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ORTEC

News Release

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**AMETEK INTRODUCES THE ORTEC® DETECTIVE-EX-100—
LATEST ADVANCEMENT IN HAND-HELD RADIATION IDENTIFIERS
Portable Germanium Detector Offers Faster Speed and Increased Sensitivity**

OAK RIDGE, TN—The ORTEC® business unit of AMETEK Advanced Measurement Technology has introduced the latest addition to the ORTEC family of nuclide identifiers—the Detective-EX-100. The latest hand-held device offers a significant improvement in sensitivity over the entire energy range used in nuclear material interdiction.

The Detective family of instruments was designed for use at border crossings, cargo ship docks, and transportation terminals to detect and differentiate between potentially dangerous radioactive materials and otherwise harmless radiation sources.

The new Detective-EX-100 incorporates a larger high-purity Germanium crystal detector that provides it with increased sensitivity and improved low-energy efficiency. The result is faster identification of suspicious materials without any loss in accuracy. The Detective-EX-100 is approximately two times faster than the Detective-EX in identifying low-energy radiation emitters (including highly enriched Uranium) and approximately three times faster in identifying medium- to high-energy emitters, such as Plutonium or naturally occurring radioactive materials (NORMs), such as porcelain fixtures, kitty litter and ceramic tile.

The Detective family of nuclide identifiers represents an advance in radiation detector technology; reducing existing bulky equipment into a lightweight, battery-powered device that can be either permanently mounted or fully portable. These identifiers employ High-purity Germanium (HPGe) as the gamma ray detector.

HPGe gamma-ray detectors offer the best energy resolution (selectivity) and sensitivity and allow the Detective to positively identify nuclear materials without expert intervention. HPGe crystals detect minute amounts of neutrons and gamma rays emitted by radioactive materials, even if heavy metal shielding has been placed around the source. Also in the EX models, a moderated neutron detector, provides confirmation when “fissile” nuclear materials (uranium or plutonium) are present.

ORTEC has solved the cryogenic cooling requirement for the HPGe detector by the use of a high reliability miniature cryo-cooler.

ORTEC has more than 40 years of experience in the design and manufacture of highly sensitive radiation detectors that are used by government and industrial laboratories, nuclear facilities and medical research and in nuclear safeguards. Since the early 1970's ORTEC has manufactured HPGe detector

systems from germanium material refined at the Oak Ridge facility. Additionally ORTEC is a leader in systems, digital signal processing electronics and software associated with such applications.

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AMETEK AMT is a division of AMETEK, Inc., a leading global manufacturer of electronic instruments and electromechanical devices with annualized sales of nearly \$1.6 billion.

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