on top of everything on the 560-square-mile reservation.

The SIXNET system is integrated seamlessly with Citect, the reservation's chosen SCADA



The Hanford Nuclear Reservation is just outside Richland in Washington State. The site has been an active nuclear weapons facility since World War II.

Problem: The Hanford Nuclear Reservation needed a system that could watch thousands of sensors at sensitive sites and fit into a larger emergency response system.

Solution: Using a SIXNET Scalable Control System with Citect SCADA, dispatchers can pinpoint to the room where an alarm is ringing and find and send the closest help.

system. That means that SIXNET and Citect systems are more than just compatible. They operate as one total system – sharing tags and data effortlessly.

If an alarm point is tripped, or if someone on the reservation calls 911, that signal is relayed to the Patrol Operation Center (POC) – the nerve center of the facility. Every door sensor, window sensor, fire alarm and smoke detector – entry and exit points as well as alarm points – are connected to phone or radio modems that send signals to four SIXNET enclosures in the POC.

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| <p style="text-align: center;">SYSTEM COMPONENTS</p> <ul style="list-style-type: none">• ST-GT-ETH-24P Programmable Gateways• ST-AI-INS-08U Instrumentation Modules• ST-DI-024-16H Discrete Input Modules• ISaGRAF Workbench• Citect SCADA Software |
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Programmable Gateways in the enclosures are running ISaGRAF programs that poll all the alarm points via the modems and phone lines. The SIXNET/Citect system is processing and routing all of the emergency communications as well as monitoring the I/O points.

After a call is received, dispatchers open up their Citect alarm screen on their PCs and see a map of the facility and see a red dot where the alarm is going off or the emergency call is coming from.

Dispatchers open another computer screen that uses GPS (Global Positioning Satellite) technology to locate the nearest unit (fire, ambulance or police) to the alarm. They signal the unit, which can get the alarm map up in their vehicles.

In addition to the map of the facility, dispatchers can click on the red dot on the Citect screen that will bring up a map of the building. Another click brings dispatchers to the floor where the alarm is ringing. A third click brings them to a map of the room where the alarm is going off, and a fourth brings up a security camera view, if available.

In four short steps, dispatchers can see in real time what is going on in the room or floor where the alarm is ringing and dispatch the closest appropriate response.

Future SCS Environmental Monitoring Projects

Since the work of the Defense Department began at the Hanford site before World War II, managing the wastes that come from producing plutonium “was secondary to ‘national defense,’ ” according to the reservation’s site on the World Wide Web (www.hanford.gov). Today the priorities are different.

There are many storage tanks buried underground on the reservation that store radioactive materials. Many are single-walled and are in danger of leaking. SCADA systems are planned to monitor the conditions in these storage tanks. Scalable Control Systems are an integral part of this plan, due in part to the favorable history of reliable operation of the existing SCS projects and the professional system support from Set-Point Controls, the SCS solutions provider in the Richland, Washington area.