

CFE Laguna Verde Nuclear Power Plant Veracruz, Mexico



OVERVIEW

In recent years the world has witnessed the impact natural disasters can have on critical infrastructure. The 2011 Tohoku earthquake and tsunami that crippled the Fukushima Daiichi Nuclear Power Plant in Okuma, Japan, showed us how quickly weather events could impact operations at a nuclear plant. Given the geographic location of the CFE Laguna Verde Nuclear Plant, hurricanes are a concern for the safety of the plant, employees and the surrounding community. A reliable communications system is a critical component of CFE Laguna Verde Nuclear Plant's emergency preparedness plan.



Preparing for a natural disaster was one of the primary missions of Comisión Federal de Electricidad (CFE), the government-owned national utility company of Mexico for the Laguna Verde Nuclear Power Plant. With several hurricanes having already impacted the plant, CFE wanted to ensure the radio communications system they selected would remain online if the facility incurred damage during a natural disaster. While the potential for significant damage is low, CFE was committed to investing in a solution that could survive a worst-case scenario.

CHALLENGES

CFE Laguna Verde Nuclear Plant had been utilizing their existing radio communications system for about ten years. The radio system was aging, and the technology, using a central control, has become obsolete. Centralized control means a single point of failure on the system could compromise the entire radio network. The plant would lose its ability to communicate inside the plant and with public safety agencies in the nearby community.

The trunked radio communications system plays an integral part in the emergency plan for the CFE Laguna Verde Nuclear plant. According to Lic. Jesús Viveros, IT Support Manager, the radio system is essential for maintaining plant safety and the safety of the local community. When the emergency plan is activated, the plant must have the entire radio infrastructure available.

Knowing they needed to replace their aging radio system, the CFE Laguna Verde Nuclear Plant began researching options for a rugged, redundant and interoperable P25 network that could withstand any extreme weather events that Mother Nature may throw at them. Their research led them to JVCKENWOOD and the KENWOOD ATLAS® P25 radio system.





SOLUTION

CFE Laguna Verde Nuclear Plant selected a KENWOOD ATLAS P25 800 MHz, Phase 1 system consisting of four (4) sites with five (5) channels per site. In addition, they added NMS, three (3) StarGate Consoles and a conventional site to the system. The KENWOOD ATLAS P25 software makes communicating between conventional and trunking sites seamless, without the need for manual intervention. According to Lic. Jesús Viveros, IT Support Manager, "JVCKENWOOD presented us with a success case in Puerto Rico utilizing KENWOOD ATLAS P25 system, precisely a hurricane event, and we saw all the advantages a distributed control system would provide for the CFE Laguna Nuclear Plant."

KENWOOD | **ATLAS®**

System Description

- | Hybrid Conventional / Trunking System
- | Project 25 APCO25 Phase 1
- | 800 MHz Solution
- | 4 Sites
- | 5 Channels at each site
- | NMS
- | 3 StarGate® Consoles

KEY BENEFITS

- Modernize an obsolete system with new, leading-edge technology
- No single point of failure -- Improving the communications system resiliency
- Provide coverage in specific areas required for emergency protocols.
- Simple design that is easy to maintain helping to lower operation and maintenance costs
- Reuse of existing P25 subscribers on the new KENWOOD ATLAS P25 system
- High-level redundancy

RESULTS

Miguel Angel Castillo Gonzalez, head of telecomputing and communications in the Services Branch Office, was very happy with the quick implementation of the system. "The implementation time it took to start working with the system once installed was a record time for us. The previous system took longer than a year to set up. In this case, it took about a month." He also said, "The system, as such, is a mission-critical system for response to radiological emergencies that could have an impact at the national level."

Deputy Services Manager for CFE Laguna Verde Joel Méndez describes the critical mission of the plant. "The Laguna Verde Plant has a very important mission, from my point of view, for the country. Our top priority is mission safety and the environment while generating electricity for the country with nuclear power and overseeing the cost-effectiveness and efficiency of our process." He continued, "As our main mission is safety first, the emergency plan with the communications system is crucial for maintaining plant safety. In the case of a contingency, the probability of which is very low, we must have an emergency plan to protect the public. And, this system will help us to make sure that the emergency plan will work effectively."



Regulatory Review

The ATLAS P25 radio system recently earned CFE Laguna Verde Nuclear Plant the congratulations of the regulatory authority following a review.



System Implementation

The KENWOOD ATLAS P25 system was deployed in record time according to plant officials. The system was operational in about a month.

ABOUT US

JVCKENWOOD partnered with the local service provider Servicios de Integración e Ingeniería para Telecomunicaciones S.A. de C.V. (SIIT) for local installation and support. CFE Laguna Verde Nuclear Plant officials are very pleased with the ATLAS P25 system and the support they have received from SIIT as the local service provider. SIIT has extensive experience with KENWOOD ATLAS P25 system deployments and performed the majority of the installation services. CFE has plans to grow the ATLAS system by adding additional sites in the future. The flexibility of the KENWOOD ATLAS P25 solution makes this plan simple, as the system is scalable and easy to configure without requiring a major project plan. At JVCKENWOOD, we make safe, simple.

JVCKENWOOD focuses on innovating, developing and implementing the highest quality secure communications solutions to organizations whose mission is to protect and service the communities around them. It's simple: Every day, we go to work to make the world a safer place. The mission-critical communications products we provide ensure the right people always have the lifeline they need, when they need it.

JVCKENWOOD

800.328.3911 www.efjohnson.com
1440 Corporate Drive, Irving, TX 75038