Q-TRACK®

Knowing Where: Any Where

SIMULATED DOSIMETRY FOR REALISTIC RADIATION WORKER TRAINING

Workers who understand how to use and interpret their personal radiation dosimeters can avoid health hazards and minimize costs for their employers. However, accurately simulating hazardous environments is a challenge.

Q-Track answers that challenge with our Dosimulation™ System.

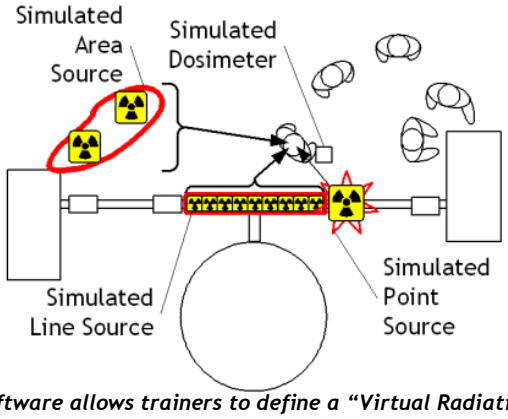
BENEFITS:

- An INPO "***Strength***"
- Better Training
- Reduced Exposure
- Enhanced Worker Efficiency

Southern Company received the ***2010 TIP Award*** from the Nuclear Energy Institute (NEI) for their use of Q-Track's Dosimulation™ System

TECHNOLOGY:

NFER® (Near-Field Electromagnetic Ranging): Q-Track's patented and award-winning location technology is optimized to provide accurate 1-3ft location data even in the most difficult industrial RF environments. The Dosimulation™ Software allows trainers to create custom, repeatable training scenarios.



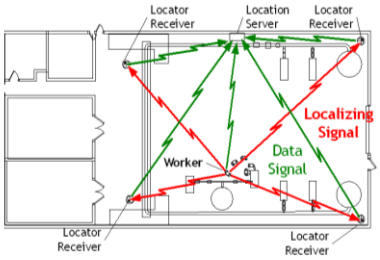
Dosimulation™ Software allows trainers to define a "Virtual Radiation Environment"

FEATURES:

- The Dosimulation™ System facilitates real-time training exercises.
- The Dosimulation™ Software automatically calculates the radiation exposure by correlating the workers' real-time location with the simulated radiation sources.
- The **VRE** can be adjusted dynamically in real-time to reflect simulated changes in the flow-loop environment.
- The **training** exercise is saved automatically, allowing for playback during an after-exercise review and critique.

The QT™-550 Locator (above) localizes QT™-500 Tags (below) to an accuracy of 1-3ft, requiring no synchronization.

The location data is sent to the location server for processing and integration with other systems.



An NFER® technology based training system determines the worker locations. The location data can be used to simulate a radiation dose in training or to generate current radiation maps of a nuclear power plant

The Q-Track Corporation; 3414 Governors Dr. SW, Suite Q; Huntsville, AL 35805; (256) 489-0075; www.Q-Track.com

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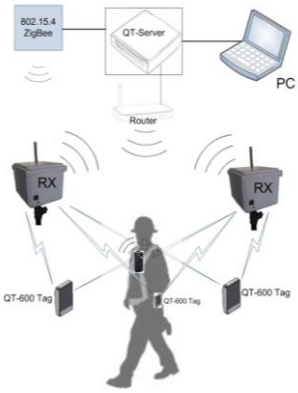
Q-Track demonstrated the feasibility of the ALARMS concept with the help of the Oak Ridge National Laboratory at the Experimental Gas Cooled Reactor facility.

Q-Track Dosimulation™ System Architecture



System architecture showing the Tag Link to the Locator, and the Receiver Data Link to the Central Radiological Control Monitoring application.

"Startup Q-Track Corp. has homed in on an oft-ignored phenomenon of RF transmissions and leveraged it as the basis of what has been demonstrated to be an accurate but relatively simple tracking scheme. Called Near Field Electromagnetic Ranging (NFER), the technology has a resolution of 30 cm at 300 meters. That's accurate enough to rival ultra wideband (UWB) and conventional time-of-flight and time-distance-of-arrival schemes, with their respective shortfalls."

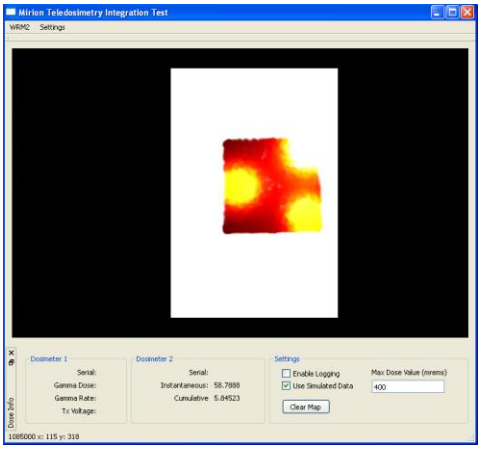
United Business Media
EE Times

A Location Aware Radiation Monitoring System:

Radiation exposure of nuclear workers is not only a serious health and safety issue, but also imposes substantial costs on nuclear utilities. Precise knowledge of the radiation environment within a nuclear facility is essential to minimizing personnel exposure. For dosimetery information to be most useful, it must be correlated with location information.

The Solution:

- **Location Accuracy:** 1m (3ft) or better in typical industrial environments.
- **Update Rate:** 1Hz update rate for location and radiation dose rate.
- **Hardware Integration:** Tracking and Dosimetry data integration at the base station allows for a flexible interface with remote Dosimetry systems. The Q-Track system is currently integrated with the **Mirion WRM2 system**.
- **Software Integration:** The Dosimetry and location can be used to provide real-time feedback of workers and the radiation environment. Maps like the one shown below can be generated from this data to provide HP's and other staff, the real-time feedback they need to reduce the cumulative dose of employees working in the radioactive areas.



WRM2 iPAM Trx

WRM2 Base Station

QT-500 Tx

The screen shot (left) displays a real-time radiation monitoring map generated using a simulated source. The color is an indication of the dose rate. On the right is an example of the radiation mapping hardware. A remote dosimeter, the Q-Track Tag, and a WRM2 base station. The Q-Track system also includes locators and a server.

Visit our website www.Q-Track.com for more info and videos

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