

Innovation Opportunities at Sellafield

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Sellafield Ltd
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The Strategy for Sellafield

“Today we face another challenge where there is no blueprint; emptying and demolishing some of the most difficult and complex nuclear buildings in the world”

Tony Price, MD Sellafield Ltd

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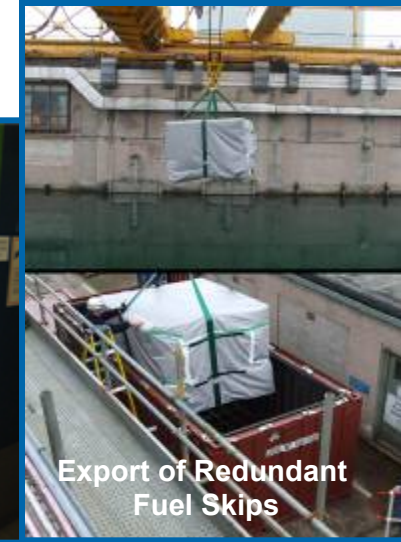
Fact not fiction



Pond Purge System



Effluent Collection Vessel



Export of Redundant Fuel Skips



In Bay Cavity Sump repair



Waste Retrieval Facility Foundations



Cavity Sump pumping system



Control Instrumentation Cell Installation

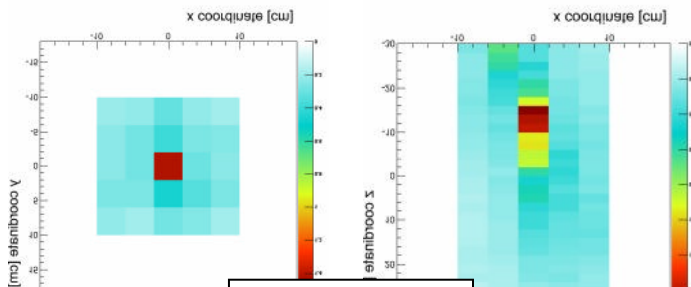


Redundant Pipework Isolations

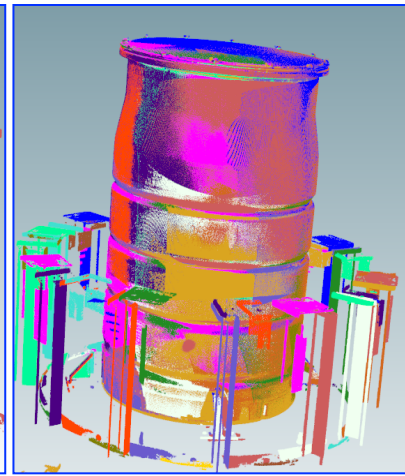
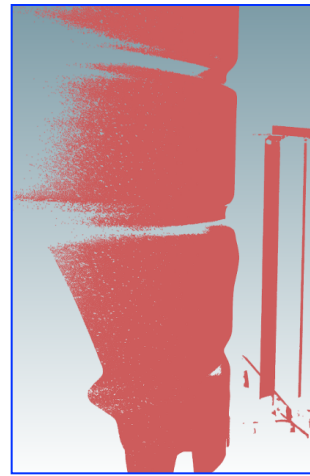
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Characterisation

Research into
deployment of
Muon
Tomography
with testing of
prototype



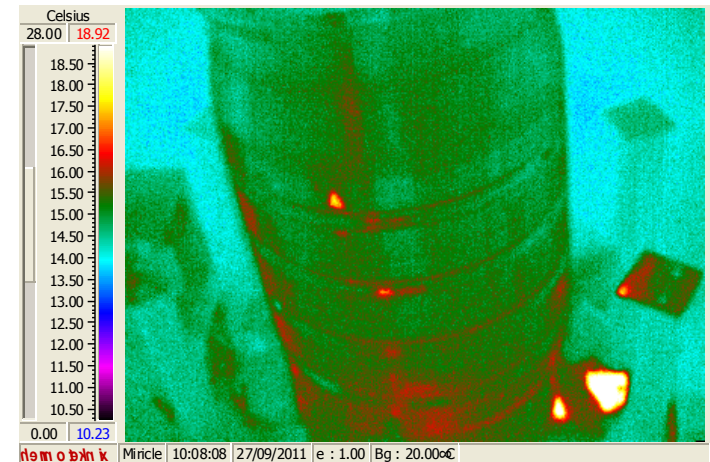
Real Data



Development

Upper right—
white light
scanning of
encapsulated
swarf waste
drums

Right – infra-red
scanning of
drums



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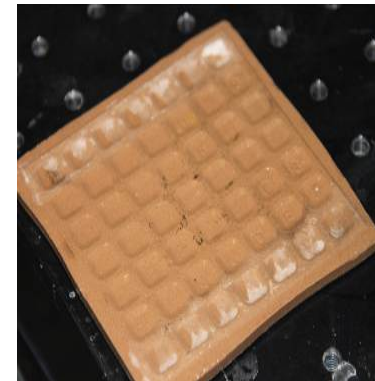
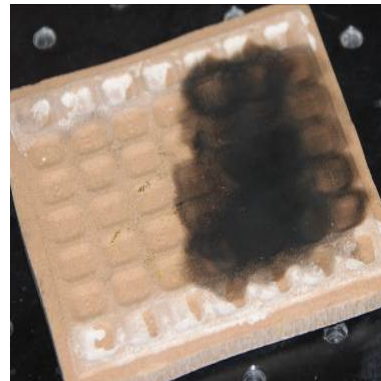
Decommissioning - Decontamination



Development of
decontamination of organic
coated steel from Medium
Active Plant



Research into
ice pigging and
ultrasonic
decontamination



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R&D in waste treatment



Development of fuel drying



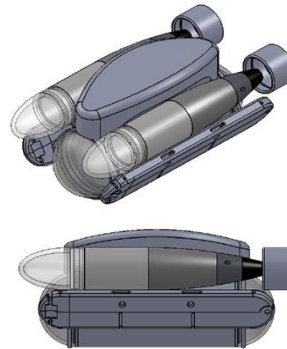
Development of polymeric encapsulation



Development of vitrification

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“Planes, trains and automobiles”



Hexacopter

Video Ray ROV

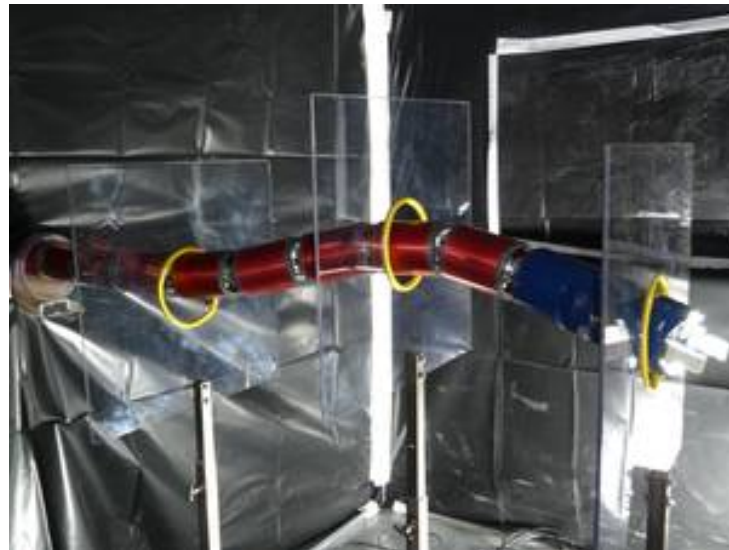
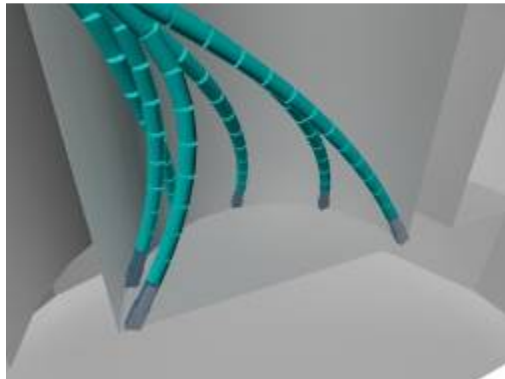
Wallrover

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Robotics development



Evaluation of specialist robotic systems for decommissioning, retrieval, manipulation



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Active Demonstrator Facilities

- Selected plant with representative alpha / beta-gamma challenges / environments
- Representative of challenges site wide
- Site team being formed
- High level support

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Funding Opportunities

- Innovus
- Technology Strategy Board (recent £13M call)
- SL – ca. £0.5M allocation to SME Technology Development
- Direct implementation of “proven” technologies into decommissioning projects

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Conclusions

- Broad range of challenges at Sellafield
- Opportunity to introduce new technology options
- Cost saving to UK tax payers
- Once utilised at Sellafield technology can be marketed elsewhere

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