



LNG plant installs Eaton's mass notification system for emergency communications

Location:

Lima, Peru

Segment:

Oil & Gas, LNG plant

Challenge:

Minimize the risk of accidents by notifying personnel in an effective and timely manner

Solution:

Eaton's mass notification solutions, including in-building and wide-area MNS

Results:

Protects Peru LNG by providing real-time information to all plant occupants

“The system has effectively been helping to protect Peru LNG by providing real-time information to all plant occupants in emergency situations since 2010.”

Jean Montano Pereira, ICCS Engineer, Peru LNG

Background

The Peru LNG natural gas liquefaction plant in Pampa Melchorita, Peru, is located approximately 169 km south of Lima. The facility is South America's first LNG production plant. Open since June 2010, the plant has an annual production capacity of approximately 4.4 million tons of LNG.

The PERU LNG project includes two parts: an LNG Plant with a Marine Terminal from which LNG is shipped overseas, and a pipeline connected to the existing TgP pipeline to transport natural gas from the connection point in the mountains of Ayacucho to the LNG Plant located on the coast at km. 170 of the South Pan American Highway.

Need

Peru LNG's needs for a General Alarm and Mass Notification System (MNS) are:

- Sound fire and gas alarms, and make emergency, safety and routine announcements
- Broadcast in specific plant areas
- Minimize the risk of accidents by notifying personnel in an effective and timely manner what to do in the event of an emergency
- Reliable and easy to operate with the use of real-time diagnostics
- Modular design to facilitate maintenance and expansion
- Wired and wireless technologies to cover the whole site
- The system is required to comply with industry standards and applicable laws



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Solution

Peru LNG selected Eaton's WAVES for its in-building and outdoor, wide-area mass notification systems as its complete General Alarm System.

On confirmation of a fire or gas release, the Fire & Gas system automatically activates the General Alarm System to sound the appropriate fire or gas alarm tone throughout the plant. For other emergencies, the operator can make announcements directly to the affected zone or area to give the appropriate information and directions in order to avoid accidents.

Access to the General Alarm System is provided from several control centers; all are capable of emergency speech broadcast. However, cancellation of the fire or gas alarms is restricted to the Central Control Room.

The Mass Notification System consists of five WAVES High Power Speaker Arrays (HPSAs) located around the plant. Each siren has a maximum sound level of 110 dB(a). The sirens are capable of live speech, alarm tones and pre-recorded messages. Each siren is controlled from the main control unit, the Integrated Base Station (IBS). Each siren is equipped with automatic diagnostics that transmits a fault condition to the Integrated Base Station.

The indoor General Alarm system has the capability to broadcast fire, gas, and general alarms, together with announcements and to sound the all-clear. In areas where the ambient noise level is greater than 85 dB(a), flashing strobes are installed. The internal General Alarm consists of SAFEPATH voice evacuation systems and 64 Wheelock speakers and 16 amber strobes.

The main control unit, the Integrated Base Station, is in the Central Control Room and runs the WAVES software which allows commands to be issued and for data and messages to be sent to the mass notification nodes and to the general alarm internal nodes. The status of all nodes and their associated audible and visual notifications devices is continually monitored from the main control unit.

Results

The WAVES system meets all the Peru LNG requirements, and complies with all the applicable codes and standards which include the National Fire Alarm Code (NFPA 72), Life Safety Code (NFPA 101) and the National Electrical Code (NFPA 70).

"The system has effectively been helping to protect Peru LNG by providing real-time information to all plant occupants in emergency situations since 2010," said Jean Montano Pereira, ICCS Engineer, Peru LNG.



Wide-Area MNS

Using an advanced amplification system design, WAVES High Power Speaker Arrays from Eaton feature industry-leading intelligibility. Whether it's an LNG plant or a college campus, the Giant Voice speakers provide clear, concise and intrusive voice messages that communicate critical information in an emergency.

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