KKKELTRON

Specialized Signaling Applications for the Zoo Environment
Maryland Zoo in Baltimore

Overview

Every multi-building facility environment has unique requirements for fire and security alarm monitoring and dispatch. Some of the most challenging are those of a zoo or animal park complex. Keltron Corporation provided the Maryland Zoo in Baltimore with a Keltron Life Safety Event Management System to wirelessly monitor fire alarms in all the Zoo's buildings and properties. The system enables alarm and incident signaling and reporting of fire, security, environmental issues and zoo-specific (e.g. animal escape, snake bite) signals to the Zoo's on-site dispatch center as well as to a commercial monitoring station.

The requirements

The Maryland Zoo in Baltimore required an integrated, UL listed fire alarm monitoring and reporting system with complete facility coverage and scalability. In addition to the standard facility monitoring system, the Maryland Zoo environment has unique requirements that include:

- ▼ Monitoring and reporting of fire, security and specialized signals to both on- and off-site monitoring locations
- ▼ Monitoring and dispatching unique, zoo-specific signals including snake bite, staff panic, animal escape, and critical animal life support systems of sensitive animal habitation areas
- ▼ Manual and automatic incident signal activation
- ▼ Head end software with remote access for first responders
- ▼ Uses industry standard signaling technology to deliver off-site reporting to a commercial monitoring station
- ▼ Radio frequency remote control system with both automatic and manual operation capability to notify roving, on-site staff of incidents and detector activations

The solution

After a lengthy design and performance specification and bid review process by Hughes Associates, the Maryland Zoo chose a Keltron active network radio fire alarm monitoring, signaling and reporting system, with Keltron radio transceivers, Keltron DataTapTM serial data capture modules, Keltron LS 7000 life safety event management software system and Keltron SDACT serial digital alarm communicator transmitter. The contract for equipment supply and installation was awarded to Fireline Corporation.

System components and how they work

The Zoo's campus is equipped with automatic fire detection systems with Notifier fire alarm panels. At each panel a Keltron radio transceiver and Keltron DataTap interface capture change-of-status events and wirelessly transmit them to the Keltron receiving system at an on-site central location. The Keltron receiver forwards events to the Keltron LS 7000 Life Safety Event Management System where the Zoo's dispatchers are alerted to events requiring response. The Keltron receiving system also retransmits those events over the public telephone network to a remote monitoring station via its SIA format Serial DACT output - a Keltron SDACT.

In addition to monitoring for fire alarms, the Zoo's facility-wide system is also used to monitor eight separate types of non-fire signals.

System components and how they work (cont'd)

All fire and eight non-fire signals are specifically annunciated at the Keltron receiver and Keltron LS 7000 system:

- Fire alarm and related systems
- CO_2 warning systems
- Animal habitat life safety water pump systems
- Animal habitat or building system temperature supervision
- Building generator supervision
- Staff panic pull stations
- Snakebite pull stations
- Animal escape push buttons
- Security systems

The programmability and flexibility of the Keltron software in all system components provide a system comprised completely of standard equipment yet able to accommodate all of the Zoo's general and specific requirements.

Staff are notified of signal activations by email and a telephone call from the commercial monitoring station or pager activation so that all responding and remote personnel are notified immediately of exactly what type of situation exists and its precise location. Off-site staff can determine the urgency of the situation by remotely accessing the Keltron LS 7000 system to view comprehensive event information and related historical data. Based on that urgency the staff reports to the site or supports the on-site personnel over the telephone.

For zoo-specific incidents, on-site staff can trip fire alarm panel monitor modules programmed to activate control modules which activate strobe lights that designate by color, the exact location and type of incident.

Benefits

This configuration of the Keltron life safety event management system provides many benefits to the Zoo:

- Active network radio transceivers, require no wiring infrastructure and can be quickly installed, easily relocated and provide instant coverage of temporary facilities
- The Keltron DataTap interface enables the facility to monitor over 60 different models and brands of alarm panels enabling the facility management to save money by using existing panels
- The intelligent device reporting functionality provides the ability to recognize specifically and report non-fire, zoo-specific signals
- The Keltron SDACT interface software allows the facility to selectively change the signals transmitted to the commercial monitoring station in the field, contributing to a lower lifetime cost of ownership
- The Keltron system allows the selection and use of both standard and non-standard SIA event codes, enabling zoo-specific signals that are not currently supported by industry standard protocols to be explicitly recognized at a commercial monitoring station, enhancing overall system flexibility
- Auto-failover redundant head end equipment provides overall system survivability

Keltron develops and manufactures universally-compatible, UL listed life safety event management systems for the municipal and proprietary markets. Solutions include Ethernet signaling systems, active network radio systems, distributed multiplex systems, digital communicator/receiver systems, and direct wire systems. This document is not intended for installation or maintenance purposes. All specifications are subject to changes without notice. For more information visit www.keltroncorp.com or contact us at 781-894-8710.

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