

CASE STUDY FOR

PUERTO RICO EMERGENCY MANAGEMENT AGENCY

Situation

In the aftermath of the severe impact of hurricanes Irma and Maria in 2017, Puerto Rico faced significant challenges, including damage to infrastructure and widespread communications and power outages. The Guajataca Dam experienced a breach, further jeopardizing downstream residents. In response to this, the Federal Emergency Management Agency (FEMA) and Puerto Rico Emergency Management Agency (PREMA) sought a solution to quickly alert approximately 70,000 residents in case of changing conditions.



Problem

The existing infrastructure lacked the capability to deliver clear and immediate alerts to residents in the event of emergencies, particularly regarding dam breaches or changing conditions. With the potential for further natural disasters and emergencies, there was a critical need for a robust and reliable public warning system capable of reaching residents in a timely manner, even amidst communication and power disruptions.

Solution

Genasys was awarded the contract in April 2018 and successfully designed, engineered, and shipped the equipment for nine Genasys Protect ACOUSTICS systems before the June 30th deadline. In 2018, two mobile ACOUSTICS systems were deployed at locations downstream of the dam, incorporating the Genasys Protect ALERT command and control software for operation and IPAWS notifications.

The other 7 fixed ACOUSTICS nodes followed the full multi-jurisdictional permitting process and were installed in June 2023. Normal installations only require 100mph wind load structure and can use traditional telephone poles. This system was unique and designed with galvanized **steel poles meeting 180 mph wind loads to endure hurricane winds.**





Results

A FEMA press release on December 27, 2018, acknowledged the Guajataca Dam as having the first warning siren in the United States compatible with IPAWS, emphasizing its significance in improving public safety. The installed ACOUSTICS systems provide crystal clear alerts even if communications or power generation is interrupted. The system is satellite linked, has battery back-up power, and solar charging. Together, this provided PREMA a fully integrated public warning system. The deployment of Genasys solutions not only addressed immediate needs but also established a resilient framework for future emergencies, ensuring timely and effective communication with communities at risk.

Years later, in 2024, Genasys Inc. was awarded an expansion to the critical infrastructure project and will construct an Emergency Warning System (EWS) for **37 dams in Puerto Rico**. The installation will utilize sensors and predictive analytics to detect potential flood threats and communicate early warnings to the surrounding population.

"The EWS is vital to the community's safety. Through these alarm systems, people will be notified in case of emergencies such as extreme floods, controlled flood releases, or seismic activity, so they can take timely action to reduce disaster risks. Besides helping save lives and property, this will strengthen disaster preparedness and risk reduction in the communities located downstream of each dam." - José G. Baquero, FEMA's Federal Disaster Recovery Coordinator

**REQUEST A
DEMO**

