

AmCam, a compact, handheld, lightweight device.



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## PRODUCTS AND SERVICES:

# AmCam

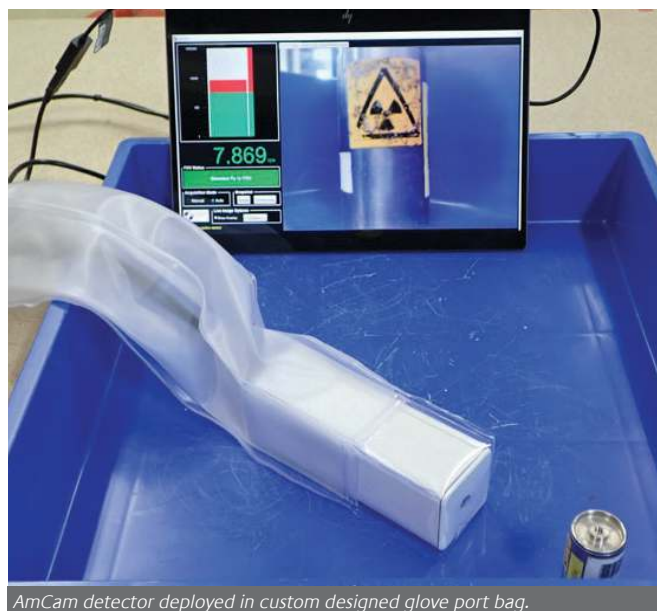
## OVERVIEW

Cavendish Nuclear's AmCam is a handheld, compact, lightweight device that combines a gamma ray spectrometry detector with a small video camera, capable of indicating radiation count rate alongside a corresponding video image of the area being surveyed.

## KEY INFORMATION

- Quick identification of the location of material build up within gloveboxes
- Images can be used to pinpoint the origins of elevated dose / count rates
- Estimates can be made of the dose rates and activity levels of hotspots
- Aids quality assurance for the Post Operations Clean Out (POCO) characterisation or waste category segregation processes
- Used to plan / target future POCO clean-up operations
- Used to segregate waste items between PCM and ILW waste categories\*

*\*subject to an appropriate calibration and suitable robust operating procedures*



AmCam detector deployed in custom designed glove port bag.

## OUR PRODUCT IN DETAIL

The system is designed to establish, visualise and measure in real-time the locations of plutonium, by measuring the low energy 60keV gamma radiation emitted from Americium-241 ( $^{241}\text{Am}$ ), a daughter product of plutonium-241 ( $^{241}\text{Pu}$ ). The system has been optimised so that the video camera and Cadmium Zinc Telluride (CZT) gamma ray detector, within a thin lead collimator assembly, are aligned coaxially. The collimation of the detector is designed such that the field of view of the detector exactly matches the field of view of the video camera. This allows the system to provide an indication of the radiation count rate from the detector along with video image of the exact area where the radiation was emitted.

A live video stream can be viewed on a computer screen, consisting of a large central video image from the camera with the count rate from the source of any radiation measured by the detector. The output of the AmCam is constantly updated in real time throughout the duration of the scan. Video and count rate data are recorded in MP4 format for offline viewing.

A count rate bar and numerical display showing counts per second are also provided to indicate the count rate being recorded from the area or item being shown in the video image. This count rate information is also updated in real-time. In addition to the visual indication of count rate from the current field of view of the device, the software also provides the operator with an audible indication of the current count rate using "Geiger clicks", the frequency of which increases as the count rate rises. This feature is important because the operator's attention will often be focused on the AmCam device rather than on the computer or tablet screen.

### Features

- Compact, lightweight, handheld device.
- Deployable inside gloveboxes using the custom designed AmCam glove port bag.
- Real-time updated video and count rate data.
- Measures in real-time the low energy 60keV gamma radiation emitted from  $^{241}\text{Am}$ .
- Video and count rate data are recorded in MP4 format.
- A count rate bar and numerical display showing counts per second.



AmCam display screens showing (top) field of view with no sources present within FOV and indicating low count rate and (bottom) a higher count rate due to the presence of a plutonium sample on the extreme right of the FOV.



### FOR MORE INFORMATION, CONTACT:

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