

CITY OF SPOKANE

Riverside Park Water Reclamation Facility

A Tunnel Radio case study



Spokane water reclamation facility

TUNNEL RADIO IMPLEMENTS EFFECTIVE COMMS SYSTEM FOR SPOKANE WATER TREATMENT FACILITY

Beginning in 2016, the City of Spokane embarked on a major upgrade at the Riverside Park Water Reclamation Facility. Originally constructed in 1958 and located on the Spokane River, this facility is the largest water recycling plant in eastern Washington with a headworks capacity of over 150 million gallons a day.

In addition to increasing the treatment plant's daily wastewater processing and phosphorus removal capabilities, the upgrade offered an opportunity to improve the safety and communications systems for the facility.

SPOTTY COVERAGE CREATES SAFETY HAZARDS UNDERGROUND

A tunnel network running underneath the water reclamation facility provides access to numerous electrical and mechanical systems vital to day-to-day operations. Workers regularly traverse these tunnels, which exposes them to a multitude of risks. Additionally, the facility's traditional distributed antenna system (DAS) had gaps in coverage, also known as "shadow areas," that created safety concerns and required workers to walk 10 minutes to the edge of the tunnel to call out to workers in another part of the facility.

To mitigate risk and address the shadow areas, Spokane decided to install an Ultracomm® radiating cable DAS to provide voice communication throughout the facility, including the underground tunnels, digesters and surface work areas. In addition to addressing safety concerns, this system would allow communications from the surface of the facility to the tunnels so that no one had to physically travel into the tunnels to pass on information regarding safety and daily operations.

DELIVERING CONTINUOUS UNDERGROUND CONNECTIVITY WITH ULTRACOMM®

The solution for this project was a complex design with a simple purpose: get voice coverage everywhere. Tunnel Radio engineers worked together with the City of Spokane to design an Ultracomm system that would provide effective, reliable communications between the underground tunnel network and surface work areas. Using a combination of leaky feeder coaxial cable and bi-directional amplifiers, along with continuous antenna coverage, we ensured every corner of the facility had radio-based comms.

After months of planning, design work, and implementation, the Riverside Park Water Reclamation Facility project was complete. Employees now had clear voice coverage in all the tunnels and workspaces within the underground tunnel network, as well as above ground. The Ultracomm system eliminated all dead spots and gaps in coverage—providing a hands-free solution that fostered a safer work environment for all employees underground and increased productivity for all operations in the tunnels.

While the old DAS system sometimes required physically moving from one location to another to communicate with workers in a different part of the facility, the new Ultracomm DAS ensures complete coverage in all workspaces. So whenever there is a need for communication—whether it be for a project or a medical emergency—employees of the expanded Riverside Park Water Reclamation Facility can quickly get in touch with anyone, anytime, anywhere.

“We have had great success with our Tunnel Radio installation. Tunnel Radio coverage is very reliable, especially in our most problematic areas: pump galleries and, of course, tunnels. Whenever we call on TR with questions, or we just need more radios to replace the ones that fell in the drink, they are super responsive to our needs...”

DARIN EVANS, IEDC SUPERVISOR, CITY OF SPOKANE