Case Story: ESB Ireland

Automatic Alarm Handling in Hydro Power Plants

Technical Alarm Handling in Hydro Electric Power Plants

The Irish Electricity Supply Board (ESB) provides 4,000 MWatts of electrical power to twelve million customers in each year. The organisation maintains a mixed portfolio of generation facilities using both renewable and fossil fuels.

As part of its commitment to continual improvement ESB have it's two-way radio system upgraded to a MOTOTRBO IP Site Connect system. This system has enabled ESB to link PBX and radio communications, technical alarm outputs and man down emergency alarm systems from a group of Hydro electric power plants.

To facilitate the delivery of this solution ESB employed EMR a leading system integrator and MOTOROLA partner. EMR took on the challenge and designed the system using MOTOTRBO IP Site Connect , a MOTOTRBO PBX exchange interface from TELDIO and alarm monitoring and management software application from ZONITH.

The solution links the existing PBX telephone system to MOTOTRBO radios. This enables people to speak to any employee located at either site using a desk phone or a MOTOTRBO radio.

The ZONITH Alarm Control System (ACS) interprets alarms from a Honeywell Building Management System (BMS) and an ASCOM Man Down paging system. All alarm are automatically dispatched to more than 30 MOTOTRBO radios across both power plant sites.

Engineers and security staff receive technical and emergency man down alarms from two sites using a MOTOTRBO IP Site Connect and the ZONITH Alarm Control System.

Solution Features

► Two interfaces monitor output alarms from the BMS and Man Down system.

► Engineers can call the control room desk phone using a MOTOTRBO radio.

► Emergency man down alarms are immediately dispatched to safety officer radios.

► Engineers receive technical alarm information on their MOTOTRBO radio display.

► Once an alarm is accepted employees can remotely close the alarm using their radio.

► All alarm details are logged and reported.

The Solution

A MOTOTRBO IP Site Connect system links the Cathleen Falls Hydro-electric Power Plant in Ballyshannon Donegal to its neighbouring Clady Power Plant. MOTOTRBO radios can instantly communicate between both plants.

The MOTOTRBO repeater at Cathleen Falls connects to the ESB desk phone PBX using a TELDIO Radio Branch Exchange. This enables staff using desk phones to call individual or groups or MOTOTRBO radios. It also enables individual MOTOTRBO users to call individual desk phones.

The ZONITH ACS monitors and interprets technical and business critical alarms from a Honeywell Building Management System monitoring both Power Plants. If an alarm is raised at either site the ZONITH ACS immediately dispatches the alarm details in text format to the MOTOTRBO radio of the ESB representative responsible.

In addition, the ZONITH ACS is configured to monitor safety and emergency alarms emanating from an existing ASCOM Lone Worker and Man Down paging system. The system triggers and alarm is if a user at either site manually activates an alarm, fails to move over a period of time or falls down. All alarms are immediately dispatched by the ZONITH ACS directly to the safety and security staff at either site.

The MOTOTRBO solution from TELDIO and ZONITH combines voice communication with alarm handling in one radio radio.

The Need

Link voice and alarm data communications across multiple sites.

The Solution

MOTOTRBO IP Site connect links MOTOTRBO calls across both sites. A TELDIO Radio Branch Exchange links PBX calls to MOTOTRBO radios. The ZONITH ACS monitors and automatically dispatches technical and emergency alarms from a Honeywell BMS and ASCOM Man Down Pager system.

The Benefits

► ZONITH and TELDIO applications share hardware resources.

► A single platform provides interoperable voice and data.

► Radios at multiple sites receive calls and alarms.