Sellafield Ltd | NRS Nuclear Restoration Services | Nuclear Waste Services | NTS Nuclear Transport Solutions

The NDA group **Draft Strategy**

Case studies
July 2025

Introduction

Figure 1 – SDGs defined by the United Nations

This collection of case studies complements the main NDA Draft Strategy. It demonstrates how our strategic principles are shaping day-to-day decisions and long-term transformation across the estate.

The examples illustrate the breadth and depth of our mission in action – from decommissioning legacy nuclear sites to delivering long-term value for communities, the environment and the UK public.

While our core mission focusses on safe, secure and sustainable nuclear decommissioning, the case studies show how much of our work aligns with one or more of the 17 United Nations Sustainable Development Goals (SDG) (***figure 1***). Linking our work to the SDGs shows how we are delivering our core responsibilities while contributing to global sustainability outcomes and supporting the UK's broader economic, environmental and societal goals.

CASE STUDY

Determination of sustainable site end states

Our ***Site Decommissioning and Remediation*** strategic driving theme helps guide the development of sustainable end states across our estate. Here we highlight how practical progress and learning from sites such as Winfrith, Trawsfynydd, and Dounreay, aligns with our long-term planning and clean-up objectives.

Progress in establishing end states

Since the last strategy, we have made progress on end states through NRS and Sellafield Ltd.

- **Winfrith.** We have finalised the end state assumption (***figure 2***). This provides clarity on the disposal of the two closed reactor structures (Steam Generating Heavy Water Reactor (SGHWR) and DRAGON). A patch of ground contamination will be removed to accelerate release of a larger area from regulation. We have applied for an update to the environmental permit and for planning permission to support this site end state.
- **Trawsfynydd.** We updated the site end state in March 2019 to leave some lightly contaminated structures in place, including the subsurface portion of the reactor buildings and the ponds complex. Since then, we have improved our understanding of the ponds complex end state and applied for a variation to the environmental permit and for planning permission. The physical condition of the Ponds complex is key to being able to determine the decommissioning strategy and so provides a critical point on the thread linking end state, decommissioning and waste strategies.
- **Hunterston A.** Site end state assumptions currently include on-site disposal of in-ground structures and offsite disposal of aggregate associated with the above-ground reactor buildings and bio shields.
- **Berkeley.** Site end state assumptions include some on-site disposal of foundations and structures associated with ponds and reactor buildings, disposal for a purpose of some lightly contaminated materials to fill voids and offsite disposal of excess material. We expect that land will be suitable for unrestricted use shortly after intermediate-level waste stores are demolished and the sites are free from regulation.

Determination of sustainable site end states

- **Dounreay.** The end state assumption, updated in May 2022, identifies some structures to be left in situ and others, particularly those with alpha contamination, to be removed for disposal in the adjacent facility. We developed this overall assumption by considering particular areas of site in turn, our so-called 'component approach'. This approach lets us give more focus to those parts of site where there are material2 uncertainties, for example, the low-level waste pits, and so provide more certainty for the decommissioning and land-use strategies.
- **Sellafield.** We are continuing our technical review of the site end state, including aligning with the environment agencies GRR guidance. The assessment identifies credible options and key components to be assessed and how they will be integrated. For the site-wide contaminated land and groundwater components, the assessment shows in-situ management as the better-performing option. We will continue to evaluate options for the remaining facilities, and test the logic and consequences of site-wide integration ahead of community and stakeholder engagement.

Learning from our experiences

We have learned from the work described above and are collaborating across the group to:

- Align nuclear and non-nuclear regulation. We are working with regulators and government on inconsistencies we have identified such as for waste management, the protection of groundwater, and town and country planning. This is to enable progress and ensure the site end state assumptions reflect science and community values rather than inconsistencies in law.
- Align strategic assumptions with the site end state by building a strategic thread which runs through the process of site clean-up (ie through the various stages of decontamination, dismantling, interim states and end-states etc). This helps us understand better where we might have conflicts, material uncertainty and flaws in reasoning, and helps us to focus our efforts on work which matters.
- Clarify decision-making. We need to articulate how decisions are made following 'good practice' and how they might evolve. We continue to test our procedures with international peer groups

Figure 2 – Winfrith site end state

such as the IAEA and NEA, and ensure our processes are aligned with international guidance. In addition, we are working on how we engage with stakeholders and involve communities in our decision-making. This includes working with industry groups to understand how engagement is carried out in other sectors, to improve our reach and inclusion.

- Clarify breadth of options. Our experience from the Trawsfynydd ponds complex has taught us we need to ensure that we demonstrate the benefits and detriments of a full range of options and understand when they might be credible or preferred. This includes how community values are reflected in the options chosen.
- Perform iterative reviews. We work to iterate rather than fully rework the site end state over time, by keeping under review the confidence in our assumptions taking into account our own learning and the experiences of others. This will help future reviewers and stakeholders to quickly understand the stability of our assumptions and the parameters which may cause change.
- Understand options for below-ground structures. Excavating below-ground structures reduces on-site contamination and allows immediate unrestricted land use. However, excavation, waste transport and disposal elsewhere, and importing fresh materials for backfilling impacts people and the environment. Our decisions need to consider risks to workers, the public and the environment, and community consultation is necessary to understand the value placed on the benefits and detriments of achieving particular site end-state options.

International benchmarking and learning

We are working with our counterparts in the USA, Canada, France and Japan, and those in other industry sectors. Each country has similar challenges. Understanding how our approaches align and differ allows us to adopt good practice and learn from each other. This includes determining where there may be alternatives to our site end states that may be considered with changes in technology and societal opinion.

CASE STUDY

Risk-informed waste management

This case study demonstrates our ***Integrated Waste Management*** strategic theme in action by showing how a risk-informed approach drives more efficient and effective waste diversion and disposal decisions across the NDA group.

We wanted to build on the success of the low-level waste (LLW) strategy which has reduced LLW disposal from 95% in 2009 to 2% in 2021 (***figure 3***) by applying a risk-informed approach to divert waste for reuse, recycling and other routes. A risk-informed approach has subsequently been adopted into the most recent update to the UK Government and devolved administrations' policy for managing radioactive substances and nuclear decommissioning.

Several projects have successfully embraced this evolutionary approach:

- Re-characterisation of treated radwaste store drums. Drums containing waste from the Steam Generating Heavy Water Reactor at Winfrith were initially characterised as intermediate level waste (ILW) and put in interim storage at Winfrith. However, after significant radioactive decay and further detailed technical analysis, the waste has been re-characterised as LLW and disposed of at the Low Level Waste Repository (LLWR).
- Reassessing Windscale Advanced Graphite Reactor (WAGR) boxes. Waste from WAGR decommissioning at Sellafield was packaged into concrete 'WAGR boxes' as ILW and stored on the Sellafield site. Reassessing the waste characterisation data showed that some WAGR boxes contained LLW, not ILW, allowing them to be sent to the LLWR for disposal.
- Characterising plutonium contaminated material (PCM). Second World War magazines on the LLWR site were assumed to be ILW, but characterisation – as part of bulk waste removal before decommissioning – demonstrated that the waste was LLW, which is being disposed of at the LLWR. The soil, concrete, aggregate and granular materials generated from the demolition of the magazines is being used as profile material as part of the LLWR capping programme.

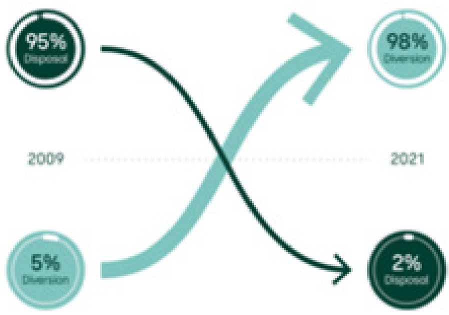

Figure 3 – Increase in diversion and corresponding decrease in disposal of waste

CASE STUDY

Alpha waste and decommissioning

Two of our driving themes, ***Integrated Waste Management*** and ***Site Decommissioning and Remediation***, have informed our approach to dealing with alpha-contaminated waste. The complexities of managing and treating this waste have been addressed through a coordinated, national approach.

At the NDA, we are responsible for overseeing the safe treatment and interim storage of alpha-contaminated waste across the group (***figure 4***). The decommissioning and waste management associated with alpha facilities[1] is challenging because of the nature of waste and its associated exposure mechanisms. For example, to prevent internal exposure, operators need to wear complex protective equipment such as air-fed suits, and alpha radiation is difficult to detect. Many early alpha facilities present first-of-a-kind decommissioning and waste management challenges.

Strategic actions

To address alpha waste and decommissioning challenges NDA promotes a comprehensive, industry-wide approach that integrates multiple strategic areas and collaborative efforts. Proposed actions include:

- Standardising alpha decommissioning approaches, including modular decommissioning safety cases and consistent radiological protection controls, to streamline alpha decommissioning efforts across the entire industry
- Sharing knowledge and learning across the industry; adopting a more collaborative approach, for example, increasing integration between our operating companies through effective sharing of best practice

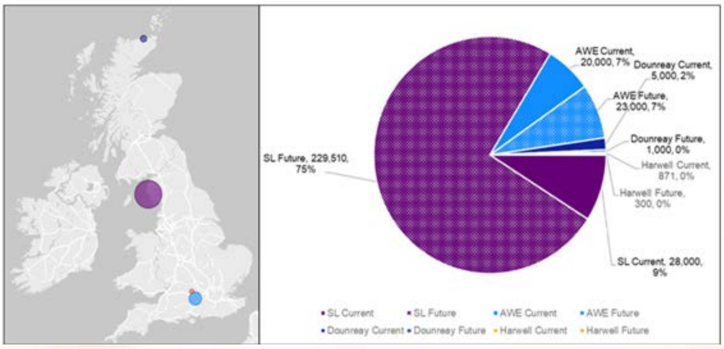

Figure 4 – Scale of site unprocessed alpha waste volumes (current and forecast) and current and estimated alpha waste in 200 litre drums (or equivalent)

3 GOOD HEALTH AND WELL-BEING

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[1]Some of our facilities are processing materials that is predominantly Alpha bearing

Alpha waste and decommissioning

- Developing national Alpha waste treatment and storage systems – the treatment and storage of waste are significant concerns for alpha decommissioning. There is currently no unified national strategy, which leads to potential duplication of capabilities at various sites.

Implications of standardisation and collaboration

The NDA and associated bodies have begun key knowledge-sharing initiatives. For example, the Alpha Decommissioning Working Group has proposed common standards focused on critical safety-case tasks, such as using mobile containment systems to manage airflow and filtration in contaminated areas, treating alpha-contaminated wounds, and managing decontaminated plant and equipment. Sellafield has also begun implementing a site-wide improvement plan to standardise safety cases and decommissioning controls, thereby setting a valuable example for other sites.

Additionally, ongoing work led by the Alpha Resielence and Capability programme aims to develop a shared knowledge management system, ensuring that all sites can access consistent and up-to-date information.

As AWE Nuclear Security Technologies enters the alpha decommissioning phase, it intends to draw on insights from Sellafield and Dounreay, which will further promote a culture of learning and standardisation across the industry.

Alpha waste treatment and storage

The treatment and storage of waste associated with alpha decommissioning present significant challenge. We are developing a national waste treatment and storage decision calendar . This will enhance industry-wide understanding of the overall timing, sequencing and prioritisation necessary for efficient alpha decommissioning and waste management. Several sites are making alpha waste treatment and storage progress:

- Dounreay is developing a combined super-compaction and grouting waste treatment system for its remote-handleable ILW including alpha waste which is anticipated to save approximately £46 million in taxpayer funds. Dounreay is also exploring the use of aggressive decontaminants to reduce waste classifications and allow for more effective adherence to Scotland's higher-activity waste policy, which emphasises long-term surface storage pending disposal near site and near surface.
- Sellafield is developing plans to extend the operational date of the Waste Treatment Centre (WTC1a), continuing the compaction of waste for storage. Sellafield is also considering options for the next generation of alpha waste treatment capability.
- AWE is evaluating several options for addressing problematic wastes, alternative treatments and glovebox decommissioning. These options include the potential transfer of materials to NDA-owned sites for treatment and/or storage, and further underscore the need for a coordinated national approach to alpha waste management.

Conclusion

We are addressing the critical need for an integrated, collaborative and standardised approach to effectively address the UK alpha decommissioning challenges. This will enhance operational consistency, strengthen safety measures and increase resource efficiency, ultimately reducing taxpayer costs.

CASE STUDY

Vulcan

The NDA's role within the ***wider UK nuclear enterprise*** is illustrated in this case study about the planned transfer and future decommissioning of the Vulcan Naval Reactor Test Establishment from MOD to NRS Dounreay.

The Vulcan Naval Reactor Test Establishment (NRTE) is a Ministry of Defence (MOD) facility that has been used to test prototype nuclear propulsion plants for more than 50 years. The site (***figure 5***) is on the north coast of Scotland, by Dounreay, on NDA-owned land leased to the MOD.

In 2011, the Secretary of State for Defence announced that no further prototype testing of naval nuclear propulsion would be required, which signalled the end of Vulcan NRTE operations. Defueling and removal of all fuel from site is scheduled to be complete in the late 2020s, at which point it will be ready for full site decommissioning.

A review by the NDA and MOD considered the optimum arrangements for managing the decommissioning of the Vulcan site. The preferred option has advantages, including :

- Increased effectiveness of Dounreay and Vulcan decommissioning through sharing of expertise and learning
- Allowing us to prioritise and identify efficiencies of decommissioning scope to maximise value for money
- Enabling scarce MOD resource to focus on its nationally important defence mission
- Reducing the risk of competition between sites for scarce resources
- Increasing socio-economic benefit in Caithness.

In January 2024, the UK Government approved work to commence the future transfer of Vulcan, post operations, to the NDA group, subject to further approvals from the NDA, Submarine Delivery Agency, MOD, DESNZ and the Scottish Government. The responsibility for decommissioning the site will be transferred to Nuclear Restoration Services (NRS).

The NDA, NRS, MOD, Defence Nuclear Organisation, Submarine Delivery Agency and Rolls-Royce teams are working to enable the transfer.

Figure 5 – The MOD Vulcan site

CASE STUDY

AGR transition programme

The implementation of ***strategic alignment*** is illustrated with the work between NDA and EDF to manage the transition and future decommissioning of the Advanced Gas-cooled Reactor fleet, supporting safe and efficient mission delivery.

The transition of AGR stations from EDF Energy to the NDA marks a significant shift in the UK's approach to nuclear decommissioning.

As these reactors reach the end of their operational life, the UK Government, EDF Energy and the NDA have agreed new, revised arrangements to ensure safe, cost-effective and efficient decommissioning of the AGR fleet.

These arrangements aim to ensure the highest standards of safety and security during decommissioning while achieving cost savings from the operational experience that NRS has gained during decommissioning of the Magnox fleet. The arrangements will also provide the Government with better oversight of decommissioning costs and processes. The costs of defueling and decommissioning will be met from the Nuclear Liabilities Fund's segregated decommissioning fund.

EDF Energy, the NDA and NRS have signed a cooperation agreement, to support the implementation of these new arrangements, which covers:

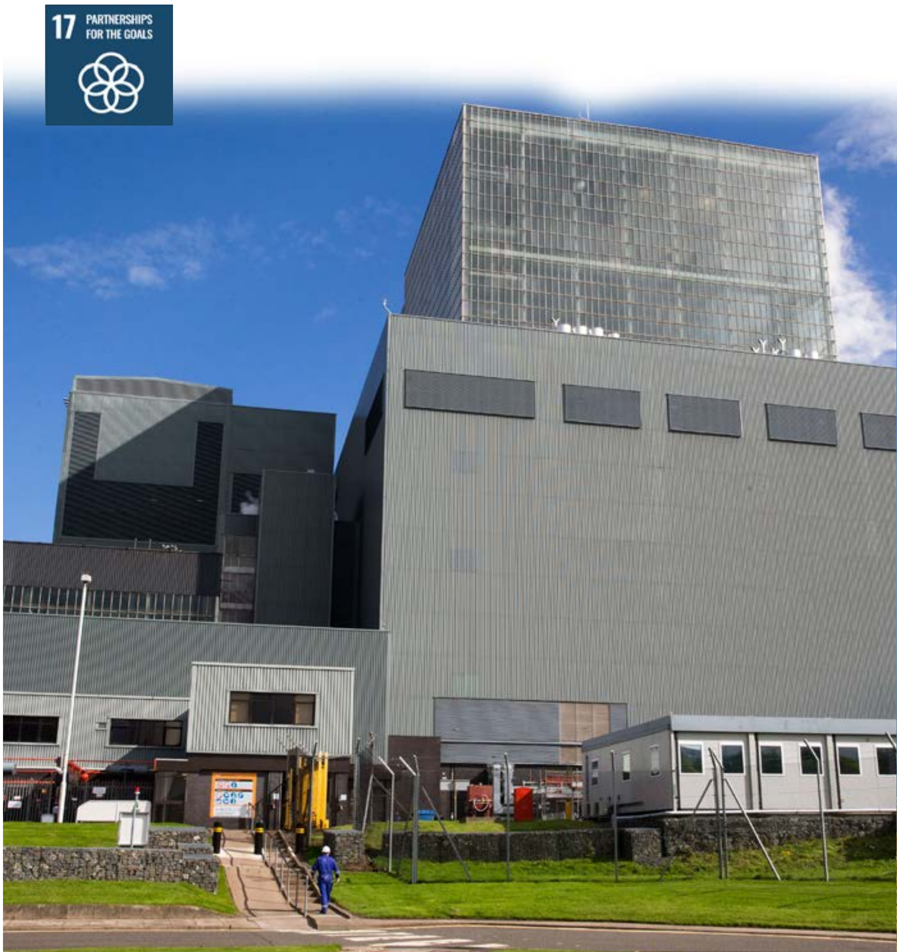
- Defueling of the AGR stations
- Transition and Transfer of the AGR stations
- Strategic alignment

Defueling

EDF Energy is responsible for defueling the AGR stations, with NTS and Sellafield Ltd continuing to provide contracted services in line with the Spent Fuel Management Services Agreement.

Currently, we have approximately 3,000 tonnes of AGR spent fuel in storage at Sellafield with another 1,500 tonnes forecast to be received by around the mid-2030s. The final quantity of fuel to be stored at Sellafield will depend on how long the AGR power stations are operated.

There are three power stations currently at different stages of defueling : Hunterston B has been defueled, and Hinkley Point B is scheduled to complete defueling in early 2026, whereas Dungeness B has just started their refueling operations.



AGR transition programme

Transition and transfer

Once defueled, each AGR site will transfer ownership to the NDA, with NRS as the new site licence company responsible for managing the long-term decommissioning programme.

The transition of the site from one licensee to another requires careful preparation. EDF Energy and NRS have worked to articulate the necessary arrangements for each site, which are delivered through the following workstreams :

- **Site transition** – from defueling to deconstruction and supporting site transfer
- **Commercial and contracts** – meeting contractual obligations, transferring contracts and providing commercial guidance
- **People** – delivering a people strategy which enables transfer and maintains a motivated and engaged workforce to safely and efficiently achieve the mission
- **IT systems data support and records** – ensuring NRS sets up with appropriate IT data and records to maintain site licence compliance
- **Licensing and permitting** – delivering licences, permits and consents to allow NRS to seamlessly become the corporate body of the AGR sites
- **Finance and funding** – seamlessly transferring the financial management agreement of funding arrangements with the Nuclear Liabilities Fund
- **Land** – reaching land transfer boundary approval and enabling legal transfer.

Strategic alignment

By leveraging NDA and NRS decommissioning experience and ensuring strategic alignment with the decommissioning of the broader NRS fleet, our aim is to secure a more cost-effective programme that benefits the environment and taxpayers.

EDF Energy is adopting NDA/NRS best practice in strategy development to achieve greater strategic alignment and has worked collaboratively to develop a Strategic Outcome Specification and Strategic Decision Calendar for the AGR fleet.

EDF Energy and NRS are sharing lessons to inform the development of site-specific decommissioning plans. This is realising synergies from combined approaches, such as the use of the ILW store at Hunterston A. Decommissioning plans are being refined before transfer, with recognition that further optimisation by NRS will be required post-transfer.

CASE STUDY

Operation Fieldfare

This case study demonstrates our contribution to ***wider UK policy objectives***, highlighting how the NDA enables national counterterrorism programmes through the secure management and disposal of high-activity sealed sources.

Operation Fieldfare is an initiative led by the Home Office to reduce the risk of a terrorist attack using radiological dispersal devices. The voluntary programme was established in 2020 to reduce the threat posed by high-activity sealed sources (HASS) by engaging with irradiator owners to dispose of their irradiators and replace them with suitable alternatives.

The Secretary of State has made a Designating Direction under the Energy Act 2004 which extends the NDA's responsibilities for developing a safe and secure management of HASS, including ultimate disposal in the UK. This aligns with our obligations to make our waste management infrastructure available to the wider nuclear industry where appropriate, for example, by providing a waste route for sealed sources where the use of the NDA's infrastructure is the optimum route. In doing so, we will support the Home Office's counterterrorism programme for the benefit of the UK public sector.

An example of an irradiator

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CASE STUDY

Sustainable solutions for a net zero future

Here we bring our ***Environment critical enabler*** to life, demonstrating how the NDA group is reducing its carbon emissions and contributing to the UK's transition to a net zero future through innovative energy and infrastructure solutions.

At the NDA group, we are working towards ambitious carbon reduction targets that will help to minimise our impact on the environment and create a pathway towards net zero emissions by 2050 (***figure 6***). This is supported by the offsetting of any residual carbon emissions beyond 2050.

Our total carbon footprint is dominated by direct fossil fuel emissions from powering and heating our sites, and indirect emissions from the goods and services we buy.

We are reducing carbon emissions across our business by, for example:

- Collaborating across the group and with our supply chain and regulators to increase the use of low-carbon materials and innovative construction techniques
- Increasing renewables capacity on our sites with the Group Wide Energy Programme, for instance, installing renewable heating systems in several buildings, including Herdus House, our Cumbria headquarters
- Updating our fleet with zero emission vehicles and installing LED lighting where feasible
- Working to deliver lower-carbon waste management solutions, including through the diversion of waste from our Low Level Waste Repository.

Figure 6 – Carbon emissions reductions achieved and targeted[2]

[2]Definition: Scope 1 emissions are direct carbon emissions from sources owned or controlled by the NDA. Scope 2 are indirect emissions associated with consumptions of purchased electricity by the NDA

Sustainable solutions for a net zero future

Reducing our reliance on fossil fuels

Sellafield, our largest site, dominates our carbon emissions. A significant proportion of our direct carbon emissions from Sellafield comes from the combined heat and power plant and boiler units (***figure 7***) needed to maintain a resilient electricity and steam supply for our high-hazard and environmental remediation missions.

Although fossil fuels play a role in delivering safety requirements today, we have taken steps to reduce our reliance on these fuel types. For example, we have implemented more efficient operating techniques, improved pipework insulation and reduced leakage from our distribution network. This has improved overall system efficiency and substantially reduced the amount of gas required.

As a result, Sellafield's annual Scope 1 and 2 emissions reduced from more than 300,000 tonnes CO2e in 2019 to typically less than 200,000 tonnes per year. By acting early, we are reducing our cumulative emissions over the lifetime of the mission and providing a multimillion-pound gas saving each year.

Figure 7 – Fellside combined heat and power plant, Sellafield

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CASE STUDY

Accelerating the deployment of robotics in nuclear decommissioning

Robotic and AI technologies have the potential to transform the way we deliver our mission. We showcase how the ***Research, Development and Innovation critical enabler*** is accelerating the deployment of cutting-edge robotic technologies across the NDA group to deliver complex decommissioning tasks.

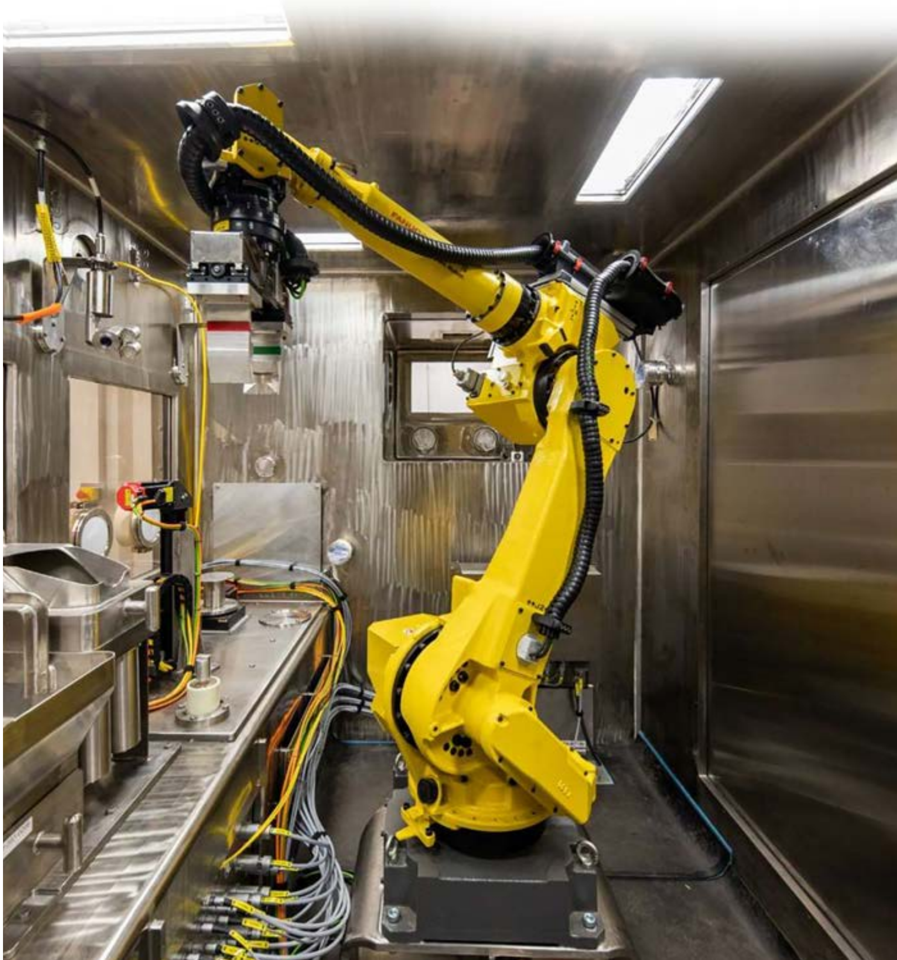
Robotic technologies have the potential to transform the way we deliver our mission, improving safety and sustainability, and reducing costs. Three of our initiatives to accelerate robotics deployment across the group are outlined below.

LongOps

The LongOps programme was a four-year £12-million collaboration between the NDA, the UK Atomic Energy Authority (UKAEA) (Remote Applications in Challenging Environments), Innovate UK and Tokyo Electric Power Company in Japan. It set out to build capability, knowledge and relationships related to the de-risking of fission and fusion decommissioning operations using digital mock-ups and long-reach robotics. The project developed a ‘Next-Generation Digital Mock-Up,’ incorporating advanced digital twin technologies while accounting for real-world restrictions at decommissioning sites. The integration of digital and physical environments offers numerous benefits, from operator training to data collection that informs decommissioning strategies.

Robotics and Artificial Intelligence Collaboration (RAICo)

RAICo is a research partnership between the NDA, Sellafield Ltd, UKAEA and the University of Manchester that builds on the LongOps programme. It brings together end users, organisations with challenges, academics and the supply chain across fusion engineering and fission decommissioning. The aim is to increase and accelerate robotics deployment across the partners by developing and demonstrating robotic and AI solutions to build awareness and confidence in them.



Accelerating the deployment of robotics in nuclear decommissioning

Spot across the NDA group

'Spot', a robotic quadruped from Boston Dynamics, is rapidly becoming business-as-usual across our sites. It was originally trialled at Sellafield Ltd in 2021 and has now been deployed in multiple locations across the site and used routinely for remote inspections.

Createc Ltd, Spot's systems integrator, has also explored other ways of using Spot in trials across the Dounreay site including (1) environmental monitoring, (2) mapping hard-to-access cells and (3) collecting radiological data to help plan decommissioning activities .

Most recently, two Spots surveyed the reactor bioshield at Trawsfynydd, and gathered crucial light detection and radar (LiDAR) and video data. This will be integrated into the building information modelling systems and plans to dismantle the reactors. Supported by Sellafield Ltd, the deployment also trialled a new AutoInspect automated system developed by Oxford Robotics Institute, as part of RAICo's university collaborative research, improving the reach and recall of the systems.

The work at Trawsfynydd and Dounreay builds on the Sellafield deployments and demonstrates how learning is being shared across sites to deliver better outcomes, move people further from harm and decommission more efficiently.

CASE STUDY

CE

NDA's connected infrastructure project

Synergy between our ***Asset Management*** and ***Digital, Data and AI critical enablers*** has resulted in solutions which will contribute to improving asset reliability, resulting in productivity gains, risk reduction, and enabling smarter operations.

We want to improve safety, performance and reliability, and reduce costs, in our complex environment of aged infrastructure, to advance mission delivery.

To do this, we are connecting our critical legacy assets to modern diagnostics in a cyber-secure, regulator-observed manner. Our aim is to use only the right data from the right assets to deliver our mission.

Data goes to our group-wide security operations centre to ensure security. For example, live operating and performance data from a mission-critical ventilation system can be viewed securely via a Microsoft Power BI dashboard. This means we can begin removing people from potential harm and use the data, insights and real-time management to improve performance, reduce the risk of failure and proactively look at what is going to happen, rather than reacting to what has happened.

We have now completed the first two phases at Dounreay on ventilation systems, cranes, effluent outfalls and boreholes (***figure 8***). Scaling our boreholes pilot to all 100 boreholes and linking other environmental sensors at Dounreay will deliver benefits, including removing people from harm by reducing vehicle use, manual handling, and lone working in remote and poor-weather conditions.

Removing the need for people to travel can improve worker efficiency and make better use of stretched resources such as health physics expertise. Reducing travel also has associated carbon-emissions and cost-reduction benefits, and we can use real-time environmental data for modelling and hazard reduction to make faster decisions.

A Connected Infrastructure Community of Practice has now been set up at Sellafield to deliver condition-based monitoring across the critical asset base. Key Sellafield stakeholders are collaborating on delivering for Sellafield what was started at Dounreay.

Figure 8 – NRS Dounreay borehole location map

CASE STUDY

Remote monitoring of sensitive sites

This case study illustrates the ***Security and Resilience critical enabler*** in action by exploring innovative, autonomous systems for the long-term monitoring and protection of sites following decommissioning.

In 2023, the NDA, supported by the Defence and Security Accelerator (DASA), ran an Remote Monitoring of Sensitive Sites (RMSS) innovation competition looking at the built environment, radiological monitoring, and security and resilience (SAR).

The SAR challenge

Nuclear security is well established and regulated in the UK, ensuring nuclear and radiological assets are protected to the highest standards. However, during the decommissioning life cycle there is a point where the material of concern has been removed and the land remediated. With the risk removed, the high levels of security to protect nuclear and radiological assets is no longer required.

The RMSS challenge (***figure 9***) was to explore novel ways of providing security to these, now low-risk, sites well into the 21st century using autonomous systems and without the need for costly replacement of lengthy perimeter fences and associated security infrastructure. The RMSS operational requirements requested an integrated, autonomous system that can:

- Detect a range of threats (trespasser, vehicles, animals, etc.)
- Deploy an autonomous asset to intercept and track the alarm initiator
- Send live images to a security remote control room so we can decide whether to deploy responders.

Delivery

The NDA funded nine proposals across the RMSS spectrum, three of which were dedicated to SAR with a further two including SAR in their wider proposal. Each proposal approached the challenge from a different angle, resulting in an interesting series of innovative systems. This included a mix of detection types and uncrewed aerial systems and ground vehicles. A key element in the first phase was the integration of multiple system types into a single command and control platform and user interface.

In June 2023, the systems were presented at an event (***figure 10***). This demonstrated their viability and the need for further commercialisation work.

Remote monitoring of sensitive sites

A second phase of the RMSS challenge, dedicated to SAR, was launched in December 2023 and attracted 22 proposals. We are providing £500,000 to each of four selected proposals. The systems will be deployed at an NRS site for 12 months to test them in all weather conditions.

Benefits

Both RMSS phases had socio–economic benefits for the areas in which each participating company operates, including employing additional staff. The companies may also benefit from testing and evaluating their systems, with the opportunity to develop a commercial offer. Longer term, we will benefit from access to the cost-effective systems we need to secure low-risk sites.

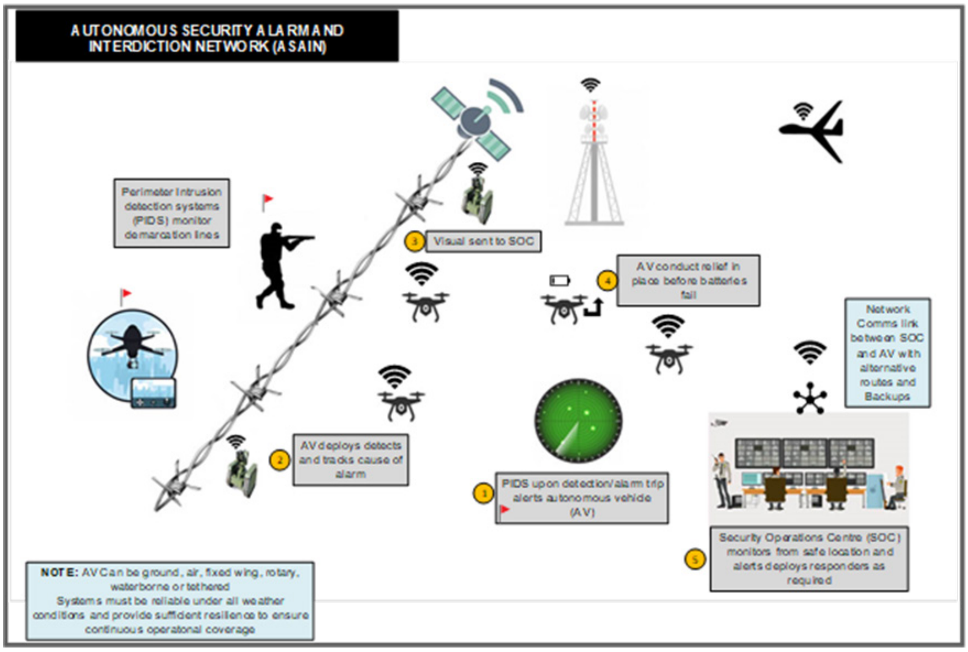


Figure 9 – NDA SAR challenge concept diagram

Figure 10 – Slide from RMSS1 showcase event