Roaming HMI gives Lucky Peak technicians data when and where they need it

Highlights

- Lucky Peak wanted to give technicians easy access to important data throughout the plant floor

- As part of a larger digitalization project, Lucky Peak worked with Phoenix Contact to develop a secure wireless network for their roaming human-machine interface (HMI) system

- With the roaming HMI solution, the Lucky Peak staff has real-time visibility into all remote assets, ultimately making the plant more efficient, collaborative, and safe

"Phoenix Contact has made it so that we don't have to go through the process of digitalization alone."

— DEREK STONE

Customer profile

Lucky Peak Power Plant is a rolled earth dam built in the 1950s near Boise, Idaho. Its primary purpose was flood control and irrigation at the time of construction. In 1988, the powerhouse was completed, generating up to 101 megawatts of electrical power. Lucky Peak is owned by Boise Kuna Irrigation District, with the hydrogeneration plant maintained and operated by Seattle City Light. (Figure 1)

Challenge: Improving efficiency through digitalization

As part of a major digitalization project, Lucky Peak wanted to make it possible to have situational awareness while troubleshooting or installing new systems near the turbine pits.

Historically, if the operators and technicians wanted to see the result of changes being made on equipment in this area, they had to be physically present in the control room. This lack of operator visibility led to alarming issues due to truncated data.

Figure 1: The Lucky Peak Power Plant can generate up to 101 megawatts of electricity.

Digitizing was necessary for the plant to move forward with utmost efficiency and safety, so they could future-proof projects for generations to come.

To eliminate the need for a hardwired solution, Lucky Peak engineers wanted a secure, wireless alternative that would allow for technician mobility and ultimately, safety while around the turbines.

Solution: Roaming HMI makes data available where needed

Lucky Peak worked with Phoenix Contact's Vertical Marketing Management team to develop a wireless network to support a roaming HMI system. Lucky Peak's SCADA system runs on Inductive Automation's Ignition software system. The Phoenix Contact WLAN radios can communicate the SCADA data to Dell Latitude Ruggedized Tablets placed in key locations around the plant floor. The technicians can use the tablets to see real-time data, fault information, and the current system as they work, rather than having to go back and forth between the plant and the control room.

Derek Stone, systems integration specialist at Lucky Peak, explained the impact: "There are operators are all over the place and all over

Figure 3: The technicians now have access to real-time SCADA data right on the plant floor, so they can take action on alarm situations much more quickly.

the plant. The roaming HMI allows them to grab a tablet and go up to a piece of equipment—some of which still have manual controls—and make changes with more accuracy and confidence. Some of these devices have alarms and shutdowns—so accurate data is necessary."

Phoenix Contact's Network Engineering Services team supported the wireless

Figure 2: Derek Stone uses the Dell Latitude Ruggedized Tablet to monitor conditions on the plant floor.

installation with a site survey, configuration services, and Ignition programming support. The system is backed up with Phoenix Contact QUINT power supplies and surge protection to ensure reliable power.

Results: A safer and more efficient plant

Now that they have the roaming HMI solution, the Lucky Peak staff has visibility into all remote assets, ultimately making their plant more efficient, collaborative, and safe. Lucky Peak has taken a step into the future as it continues to partner with Phoenix Contact to further their journey to digitalization.

"I cannot speak for other power plants, but I think the slow transition to digitalization comes from the fear of doing it alone. In our case, Phoenix Contact has been a trusted partner, and has made it so that we don't have to go through the process of digitalization alone," said Stone. "We do not have a contract with Phoenix Contact. We just happen to have a close relationship, which has allowed us to make leaps and bounds when it comes to digitizing our plant and future-proofing our future endeavors."