

CASE STUDY FOR **HYDROELECTRIC DAM CALIFORNIA**

Flood Warning and Public Safety Notification Hydroelectric Dam - California

Situation

Flood warning systems are crucial for managing the risk associated with hydroelectric dams throughout the United States. As heavy rain and record snowmelt continues to plague many states, increased water levels are causing mounting concern for potential dam failures and catastrophic flooding. Second only to wildfires in many states, hydroelectric dams and infrastructure may face potential catastrophic flooding events in the coming years with the likelihood of future events that could surpass past records in severity.

For the purposes of this case study, the focus is on California. Since 2017, California has been experiencing its wettest years on record, with precipitation levels in Northern California exceeding 200% or more than the annual average. This continuing pattern underscores how quickly California's major concerns can shift from the severe consequences of a prolonged drought (2012 to 2015) to the equally harmful effects of excessive rainfall and floods.



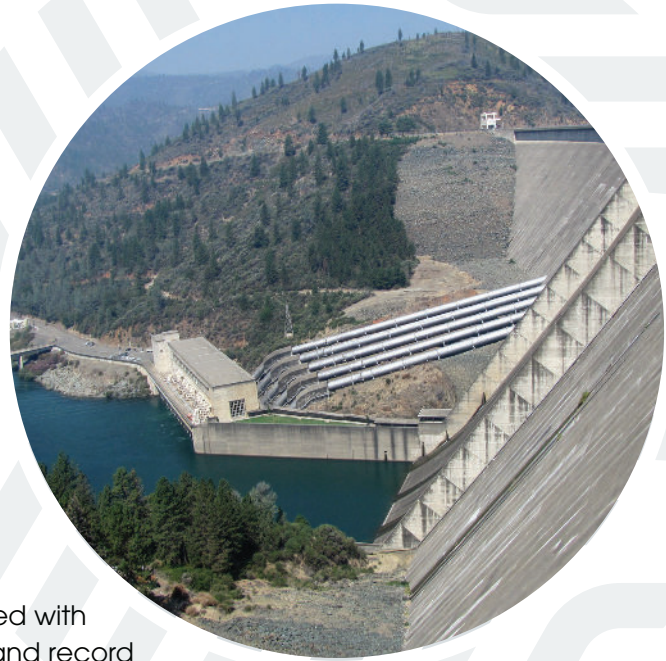
Problem

Many hydroelectric dam facilities, both state-owned and privately-owned, are relying on emergency warning systems that often utilize sirens, but they lack the ability to transmit clear voice messages with crucial lifesaving details and instructions. Meanwhile, bullhorns and standard public address systems suffer from restricted broadcasting reach and subpar voice clarity.

Solution

One such facility implemented an interim leased solution with the Genasys Protect ACOUSTICS 360XT fully self-contained mobile emergency warning system and then **installed a permanent DS-60 speaker array system with coverage from 60° to a full 360°**. The DS-60 system was configured with the Genasys Command and Control software and was ready for remote system activation via satellite.

Featuring the highest Speech Transmission Index (STI) within the mass notification and emergency communications industry (+0.95), the Genasys ACOUSTIC DS-60 system significantly exceeds voice intelligibility requirements from FEMA and UFC.





Results

With this installation, the hydroelectric dam received sound/voice coverage for mass notifications through Genasys' unique driver and waveguide technology that allows customized sound projection from **60° to 360°** for targeted and expansive communications.

Designed to emphasize the main range of human hearing, their broadcasts are distinct and intelligible, even over ambient noise. The ACOUSTICS system ensures consistent frequency response with less than **5dB variation in loudness**, eliminating sound fading. This results in clear, unmistakable messages in any language, across all transmission frequencies.

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