

# RadEye PRD Application in the Recycling and Scrap Markets

## Key Words

- High Sensitivity
- Compact and Lightweight
- Scrapyard/ Recycling Facility
- Adaptable
- PRD- Personal Radiation Detector
- Rugged and Reliable

## RadEye in Recycling and Scrap Application Note

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*RadEye PRD is small and compact*

The RadEye PRD is the next generation of advanced radiation meters. Thermo's newest Personnel Radiation Detector (PRD) was developed in response to a growing need for smaller, more compact detectors which have even more sensitivity to unwelcome radioactive sources. The RadEye PRD represents a high-performance measuring device designed to be used in conjunction with a vehicle monitoring system, for persons who are responsible for detecting and localizing radiation sources: Scale Operators, Scrap Inspectors or Quality Control Personnel.

Radioactive sources can find their way into scrap and recycling yards

through both naturally occurring radioactive sources, such as scale on pipes in the oil and gas industry, and through orphaned industrial sources. Turning away a load could jeopardize a supplier relationship that has been built through extensive efforts. Facilities in this situation have an interest not only in protecting their personnel, but also in protecting their own facility as well as their business relationships.

The subsequent passing on and melting of an orphaned source can result in upwards of \$20 million dollars in lost revenue and clean-up expenses. The RadEye PRD is a low-cost and convenient tool for helping to detect and locate orphaned sources or problematic NORM related sources.

For example, if a small or well-shielded radiation source is deeply embedded in the scrap load it may pass through a vehicle monitoring system undetected. However, when the surrounding scrap is removed during the unloading process, the small RadEye unit, worn by key personnel, offers a most efficient 2nd line of defense. The RadEye PRD is now able to see a potential threat that has entered your facility, and because it is conveniently worn or mounted, personnel will not take time or efforts away from job duties to grab a cumbersome and heavy instrument to scan a load. With the RadEye worn on a belt holster, personnel are always in a position to locate unwanted radioactive source.

The RadEye, on the other hand, is worn on the users belt at all times, weighs a few ounces, and is about the size of a pager. The unit is so



*You can't see radiation by looking... but the RadEye can!*

lightweight and unobtrusive that it can be worn by every person in the yard. It could also be mounted unobtrusively inside a vehicle or crane cabin with the convenient car adapter, as well as installed as area monitors around a facility.

The characteristic features of this versatile new generation pocket meter are the use of sophisticated low-power technology components and fully automatic self checks which result in minimum maintenance.



*15 full weeks of operation at 40 hours of usage with a single pair of AAA batteries*

It is the only instrument of this size which is able to compensate for the variations of the natural background that is present in most locations – thus full sensitivity is combined with the virtual absence of any false alarms.

The RadEye PRD incorporates Thermo's NBR technology, Natural Background Rejection. NBR enables the RadEye to have enhanced sensitivity with less false alarms. It also gives an indication of whether the source is High Energy, Low Energy or likely to be naturally occurring radioactive material (NORM).

#### Features of the RadEye PRD:

- Rugged and reliable
- Removable rubber sleeve for extra protection
- Large display for clear information
- Weighs 6 ounces
- Small, compact size at 4" x 3 " x 1" (96 x 61 x 31 mm)
- Can be operated in holster
- Easy-to-use, no PC required
- Low power technology - 600 hours of operation time on 2 AAA cells
- Low cost of ownership
- Overload indication up to 1000 R/h = personal safety



*No need to fetch a bulky detector – the RadEye is always with you*



*ASM Portal for high-sensitivity truck monitoring – the most reliable 1st line of defense*

- PC-software with real-time graph = perfect for tutorial and training
- Adaptable user interface
- Earphone output and built-in vibrator
- Alarm relay output = for area monitor application

#### RadEye Software

All settings and the data analysis can be done by optional Windows™-based software and an accompanying reader device. In order to allow analysis of any past event, the latest 1600 dose rate values are stored in the internal data memory. For each time interval both the mean and the maximum measurement values are stored.

Changes in configuration, occurring alarms and errors are saved in the RadEye memory. These saved events can be read out via the option "logbook". It is shown as a table and can be saved to the PC hard disc or printed. The logbook has a maximum of 250 data sets. On the display every event is shown in one line for a clear view. In addition, an historical graph is presented showing a complete history timeline.

#### Summary

The RadEye PRD offers scrap yards and recycling facilities a cost-effective solution to the threat of radioactive contamination. With its low cost of ownership, durability and portability, the RadEye is the next generation of portable instrument solutions. Thermo's new Radeye allows facilities to increase the amount of radiation coverage, therefore reducing the likelihood that radioactive material will find its way inside a site.



*A rejected load of scrap - RadEye helps avoid this problem!*

#### Service, support and Warranty

Thermo Electron offers a full range of complete and customized service and support for all of our products. These options include field service, e-service and factory repair and calibration.