



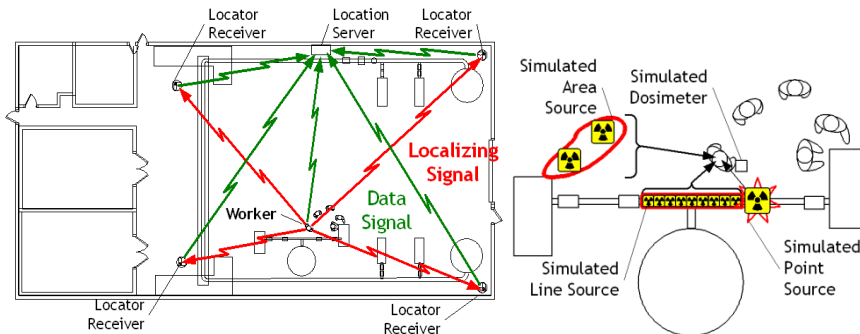
## SIMULATED DOSIMETRY FOR REALISTIC RADIATION WORKER TRAINING

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 Radiation Worker Training System. Using our patented technology, the system automatically and instantaneous correlates a worker's actual location with a trainer-controlled simulated radiation environment. Our training dosimeter then displays the instantaneous and cumulative radiation exposure as well as sounding alarms when trainer controlled thresholds are met. This accurately simulates the radiation dosage alarms a worker receives when operating in a "hot" environment. Q-Track's Radiation Worker Training System is also a process mapping tool, allowing a trainer to review an exercise and streamline a proposed operation to minimize manpower and radiation exposure. The unprecedented realism of Q-Track's Radiation Worker Training System facilitates "Practice-Like-You-Play" training.

### FEATURES:

**NFER<sup>®</sup> (Near-Field Electromagnetic Ranging) RTLS (Real-Time Location System):** 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.



*A NFER<sup>®</sup> technology based training system determines worker locations with a typical accuracy of 1-3ft within a training environment (left). Software allows trainers to define a "Virtual Radiation Environment" (right).*

**VRE (Virtual Radiation Environment) Software:** A software package that facilitates real-time training exercises which include monitoring, prompt intervention, and feedback. The VRE Software allows a training instructor or health physicist to define a VRE within a facility. A variety of simulated radiation points, lines, and area sources each with variable intensities can be defined. The software automatically calculates the radiation exposure associated with each defined location and correlates the workers' real-time location with the simulated radiation doses. A trainer can also dynamically change the VRE during a training exercise to reflect simulated changes in flow loop behavior. All data generated by training exercises are automatically saved allowing for play-back during the after-exercise review and critique.



The QT<sup>™</sup>-500 Locator-Receiver localizes QT<sup>™</sup>-500 Tags to an accuracy of 1-3ft. Requiring no synchronization, the QT<sup>™</sup>-500 Locator-Receiver communicates wirelessly to the Location Server.



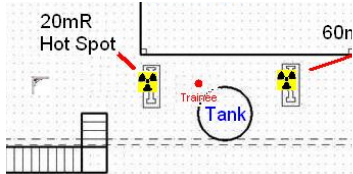
The QT<sup>™</sup>-500 Tag provides industrial strength real-time location for the most difficult propagation environments, indoors or outdoors.



The QT<sup>™</sup>-500 Tag in training dosimeter mode, displaying the simulated radiation dose based on the real-time real-world location and the location of simulated radiation sources in the Virtual Radiation Environment.



The Q-Track Location Server hosts the Q-Track Position Integration Engine and can send data to other computers or devices.



This screenshot from the Simulated Dosimetry Application shows placement of simulated radiation point sources relative to a trainee.

*“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 ultrawideband (UWB) and conventional time-of-flight and time-distance-of-arrival schemes, with their respective shortfalls.”*



## BENEFITS:

**Better Training:** Workers’ simulated radiation dose vary immediately in response to workers’ actions. This provides immediate feedback to workers as they modify activities to minimize dose. Training instructors will be able to monitor exercises as they unfold, allowing them to provide prompt intervention and feedback.

**Reduced Exposure:** Workers who have received more realistic radiation training are better equipped to manage and minimize radiation exposure while navigating real-world nuclear environments.

**Enhanced Worker Efficiency:** The overall impact of the Q-Track Radiation Worker Training System is improved efficiency which translates directly to the bottom line.



*Q-Track’s Radiation Worker Training System brings “Practice-As-You-Play” realism to nuclear training.*

## ABOUT Q-TRACK’S NFER<sup>®</sup> TECHNOLOGY

Q-Track is the pioneer in NFER<sup>®</sup> (Near-Field Electromagnetic Ranging) technology. NFER<sup>®</sup> RTLS (Real-Time Location Systems) are optimized for the most RF hostile industrial environments. By operating at low frequencies and by utilizing differences between electric waves and magnetic waves, this breakthrough technology is significantly more accurate at longer ranges. In complicated indoor environments, NFER<sup>®</sup> systems can localize a tag to an average accuracy of 0.3-1m (1-3ft) at ranges up to about 50m (160ft) depending on the environment.

Merging NFER<sup>®</sup> technology with a Virtual Radiation Environment yields a unique radiation worker training system: dramatically improving the realism and relevance of training exercises, enabling workers to minimize exposure, reducing health risks, and power utility expense.

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