RADCOMM
RADIATION DETECTION SYSTEMS

Radioactive Melt Early Warning System

If a radioactive gauge is smelted in the furnace, how long will it take before the melt shop personnel realize that the smelting has occurred?

RadMelt Early Warning System (RMEWS) automates alert and shutdown processes, ensuring rapid and reliable response.

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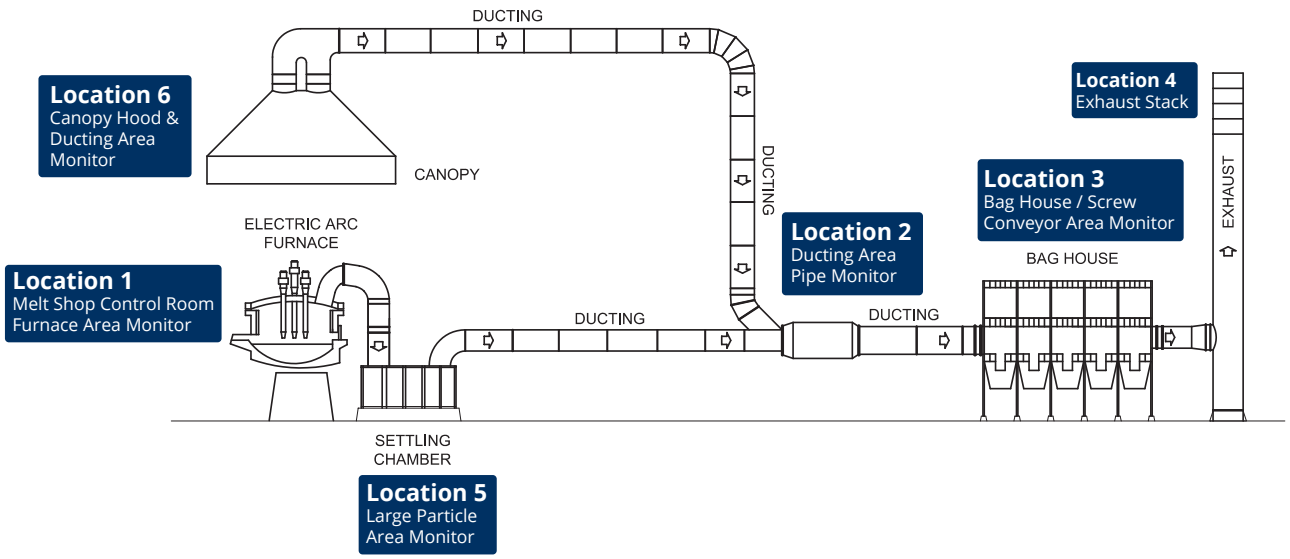
RadMelt Early Warning System(RMEWS)

How it Works

There must be specific response plans for different isotopes, in order to properly handle the accidental smelting of radioactive gauges. Failing to follow appropriate procedure(s) for each specific type of isotope can result in unnecessary radiation exposure to personnel, increased product and plant contamination, and exhaust gas emissions.

The RMEWS includes multiple crystal-based detector panels strategically located in the melt shop furnace and pulpit area, along the off-gas dust collection system, and on the exhaust fume stack. The detector panels are connected into the plant's network, communicating with a central controller located in an area where personnel will be present during scanning periods. Each detector operates as a standalone unit, sampling the ambient background radiation, time stamping data and storing each data sample in the event of a data transfer interruption with the RMEWS central controller. The RMEWS interface provides real-time detector operational information, allowing personnel to view the system performance at a glance. In order for the RMEWS to produce an actual radiation melt alarm condition, a specific sequence of events must occur, otherwise, it is considered a warning alert.

During normal operation, the RMEWS passively operates with no interference or interruption to any of the plant's operations. Once there is a radiation melt situation which needs to be addressed, the RMEWS system will immediately notify local personnel with audio and visual alarms and prompt the PLC plant control system to trigger the appropriate alerts and step-by-step procedures for plant personnel to follow. The RMEWS system stores raw data before, during and after the smelting of a radioactive source, allowing the user to replay the entire event as it unfolded, at a time-selected-at-a-glance view and/or selected and controlled replay speed.



"Steel making operations experience 1 to 5 incidents involving the smelting of radioactive gauges every year, even though multiple radiation detection systems are monitoring their raw materials before being deposited in the furnace."

Benefits

Risk Management

There have been a significant number of radiation gauges smelted over the past 30 years. It is impossible to achieve 100% protection against smelting a radioactive gauge being smelted in an arc furnace, no matter how many radiation detection systems are installed.

Reaction Time

Smelting facilities typically have a written **rad melt** response plan. These written procedures are focused on exposure/dose rates and depend heavily on a series of manual steps and multiple personnel - resulting in excessive and costly time delays.

Strategic Protection

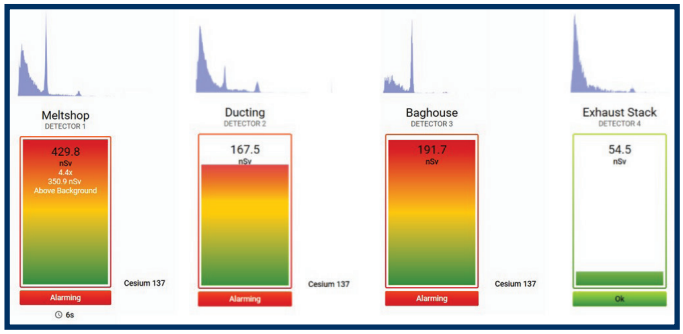
The RMEWS design is based on continuously monitoring a minimum of four strategic locations in the steel plant. Each location operates as part of a dedicated network and as a standalone detection unit in the event an alarm threshold is exceeded. When the conditions of a true **rad melt** incident are identified, the system steps through a series of automated responses and alerts, defined by plant personnel - ensuring a quick and documented response.

Real World Training

The RMEWS is capable of performing a number of different **rad melt** simulation. This enables plant personnel to be trained how to react in different scenarios so they can protect people and save money.

Customized To You

Since every steel plant has a unique mode of operation, once the RMEWS step-by-step procedures have been configured, they can easily be incorporated into the RMEWS software during commissioning. If at any time, the steel plant operations change or if regulatory requirements change, updating procedures can easily be performed.



ABOUT US

RadComm Systems is an international company specialising in the design, manufacture and servicing of highly sensitive radiation detection systems for industrial, civilian and government applications. We protect individuals and the environment from accidental radioacive exposure by detecting, measuring and identifying orphaned radioactive sources.

Established in 1992, RadComm's unique and innovative approach to designing and supporting customized systems to meet each customers' unique needs and requirements, has helped establish our reputation as the undisputed technological innovator in the steel and scrap metal sectors.

RadMelt Early Warning System

The primary objectives of the RadMelt Early Warning System (RMEWS) are to minimize the financial and environmental impacts of an accidental radioactive source smelting by providing real time monitoring and automating your melt response plan.

- The earliest possible warning with critical details
- Real-time spectral measurements
- Real-time step-by-step safety and operational procedures after a smelting occurs
- Clear and easy to understand system operational messaging

RadComm
Radiation Detection Systems

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