

## **3459. REMOTE AREA MONITORING INDUSTRY OVERVIEW**

In the past few years, several U.S. Nuclear Power Plants have installed large scale Area Monitoring systems. Although there are many applications / implementations for these systems, they all tend toward a few common objectives. While not considered safety-related permanent radiation monitors, these systems do provide both real-time and historical information capability in a portable, rapidly deployed configuration.

### **I. Overview**

Current power plant system configurations consist of three categories of equipment, Field Detectors, Information Gatherers / Disseminators and Monitoring Software. Each features a variety of options.

### **II. Field Detectors**

A variety of detection equipment exists that, although normally used in "stand alone" applications, can be integrated into a complete system. These include: Electronic Alarming Dosimeters, Ion Chambers, High Range GM Probes and Continuous Air Monitors. Each instrument has been designed to fit a specific niche in radiation detection.

### **III. Information Gatherers / Disseminators**

For field radiological data obtained by detectors to be useful, it must be readily available to any of a number of plant personnel. Using an information hub allows detector data to be distributed to various locations, including radiation protection, ALARA and job entry points. The options for this equipment are either wireless (telemetry) monitors or hard-wired (multiple channel) portable monitors. Each equipment option is uniquely suited to particular applications.

### **IV. Monitoring Software**

System users prefer flexibility when displaying gathered data. This flexibility is provided by monitoring software. Many solutions are available, featuring a wide variety of functionality, including LAN-based data transmission, multiple trending configurations, text-based displays, survey map data overlays and more.

### **V. Industry Applications**

A brief summary of U.S. Nuclear Power Plants currently using large scale Remote Area Monitoring Systems to provide automated dose and / or dose rate readings follows the discussion section.

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