

Remote Government Facilities Case Study

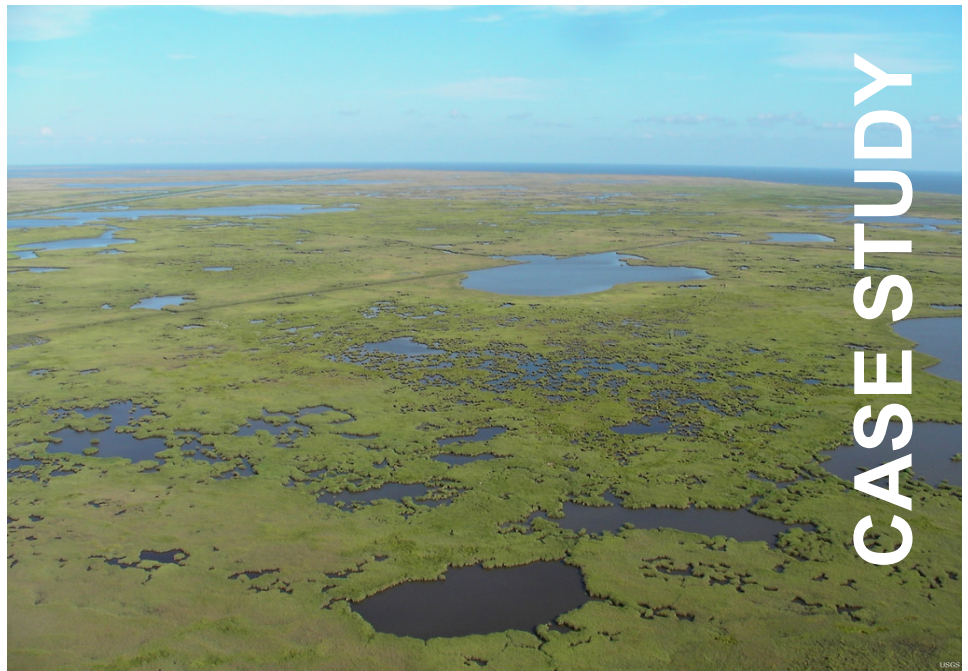
Introduction

The mighty Mississippi River ends at the Gulf of Mexico in an enormous delta region, covering more than 4,000 square miles of barrier islands, marshes, swamps, and forests. The area's river channels, bayous, and man-made canals are accessible only by boat.

Out on the delta's marshlands—a sixteen-mile boat ride from the closest marina—a state government agency maintains a permanent facility, staffed by full-time agents who monitor hunting, fishing, recreation, and conservation. The site consists of several metal-roofed buildings, constructed on 12-foot stilts to stay clear of high water from storm surges. One of the buildings is a 6,000-square-foot residence where the agents reside while on duty.

The Challenge

At the edge of the world, cellular service is a critical component of official, personal, and emergency communications: it's the only telephone service available in the Mississippi River Delta, and the sole source of internet access. The nearest cell towers are 7.4 and 13.6 miles away from the state facility. While outside signal at the site was adequate (around -95 dBm), there was no usable signal inside the state agency's buildings (less than -115 dBm). The outside signal wasn't strong enough to penetrate the buildings' metal roofs and other structural components.



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The Solution

This government facility had been served for several years by a dual-band legacy cell signal booster system. The state agency needed to upgrade the site to 4G LTE service, but the original installer was unwilling to come back out and solve their problem because of the isolation of the location. Abandoned by their original provider, the agency turned to Powerful Signal for help.

Powerful Signal's design engineers created a solution for this isolated location, powered by two WilsonPro passive DAS cellular amplifiers. Outside cell signal was collected by a wideband directional antenna mounted on the facility's 50-foot communications tower, amplified by the WilsonPro boosters, and redistributed inside the residence and one additional building by ceiling-mounted dome antennas.

The Results

This custom cell phone signal booster system was set up by one of Powerful Signal's professional installers, who traveled to the facility by airplane, car, and boat. The two buildings included in this new system now have 4G LTE service inside, with acceptable signal strength throughout each building in the -85 to -90 dBm range. This expertly-designed and professionally-installed solution supports critical voice, text, and data communications for official, safety, emergency, and personal use.

