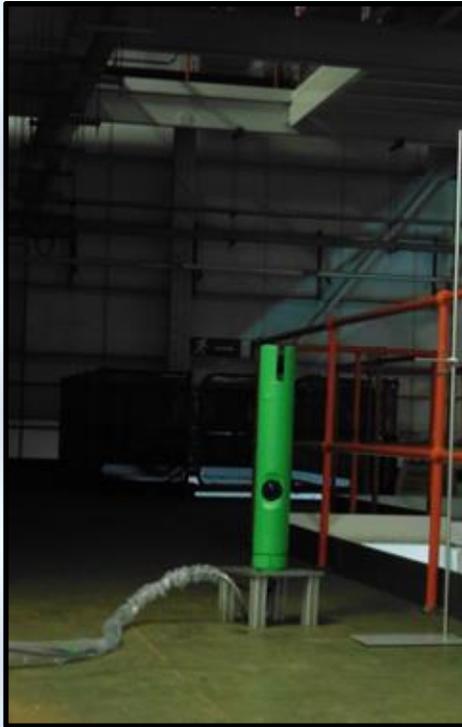




Decommissioning Capability Development

End of Year Report 16-17



Companies Involved:



Understanding the radiation environments is important in order to best determine if any remediation (decontamination, shielding etc.) or controls need to be put in place to protect people.

Current methods to do this involve simple, manually deployed probes which gives limited information about the location and type of any sources.

Advancements in detector technology indicate that new systems may be able to measure not only the dose rate, but also the location, quantity and key sources contributing to the overall dose environment.

“The ability to effectively characterise environments is becoming increasingly important, as the business transitions towards decommissioning operations”

Over the past 2-3 years, Sellafield Ltd has facilitated the demonstration of nine different gamma imaging systems. These technologies varied from small handheld systems, to large, remotely operable, collimated devices. The purpose of these demonstrations was to understand the performance of each system, and which were most appropriate for Sellafield’s challenges.

This year, two additional gamma imaging systems have been

demonstrated. **In addition, the first purchases of equipment for Sellafield’s internal capability have been made, based off this active demonstration work.**

One system purchased is the N-Visage gamma imager, this detector is best utilised in high dose environments where there is restricted access.

The other system in Sellafield’s internal capability is the GeGi camera – better suited to fast results in low dose rate areas.

With projects lining up to make use of these new systems, the coming months will see multiple deployments of both new devices all across Sellafield site enabling benefit realisation, with a potential saving of £50k a task with the new technologies.

Challenge – Measuring the dose environment and the location of radioactive sources

Solution – A range of Fit-For-Purpose gamma imaging systems

Benefits – Faster acquisition of results and improved deployment options could save >£100million over the lifetime of the site

Current status – Nine systems tested and evaluated, with two devices purchased

Future Activities – Utilising Sellafield’s new internal capability and a “watching brief” for additional systems of interest and a program of characterisation so a state of business a usual can be reached

Key Milestones Achieved

- Active demonstration of two gamma imaging systems
- Internal evaluation report endorsed by the Remediation technical committee
- N-Visage and GeGi gamma imagers purchased

Benefit Realised from 2018

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