

Cortec® Solutions Helped City Wastewater System Cut Corrosion Costs by \$10,000+ in One Year



How can wastewater treatment operators keep their sensitive, high-dollar electronics from deteriorating prematurely in a corrosive environment? The answer comes from a Midwest US wastewater treatment plant that used Cortec® corrosion solutions to halt the failure of expensive HMI (human machine interface) panels at the rate of one or two every six months.* With the high price of \$15,000-\$40,000 per replacement, the plant relied on their Cortec® representative, Cortec® Global Services, for answers that can benefit any treatment plant.



Why Are Wastewater Environments So Corrosive?

Wastewater treatment environments not only face the threat of constant moisture exposure, but also the presence of corrosive gases like H₂S. Together, these elements accelerate the oxidation of metallic components, making infrastructure maintenance a constant challenge. Even pumping stations throughout a city's sewer system are

exposed to harsh environments and require special attention to slow down corrosion.



What Can Be Done to Protect Electronics?

Although extremely intricate and sensitive, electronics are also relatively easy to protect with the right tools. In the case of the Midwest wastewater treatment facility with HMIs failing at pumping stations throughout the city's 258 mile (415 km) sewage system, three forms of corrosion protection were used: passive absorption, active vapor-phase protection, and active contact protection.

1) Passive Protection: Remove the Source of the Problem

One Corrosorber® cup was placed inside each compartment to absorb H₂S, thus reducing the corrosiveness in the environment.

2) Active Vapor-Phase Protection: Condition an Entire Space

Since there was no way to completely remove the corrosive elements in the environment, each HMI panel also received a VpCI®-111 Emitter. These small self-adhesive cups filled with Vapor phase Corrosion Inhibitors are easy to stick inside electronic enclosures. Corrosion inhibiting vapors escape through the breathable membrane on top and diffuse throughout the enclosure, "condensing" or adsorbing on metal surfaces, where they form a protective molecular layer that hinders corrosive reactions with surrounding elements as long as the enclosure stays shut.

3) Active Contact Protection: Apply a Protective Film

For an added layer of protection, workers powered down the HMI panels to apply a light mist of ElectriCorr™ VpCI®-239, which leaves a long-term protective film suitable for use in vented enclosures or especially severe environments.



The Huge ROI of Corrosion Protection

After one year of protection, the city wastewater system had not had any corrosion-related HMI failures, a significant drop from the typical two to four failures annually. Instead of spending \$15,000-40,000 for an HMI replacement, the municipality experienced a huge return on investment (ROI) by paying less than one percent of that cost for preventative corrosion solutions.

Simple Steps to Fight Your Wastewater Corrosion Problems

Wastewater treatment environments cannot help being corrosive. However, simple steps like placing a VpCI®-111 Emitter inside an HMI panel can significantly reduce the corrosive effects on critical electronics infrastructure. For wastewater treatment facilities facing these problems, Cortec® and its representatives are ready to come alongside in more than 100 countries to support your plant with corrosion solutions that are dramatically profitable investments compared to the expense of electronics failures. Contact Cortec® today to develop your custom plan of attack to reduce corrosion costs in wastewater environments.

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