UTILITIES USE CASE

MIX Networks® + DataRemote 90X2 POTS Replacement

Target Utility Segments

- Wastewater utilities (lift stations, treatment plants, remote pump sites)
- Power utilities (substations, distribution yards, generation sites)
- Water associations (booster stations, tank sites, wellheads)
- Wind farms (turbine strings, collection substations, O&M depots)

The Challenge

Utility operations continue to depend heavily on legacy copper POTS lines to support essential remote operational and safety systems across geographically distributed infrastructure. These aging copper facilities have become increasingly unreliable due to multiple degradation factors including physical deterioration from environmental exposure, targeted copper theft driven by commodity pricing, and recurring storm damage that leaves critical sites without communications capability during emergency conditions when reliable monitoring and control are most essential.

Service providers are simultaneously raising costs for maintaining copper infrastructure while actively pursuing decommissioning strategies that eliminate these facilities entirely, leaving utilities with deteriorating service quality at escalating costs. Communication line failures directly impact SCADA monitoring systems that enable operators to detect and respond to operational issues, safety alarm systems that protect personnel and environmental resources, and emergency communications capabilities that are essential during crisis events and system emergencies.

The Solution: DataRemote 90X2 POTS Replacement

MIX Networks® addresses the unique requirements of utility operations through specialized solutions designed for critical infrastructure environments:

DataRemote 90X2 POTS Replacement Platform: Advanced gateway solution that converts analog communications to secure cellular and IP-based transport while preserving the expected POTS line behavior that existing field equipment depends upon, eliminating copper dependency without requiring costly equipment replacement.

Operational Continuity Design: Solution architecture that maintains existing field equipment in place without disruptive rip-and-replace projects, enabling utilities to eliminate unreliable copper infrastructure while preserving investments in current SCADA systems, alarm panels, and emergency communication equipment.

Secure Transport Infrastructure: Cellular and IP-based communications provide reliable connectivity that is not subject to the physical vulnerabilities affecting copper facilities, including theft, corrosion, storm damage, and carrier decommissioning activities.

Phased Migration Support: Flexible deployment approach enables utilities to implement POTS replacement on a site-by-site or system-by-system basis, supporting long-term SCADA modernization strategies while addressing immediate reliability concerns at critical facilities.

Primary Applications

SCADA Telemetry Backhaul

Supports legacy RTU/PLC modem-based communications and dial-out alarm reporting.

Alarm Communications

Replaces copper feeding alarm panels at substations, pump stations, and treatment plants.

Emergency Phones

Provides reliable dial tone for safety phones at unmanned facilities and wind sites.

Camera & Intercom Systems

Maintains analog call paths tied to legacy security or notification systems.

Representative Deployment: Wastewater Lift Station

A typical wastewater lift station deployment demonstrates the operational benefits and implementation simplicity of the MIX Networks® solution:

Initial Configuration: Existing copper POTS line supports multiple critical systems including SCADA modem communications for operational monitoring and control, alarm dialer for automated event notification, and emergency gate phone for field personnel safety.

Implementation Process: DataRemote 90X2 gateway installed within existing control enclosure alongside current equipment. Legacy copper connection disconnected and communications transitioned to secure cellular transport with minimal operational disruption.

Operational Result: SCADA monitoring, alarm reporting, and emergency calling capabilities continue operating without interruption, while copper infrastructure vulnerabilities are eliminated and communications reliability is significantly improved.

Operational Benefits

- Maintains legacy equipment without costly system redesign
- Reduces downtime caused by copper failures and theft
- Enables standardized deployment across multiple remote sites
- Supports phased modernization of SCADA and security infrastructure
- Improves resilience during storm events and emergency conditions

Best Fit Environments

- Remote or unmanned sites with long repair intervals
- Utilities experiencing recurring copper outages
- Distributed assets such as wind farms and water associations
- Organizations planning long-term SCADA modernization

Conclusion

This use case demonstrates how MIX Networks®, through the DataRemote 90X2 POTS replacement solution, enables utility organizations to eliminate unreliable copper infrastructure dependencies while maintaining operational continuity for critical SCADA monitoring, safety alarm systems, and emergency communications across distributed remote facilities.