

# Annual Review 2020-21

Doing  
The  
Right  
Thing



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*"RWM recognises that in seeking to fulfil its mission, it needs to engage with a wide range of stakeholders and to respond to the concerns about radioactive waste."*

# Chair's Statement

## **Radioactive Waste Management (RWM): delivering a priority for the UK**

Our key priority, as a government body and subsidiary of the Nuclear Decommissioning Authority (NDA), is to deliver one of the UK's most important infrastructure programmes: a Geological Disposal Facility (GDF) for higher activity radioactive waste.

This highly engineered facility will be constructed deep underground and will consist of a series of vaults and tunnels where radioactive waste can be disposed of safely, securely and permanently.

Society has benefitted from nuclear technology since the 1940s through electricity generation, defence, medicine, research and industry. These benefits have been realised through processes that generate waste products. While this waste at the lower end of the radioactivity spectrum can be treated and disposed of in well-established existing facilities, the Government has decided that action needs to be taken to implement a solution for the long-lived, more hazardous waste. It has charged the Nuclear Decommissioning Authority (NDA) with this task and RWM is the NDA's delivery body for this task.

In common with many other countries, and supported by scientific advice, creating a permanent deep underground disposal facility has been identified by the Government as the most appropriate

means of disposing of higher activity radioactive waste. In pursuing this disposal route, a regulatory framework has been developed to ensure that any proposal for a GDF will be evaluated against highly rigorous criteria to ensure all safety and security tests are met.



*Professor Malcolm Morley OBE.*

Government, the regulators and the NDA group all recognise the importance of RWM's mission as the critical end point for safely dismantling the accumulated legacy of our country's pioneering nuclear programme. Fulfilling RWM's mission will ensure that the nuclear legacy of the past will not be passed on to future generations.

RWM recognises that in seeking to fulfil its mission, it needs to engage with a wide range of stakeholders and to respond to the concerns about radioactive waste. In doing so, it will be transparent and seek to provide information to answer those concerns. It will also seek to ensure that all that it does recognises the importance of achieving sustainable development.

In addition to the above, RWM also provides specialist services to ensure radioactive waste is packaged in a way that is safe and suitable for storage and disposal.





### RWM's performance over the year

This past year, RWM achieved real progress in taking its mission forward, whilst at the same time responding positively to the unforeseen challenge of COVID-19. It is a testament to the team spirit and abilities of all colleagues within RWM that, despite the challenges of COVID-19, so much has been achieved during the year. To all of those colleagues, I would like to say thank you.

Ongoing investment in community engagement and siting within RWM, along with investment in changing RWM's ability to understand and work with communities, has led to tangible progress in the siting process. The first Working Groups have been established in Copeland and Allerdale in Cumbria. These Working Groups have started the process of exploring the potential benefits of hosting a GDF in their areas. These local Working Groups are a critical step in the process to find a willing community and a suitable, feasible and acceptable site for a GDF. Positive discussions are also continuing in a range of other locations and we expect further Working Groups to form in the next year.

RWM's team of scientists and engineers continue to build up an impressive level of knowledge and expertise together with a detailed body of research, to ensure RWM is in a good position for the next stage of site investigations. The executive leadership team has also seen a new Chief Executive and a number of new directors making a real impact at RWM. I am very confident that the Chief Executive and her RWM team will take the company forward and deliver key milestones on RWM's journey.

In preparation for future stages in the siting process, RWM is evolving to develop additional capability and capacity for site evaluations. Experts in a wide range of disciplines, including procurement, community engagement, construction, engineering and geological investigations, have been recruited. RWM is preparing for the future.

Learning from international experience, RWM is seeking to evolve to become an exemplar of a community-focused major infrastructure delivery organisation.

RWM's specialist waste management knowledge provides a fundamental contribution to the NDA's Integrated Waste Management Programme, which was launched during 2020. The programme is a collaborative initiative to enhance the UK's approach to all processes and technologies associated with managing waste. RWM is central to the success of this programme and it has continued to play a fundamental part in the One NDA approach to the co-ordinated, value-for-money achievement of the NDA's mission.

### Looking ahead

As the interest of different communities in hosting a GDF leads to the creation of Community Partnerships, RWM will be able to gain more information to assess the suitability, feasibility and acceptability of alternative sites. Site evaluation criteria have been published and RWM will work with the Community Partnerships to ensure that these evaluations are discussed and that the challenges and benefits of hosting a GDF are widely understood locally.

RWM fully recognises that communities will want clarity about the potential impacts of a GDF during its construction and operation, and also about the significant benefits that will flow over the very long term to the community. RWM will be seeking to be part of a community for more than 100 years and its aim is to be a valued member of the community that hosts a GDF.

Within the NDA, RWM will play a key part in the creation of a new waste division. The new division will be formed by RWM and the Low Level Waste Repository (LLWR) operating as a single waste management organisation. It is vital that the progress and momentum created by RWM in delivering a GDF is maintained during this period of change.

As we look forward to the next stages of RWM's evolution and achievement, I want to pay tribute to colleagues on the Board for their commitment and contribution to RWM's achievements. They have made a significant contribution to guiding and supporting the company and in creating the confidence that RWM can and will deliver its mission. I would also like to thank colleagues in the Department for Business, Energy and Industrial Strategy (BEIS) and the regulators for their constructive challenge and guidance.

The year has been very challenging but RWM has met those challenges and I am confident that it will continue to evolve and to deliver for the UK.

**Professor Malcolm Morley OBE, RWM Chair**







# Chief Executive's Review

## The right thing to do

We know that developing a GDF is the right thing for today's society and for future generations. Without action now, we would be extending unnecessarily the environmental risk and costs of handling this waste above ground.

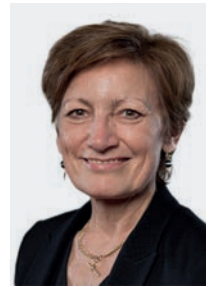
This £multi-billion investment is one of the country's largest infrastructure projects and will span many generations. The project will contribute to securing Britain's future economic prosperity and provide the community elected to host it with great economic and development opportunities and growth potential for over 100 years.

It's a real privilege taking on the role of Chief Executive and leading RWM to deliver the GDF mission. My first full year as RWM's Chief Executive has been extraordinary, with many challenges due to the specific circumstances of working through the impacts of Covid.

I'm immensely proud of how the RWM team has responded to all challenges thrown at it. We rapidly adapted to home working, introduced new IT, managed some real and very positive culture change, and delivered significant progress on the GDF programme, both in communities and the delivery programme.

## Discussions with Communities

I am delighted that we have begun constructive public discussions in Copeland and Allerdale in west Cumbria about the possibility of hosting a GDF. The formation of the first two Working Groups marks the start of a journey towards finding a willing community, together with a suitable site, where a GDF could be safely constructed and operated.



Karen Wheeler CBE

Discussions so far have been focused online, through platforms such as webinars and virtual exhibitions. However, we are very much looking forward to spending more time in west Cumbria and other community locations in England, and meeting people in more conventional circumstances.

*"The formation of the first two Working Groups marks the start of a journey towards find a willing community, together with a suitable site"*



The benefits for a community include hundreds of jobs for more than 100 years, together with skills training, contract opportunities and support for initiatives that contribute to an area's wellbeing. However, we recognise that local impacts must be carefully taken into account, with all views considered.

The pace will be led locally, guided by those who would live alongside a GDF. We expect conversations to stretch over some years, giving everyone a chance to share thoughts and for site investigations to conclude.

We are continuing to have very positive discussions in a range of places across England with people and organisations who are also interested in exploring the benefits of hosting a GDF. So we expect more Working Groups to form across the country in the next year or two.

A positive test of public support would be required before RWM would make any recommendation for a site to the Secretary of State.

### Continuing to deliver safely and securely

We work in close partnership with stakeholders in many areas: regulators, the NDA and our government partners, academic and international colleagues, and the supply chain. Their support and expertise are fundamental to the success of the GDF programme.

Much of our work is to provide absolute confidence that a GDF can be built safely and securely. To this end, our technical team carry out and commission research with academics and the supply chain to ensure we will be able to demonstrate that a GDF and waste

packaging will provide the safe and secure disposal system for the waste. An example of our research work transformed into practical outcomes is borehole sealing: this year, as part of a 10-years-plus programme of work, we ran operational tests on a pre-existing borehole to demonstrate that boreholes drilled for characterisation could be sealed securely, and without impacting the geological foundations of a GDF. In time, many of our other research projects will translate into safe, secure and sustainable features of a GDF.

We also continue to work with waste producers across the NDA estate to ensure that their waste packaging systems meet the standards required to be placed safely and securely in a GDF.

### The years ahead

Looking ahead, over the next few years we will be starting early work on assessing sites within areas identified by communities and preparing for more thorough site investigations using seismics and borehole assessments. This requires major work with the supply chain, with local communities, regulators, and many other interest groups. It will represent a major uplift of the operational work we need to do, and for that we need to continue our organisational transformation and growth.

The past year has seen a major growth, increasing to around 250 people, bringing in additional capability and capacity to build our commercial team, programme team and community team in particular. This growth and further transformation continue this year, as we transition our organisation to a fully capable programme and delivery organisation.

**Karen Wheeler, RWM Chief Executive**

## Single waste division

We are part of the NDA's Integrated Waste Management Programme (IWMP), launched in 2020 to drive improvements and efficiencies across the full range of waste services and solutions. From January 2022, a new, highly specialised waste services and disposal organisation will be formed by bringing together RWM and Low Level Waste Repository Ltd (LLWR) to create the waste division of the NDA.

Our new organisation will harness the collective expertise of both disposal businesses to provide more effective and sustainable solutions for all radioactive waste across the NDA group. This will drive improvements and efficiency in our decommissioning mission as well as fostering innovation and providing industry customers with a wider, more integrated range of treatment or disposal options.

Together, our remit covers all levels of radioactive waste from the lightly contaminated to long-lived hazardous materials destined for geological disposal. The two legal entities will remain but our expertise will be strengthened by bringing it together in the same organisation and forming a more cohesive part of the One NDA vision.

As RWM transitions to the new waste organisation, we will engage with stakeholders and communities so that they can be reassured of our continued focus on our mission to deliver a GDF.



# 2020-21 Year at a glance

**2x**



**Two Working Groups** successfully established

**250+**



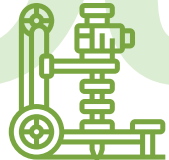
**Organisational transformation and growth**, staff numbers have increased to around 250, bringing additional capability and capacity

**12x**




**Research Support Office: working with 10 universities**, with 12 PhD students recruited

**300m**



**First borehole sealing demonstration completed:** 300 metres depth

**95%**




**19 waste package assessments:** 95% delivered on time or early

**£59.6m**



**£59.6 million turnover in 2020-2021. 93.2% of available spending deployed**

**76%**



**Seven out of nine Corporate Targets** achieved, and 76% of sub-milestones

RWM Summary of Corporate Targets		
Priorities	Target	Status
Deliver Community Partnerships for a GDF and prepare for site selection	By end Q4, more than one Working Group has been formed in accordance with the HMG Implementing Geological Disposal - Working With Communities Policy and RWM is maintaining 'active engagement' with at least 3 further Interested Parties and relevant Principal Local Authorities who are demonstrably focused on Working Group formation.	Complete
	Develop the Working Group (or Groups) to enable progression to achieve at least one Community Partnership early in FY21/22.	Complete
	Deliver the capability to manage up to five Community Partnerships in FY21/22.	Complete
	Develop and assure the full capability to execute site evaluations during the Community Partnership phase of the GDF Siting Process.	Incomplete
Deliver Waste Management Solutions to support the UK Nuclear Estate	Working with NDA, establish and deliver RWM's role in the developing UK Integrated Waste Management Programme.	Complete
	Deliver Disposability Assessments and Records Assurance in accordance with the prioritised NDA programme.	Complete
	Working with NDA, deliver RWM's contribution to the Spent Fuels and Nuclear Materials Management Programme.	Complete
Transform RWM for Safe and Effective Delivery	Identify and implement any immediate changes to the RWM Operating Model to support the three key programmes (GDF, Waste Services and Transformation) by end of Q1.	Complete
	Implement the Transformation Programme activity to enable RWM to become a safe, effective and optimised delivery organisation.	Incomplete



# About Us

## Acting now to protect the future

Nuclear technologies have been a part of our lives for over 60 years. Electricity generation, defence programmes, industrial, medical and research activities have created an accumulated legacy of radioactive waste.

Most of this waste has low levels of radioactivity and can be disposed of safely in current facilities. The longer-lived, higher-activity waste is more hazardous and needs careful management. Some materials will remain radioactive for many thousands of years.

Packaged higher-activity waste is currently held in secure stores across the UK, which must be constantly monitored, maintained, and repaired when necessary. Without a permanent disposal solution, we will simply be passing this burden to future generations.

Why act now? Because it's absolutely the right thing to do and a necessary part of the NDA's mission to decommission nuclear sites and dispose permanently of the waste. A GDF also provides a solution for the most radioactive waste from other industrial sectors.

Internationally, scientists and governments agree that the best permanent solution for higher-activity radioactive waste is geological disposal in a network of vaults and tunnels deep underground, highly engineered, with a series of barriers to prevent harmful levels of radiation from reaching the surface. Stable rock combined with engineered barriers provide enduring safety over long timescales.

Government policy in England and Wales is based on recommendations from the Independent Committee on Radioactive Waste Management (CoRWM): safe, secure disposal in a GDF, at a suitable location and where the local community has demonstrated its willingness to host such a facility.

A GDF is one of the most significant long-term environmental protection projects the UK has seen.

## Our role

Radioactive Waste Management Limited (RWM) was established in 2014 to deliver a GDF. We are a wholly owned subsidiary of the Nuclear Decommissioning Authority, which is responsible for clean-up of the UK's historical nuclear sites.

We will deliver this vital project through a community consent-based process, working in close partnership with communities, building trust for the long-term and ensuring a GDF supports local interests and priorities.

Our work also supports the Government's Build Back Better plan for growth, which aims to boost the economy, strengthen science, engineering and technology skills, and infrastructure.

Underpinning our core mission, we work closely with waste producers across all nuclear sectors to ensure that treatment, storage, and packaging solutions are compatible with final disposal in a GDF.

*“Across all activities, our priorities are safety, security and protection for people and the environment.”*





This work is part of a UK-wide programme led by the NDA to integrate all waste management activities, encouraging innovation, streamlining processes and reducing costs.

We also carry out wide-ranging research, often in collaboration with international partners and academic institutions, into all technical details of geological disposal. Our aim is to achieve world-leading environmental and safety standards supported by the best available technologies.

Across all activities, our priorities are safety, security and protection for people and the environment.

Our team of 250 people includes experts in nuclear science, technology, engineering, safety, security, programme management and community engagement. We will grow significantly in the next few years as we work closely with partners in the nuclear industry, engineering, and construction sectors to deliver this major project.

*RWM brings together a breadth of specialists, skills and expertise*



**Our vision**  
is to provide a safer future by managing radioactive waste effectively, to protect people and the environment.

**Our mission**  
is to deliver a GDF and provide radioactive waste management solutions.

**Our four core values**  
underpin how we conduct our business.

- 

**Safe**  
We are committed to achieving the highest standards of safety, security and environmental protection.
- 

**Professional**  
We are experts in the field, acting with integrity and efficiency to deliver the best solutions.
- 

**Engaging**  
We are open and communicate in a straightforward way that enhances understanding and encourages engagement and builds trusting relationships.
- 

**Learning**  
We continuously learn from others, and build and share our knowledge.



*“Technical work to ensure that a GDF can be safely built has been under way for many years.”*



# Introducing RWM's technical work



*John Corderoy,  
Technical Director,  
RWM*

The fundamental technical work to ensure that a GDF can be safely built has been under way for many years, combining ground-breaking research by RWM and academia with supply chain studies, while building on the experience of our international partners.

Our 65-strong team of scientists, engineers and technical professionals forms the heart of RWM.

The scope of activities underpins everything needed to deliver a GDF. The technical team is responsible for designing a safe and secure facility, evaluating prospective sites, securing a nuclear site licence, meeting regulators' requirements, developing a construction programme, transport arrangements, safe operations and planning closure once all the waste is transferred to the relevant tunnels and vaults.

We are also able to harness the expertise of academia, the wider nuclear industry and our international partners, especially those whose programmes are further advanced than our own.

Potential search areas will be proposed by working groups, taking account of RWM's guidance on the siting factors. We will then undertake rigorous, wide-ranging investigations above and below the surface to narrow down and identify possible sites within those areas. This will enable us to begin developing a tailored version of our generic designs and safety case to specifically meet the characteristics of the specific locations.

## Highlights from 2020-21

- Working with the regulators who scrutinise our design and safety plans, we have successfully demonstrated a highly specialised system for sealing deep boreholes, the culmination of several years' research and lab experiments (see case study).

The first demonstration provided a series of lessons to incorporate as we move on to conduct further trials in different environments.

This is part of our ongoing preparatory work for site investigations which can start once local working groups have identified their proposed search areas. The first steps will be non-intrusive activities such as aerial surveys and seismic studies, followed by borehole drilling to fully understand the geological characteristics of the site.

The results will be shared with communities as they explore the prospect of hosting a GDF.





*The £5 million DPS project brought together RWM scientists, engineers, and geologists with the supply chain, and is just one small part of the research and development programme supporting construction of a safe, secure GDF.*

- We continue to support academic studies through our Research Support Office (RSO), established in 2020 in collaboration with the universities of Manchester and Sheffield. As well as strengthening the scientific understanding around geological disposal, our aim is to incorporate world-leading technological innovations into our designs, plug any gaps in our existing knowledge and encourage the development of new scientists, engineers, and specialist researchers for the future.

We have already recruited the RSO's first cohort of 12 PhD students to explore issues around waste grouted in cement and the sealing performance of the barrier clay to be packed around the containers. More will be recruited in line with the demands of the GDF programme.

## Borehole sealing case study



*Simon Norris,  
Principal Research  
Manager, RWM.*

Ahead of a site being selected, comprehensive investigations must be carried out to assess the suitability of the deep geology. This will include drilling a series of boreholes and subsequently sealing them. Although boreholes are not part of a GDF itself, it is vital to demonstrate the highest standards in sealing techniques, as this will contribute to ensuring the integrity of rock formations surrounding an underground facility and close off possible escape routes for radioactivity.

Our aim was to develop a single system for all three possible rock types and, after several years of research, design and lab work, we successfully trialled the 'Downhole Placement System' (DPS) at an existing borehole in the sedimentary clay-type rock at Harwell nuclear site. Bentonite clay was used as the sealant material because of its low permeability and its swelling properties.

Commonly found world-wide, bentonite may also be packed around GDF waste packages as one of the many safety features preventing groundwater or gas movement.

We worked closely with contractors, using a rig to lower tubing containing jointed chambers filled with dry bentonite pellets. On reaching the appropriate depth, hydraulically pumped water enabled the contents and a plug to be released in less than a minute.

The DPS, developed from a product used in the oil and gas sectors, will also be deployed to seal existing boreholes in the two other rock formations, enabling modifications where necessary ahead of on-site activities, and providing confidence to regulators.

The £5 million project brought together RWM scientists, engineers, and geologists with the supply chain, and is just one small part of the research and development programme supporting construction of a safe, secure GDF.

The project gave us important insights, both technical and safety, which will be invaluable to our plans for sealing a GDF permanently, once all the waste is in place after the operational period of approximately 100 years.





# RWM's Priorities



**Priority 1:**  
Deliver Community Partnerships for a GDF and prepare for site selection

1



**Priority 2:**  
Deliver waste management solutions to support the UK nuclear estate

2



**Priority 3:**  
Transform our organisation for safe and effective delivery

3



## Priority 1 Deliver Community Partnerships for a GDF and prepare for site selection

Simon Hughes, RWM's Community Engagement and Siting Director, is delighted with the launch of two Working Groups in Copeland and Allerdale in west Cumbria and looks forward to the start of similar discussions elsewhere in England.

In areas where Working Groups are set up, the priority now is in starting to listen to and engage with local residents.

A virtual exhibition is already available, connecting people to a wide range of information and visual material. A series of webinars, meanwhile, have enabled online discussions to take place and questions are being addressed through dedicated inquiry lines. As post-COVID-19 rules allow, we will organise public events where residents are able share their thoughts on a face-to-face basis. We are also able to provide access for communities to external expertise, both in the UK and overseas.

The journey to find a suitable site and willing community is now under way, making constructive progress but with many more years of conversation still ahead.





## In conversation with Simon Hughes, Community Engagement and Siting Director



Simon Hughes,  
Community  
Engagement and  
Siting Director, RWM

After years of behind-the-scenes planning and preparation, the past 12 months have brought our vitally important mission to a wider public audience and given us some valuable early feedback.

The policy is emphatic in requiring the consent of the people who would be living alongside a GDF, and giving them influence over the pace at which discussions progress. What happens from now onwards will be led by local people, and we'll follow wherever the dialogues take us.

The change in focus from planning to operational is both exciting and challenging as we seek to understand the issues that matter for local people, both in relation to a GDF and to future community aspirations. Our aim is to build a deliberative dialogue with individuals and organisations representing the full spectrum of viewpoints, ensuring that all are aware of the huge positive benefits that a GDF could bring for current and future generations.

Our success in finding a location for the UK will depend on relationships in the communities that choose to talk with us, on our own people who are engaging with them on the ground, the RWM experts supporting them and the supply chain delivering the essential services we need to make progress.

We have begun to answer questions, and we know that providing as much information as possible, in the clearest possible way, will enable local decisions to be made with confidence. We're determined that our engagement and siting experts wherever possible will come from and live in the regions where we're operating.

Our hope is that we'll be there for decades to come, and we also acknowledge that the right to withdraw from the process could be activated at any time before the test of public support, and if that happens we will walk away. And if a community advocates rapid progress as an aspiration, we'd be pleased to deliver.

In pure financial terms, a GDF investment is worth many £billions, and we know that this will benefit the immediate area, generating employment, and contracts for services, but also providing a huge economic stimulus in the wider region over many generations. Once we reach the point where a prospective search area has been identified and before a final community decision has been made to go ahead, we aim to ensure that, wherever possible, we will procure our services and support from local contractors.

*"The offer to embark on exploratory talks without any commitment remains open."*





As a responsible organisation committed to making the future safer by dealing with our higher-activity radioactive waste, we will also contribute to the economic and environmental well-being of an area. We aim to understand local aspirations in detail, enabling us to develop a partnership for bringing that vision to life and sustaining it into the future.

Many people may feel it's understandable that the first working groups were established in part of the country that is already familiar with the nuclear industry, thanks to the long-established Sellafield site where the bulk of the waste is already housed

But we are extending the conversation to other regions, and the offer to embark on exploratory talks without any commitment remains open. We would welcome opportunities to outline some of the benefits, answer questions and begin to build a broader understanding of geological disposal, without any prejudice as to a future involvement.

*“We may ultimately decide against hosting a GDF in Copeland but at least we'll be making an informed decision.”*

## GDF Working Group case study



Gillian Johnston,  
Copeland Community  
Manager, RWM

RWM Community Engagement Manager Gillian Johnston is passionate about west Cumbria and Copeland, where she's lived all her life. Born and brought up in Whitehaven, Gillian's first professional experience of community work was fund-raising for the hospice charity that cared for her dying father, leading to a career with organisations committed to making a difference locally.

“For me, the community is everything. I love living here, it's a great place to bring up a family and I want a good future for children in this area and for their grandchildren. Sellafield provides good well-paid jobs but the site is in the process of decommissioning. There are also pockets of deprivation here, right next to affluent areas.

“We already have 80% of the waste stored at Sellafield and we're familiar with the nuclear industry, so talking about GDF here makes sense – it would be an immense socio-economic boost: bringing more people to the area, more businesses, creating a pipeline of employment for young people together with skills training, infrastructure improvements and more,” she said.

“I very much wanted to be involved in RWM's community engagement, almost as a duty, to help inform people about GDF benefits. At the same time, I fully appreciate that other areas may be also interested and that we may ultimately decide against hosting a GDF in Copeland. But at least we'll be making an informed decision.”





## Priority 2 Deliver waste management solutions to support the UK nuclear estate



Shaun Roberts,  
Waste Management  
Director, RWM

Waste Management Director Shaun Roberts manages a team of 35 experts, who work alongside UK waste producers to plan and advise on dealing with the radioactive by-products that will eventually be placed in a GDF.

RWM's packaging expertise is an important element in ensuring that the waste management processes meet the requirements of deep geological disposal, and that accurate records are maintained. Customers include all the NDA's decommissioning sites as well as the current nuclear power station fleet, defence establishments, universities, medical and industrial operators.

The past year has inevitably brought COVID-19 considerations and delays to many activities at waste-producing sites, while RWM's face-to-face location visits have also been disrupted, but the team has achieved a number of significant milestones and worked with industry to solve a number of complex waste problems.

RWM is also playing a major role in the NDA's UK-wide Integrated Waste Management Programme that is encouraging greater collaboration and aiming to secure efficiencies, innovation, and cost-effective improvements to all aspects of managing radioactive waste.

*"RWM's packaging expertise is an important element in ensuring that the waste management processes meet the requirements of deep geological disposal."*





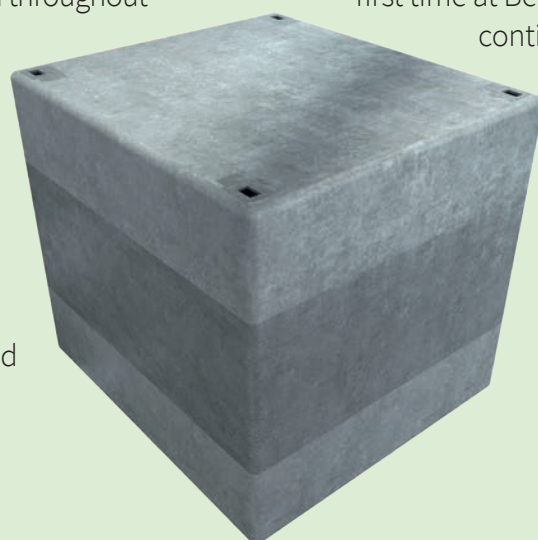
## In conversation with Shaun Robarts, Waste Management Director

Our adjustment to online working was challenging but we made the transition smoothly and were able to continue providing support to customers during the year. We work with a wide range of stakeholders across the nuclear industry, as well as different parts of the NDA: many of them were also initially impacted by, for example, delays to waste retrievals and disruption to site operations.

Collaboratively, we've worked incredibly hard alongside our customers to complete delivery on all our commitments.

Despite COVID-19 setbacks, the last 12 months were nonetheless a busy year for our vital work evaluating proposals to package waste for disposal to a GDF, with 19 assessments complete and 95% delivered early or on time.

We met all industry demands, due in part to our long-standing relationships across the team and constructive dialogue with customers. Packages must be produced to meet the needs of specific waste types, taking into account the way the waste will be managed throughout its life. This includes interim storage, safety during transport to a GDF, consideration of how the waste will be emplaced at that facility, and how it will perform as part of the GDF system during the long-term period after closure.



### Highlights from 2020-21

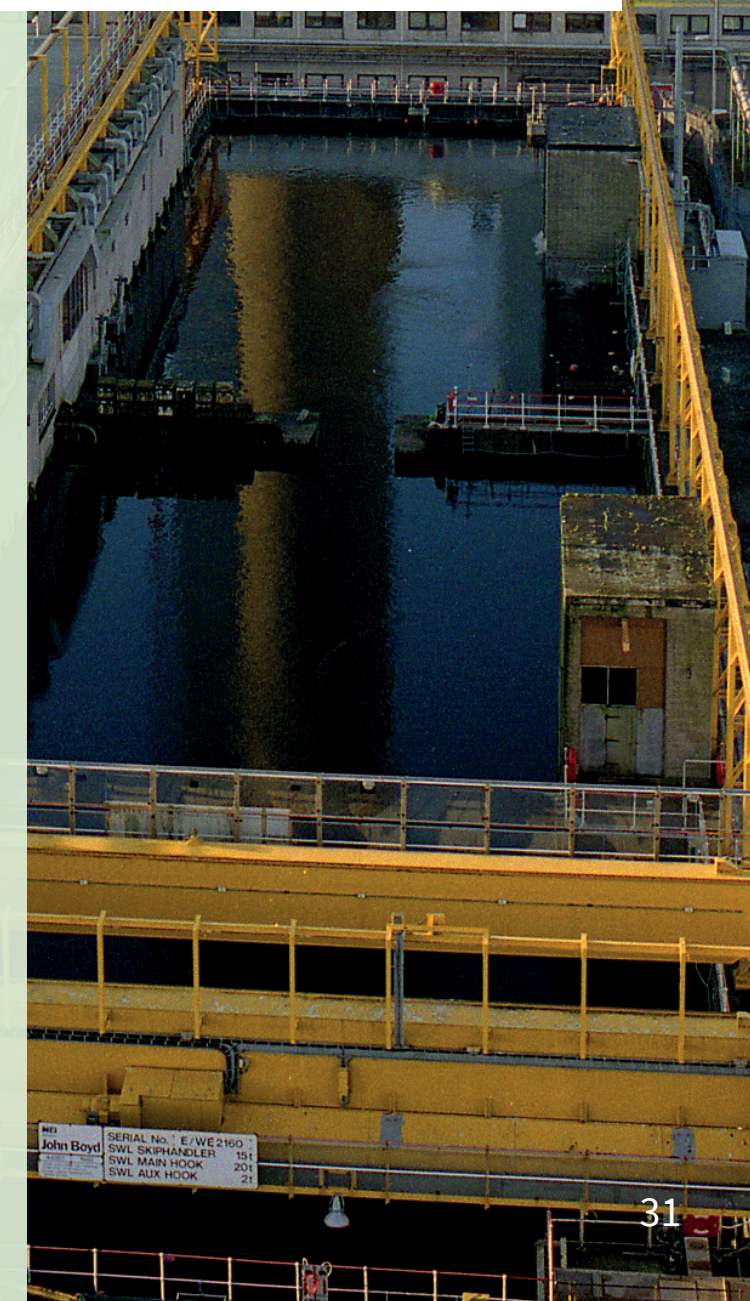
- The Pile Fuel Storage Pond is one of Sellafield's four historical facilities that are among the world's most complex, difficult decommissioning challenges. In a joint programme with the Sellafield team, regulators, and the supply chain, the RWM packaging assessment enabled a change to the waste packaging approach, allowing progress on vital waste retrievals, reducing the hazards, and contributing to a savings of at least six years from the programme, over £10 million in container costs and substantially reducing demand on waste stores at the site. This project was awarded the Sellafield 'spent fuel management progress' award.
- We have also been working with Magnox for nearly five years, to complete our assessment of the 6m<sup>3</sup> concrete box design that was introduced for Intermediate Level Waste (ILW) as a more cost-effective alternative to the previous waste strategy that relied on ductile cast-iron containers. The boxes are being deployed for the first time at Berkeley site as part of the continued removal of ILW stored for many years in three subterranean vaults. The mixed waste was generated during the former power station's operational lifetime.

- Another important initiative we're leading as part of the IWMP is a cross-estate waste records programme. We need to ensure that good quality information is available as waste is retrieved, treated, packaged, or still awaiting decisions.

This is vital to enable decision-making now and, in the decades ahead. Our future colleagues, regulators and other stakeholders will need access to accurate, consistent data on waste origins, chemical and radiological composition, how it's encapsulated and packaged.

Looking ahead, we're also supporting major strategic decision-making by the Department for Business, Energy and Industrial Strategy (BEIS) and the NDA on a series of historical liabilities, including the plutonium disposition programme and decommissioning of the Magnox fleet.

*"The Pile Fuel Storage Pond is one of Sellafield's four historical facilities that are among the world's most complex, difficult decommissioning challenges."*





*“RWM plays a vital role in providing its expertise from when the first waste is produced through to treatment and disposal.”*

## Integrated Waste Management Programme case study



*Tom King, Senior Waste Strategy Specialist, Innovation & Delivery, Strategic Waste Programme, RWM*

Last year saw the launch of a work programme, the Integrated Waste Management Programme (IWMP), that is led by the NDA but involves significant input from RWM.

Its remit is wide-ranging, aimed primarily at bringing the whole UK nuclear industry together to improve how radioactive waste is managed over the next 10-15 years. This will mean treatment, packaging and disposal options that are more sustainable, more efficient, flexible, together with developing innovative technologies,

reducing timescales and improving safety. Waste producers from the public and private sector, plus service providers and disposal organisations, are all involved in the collaborative initiatives..

The IWM Programme accounts for £25 billion of the total nuclear provision of £130 billion over the next 100-plus years, with opportunities for savings of around £2.3 billion already identified through initiatives such as new waste treatment facilities, packaging and disposal routes.

As a waste disposal specialist, RWM plays a vital role in providing its expertise from when the first waste is produced through to treatment and disposal. Specialist advice on treatment, packaging, storage and transport ensures that only the small proportion of radioactive waste needing very long-term isolation will be directed to a GDF. Packaging and record-keeping for this longer-lived, more hazardous waste is required to comply with the rigorous standards set out for geological disposal and to meet regulatory criteria.

The IWM Programme will lead to greater availability of options ensuring only waste requiring a GDF will be consigned to the facility.





## Priority 3

### Transform our organisation for safe and effective delivery

Acting Transformation Director Elizabeth Atherton oversees the task of building the capability that RWM needs to deliver its mission.

For many years, the focus at RWM has been on the detailed planning and research activities necessary to support the underpinning generic designs for a GDF.

RWM is now evolving as a delivery organisation, strengthening with new expertise, and working in partnership with a range of stakeholders and suppliers.

*“Building a pool of talent that reflects the expertise required to manage site investigations, procure supply chain expertise and oversee an eventual construction programme”*

## In conversation with Elizabeth Atherton, Acting Transformation Director



*Elizabeth Atherton, Acting Transformation Director, RWM*

Our transformation programme is now well under way and will ensure we are fully prepared as an organisation to deliver a GDF. After a process of analysis, which involved surveys, staff feedback, and engagement with other stakeholders, our

transformation programme identified three areas of particular importance and proposed the steps needed to move forward:

- **Capability and capacity.** We are building a pool of talent that reflects the expertise required to manage site investigations, procure supply chain expertise, and oversee an eventual construction programme. Further vital capability includes additional programme management skills, as well as technical and research experts in GDF design, engineering, and construction.

Ahead of on-site activities, we have recruited community engagement and siting managers to develop constructive dialogues with local people and understand where we can contribute to their vision for the future. Our numbers have already grown by almost 100 people over the past year, up to 250.

- **Culture.** We're committed to providing a supportive, inclusive work environment where all our people can achieve their potential.

The COVID-19 pandemic required us to respond rapidly to lockdown challenges and brought an additional impetus to our focus on offering greater flexibility, allowing people to balance their priorities effectively. Support for mental health and wellbeing has also been strengthened during this challenging period.



Our latest workplace survey showed a strong collective sense of inclusivity, trust, and empowerment at all levels, while also highlighting room for improvement around managing the changes effectively, delivering at pace, and a broader need for alignment as an organisation in delivering externally.

- **Ways of working.** We have evaluated our internal systems and are beginning to build new organisational structures and operating models that will cover all phases of our mission, ensuring we are ready for the challenge of more commercial, public-facing activities. During the year, we have clarified how we will operate, based on programme management and matrix working, where people from different parts of the organisation come together for a specific project. To embed this across our teams, we have appointed internal champions to progress the transition.

Meanwhile, as the complexity of our work grows and we become more externally focused, we are developing digital and information systems that will underpin the way we work as a organisation set up for safe and effective delivery.

We have also updated our strategy on Health, Safety, Security, Environment and Quality (HSSEQ) to reflect the evolving GDF siting progress. In this context, we are strengthening our environmental focus and ensuring sustainability is embedded into our ways of working, in order to provide greater confidence to communities involved in the process.

*“We have proactively raised awareness of issues such as bullying, harassment and mental health.”*

## ED&I case study



Andy Perry, Head of HR, RWM

Our focus on Equality, Diversity and Inclusion (ED&I) is part of the NDA group's drive to welcome people from all backgrounds, empower every individual, and create dynamic workplaces.

Building respect for different viewpoints brings benefits to us all and our recent efforts are already paying dividends. We have proactively raised awareness of issues such as bullying, harassment, and mental health, enabling open discussions and challenge where appropriate. Among the measures deployed are workshops, surveys, and the appointment of ED&I champions to take up issues.

Our benchmark survey in 2019 showed healthy scores of 66%-82% on five important themes, including respect, fairness and meritocracy, leadership, innovation, and mental health. In 2020 these scores had already improved to a range of 75%-90%. On ED&I, we're pleased that 80% agree that RWM has an inclusive culture where everyone has the opportunity to participate.

Earlier this year, at the annual Women in Nuclear event, we were also judged winners of the Industry Charter Signatory of the Year Award which recognises efforts to improve ED&I within our organisation as well as across the industry.

The progress is encouraging, but we know there is more to do.



# Forward Look

## Priorities for 2021-2022

Looking ahead, RWM will continue to evolve and develop so that we are best placed to deliver a GDF, working in partnership with stakeholders and communities. By the end of this financial year we will be part of the new waste organisation, but our priorities will remain just as clear.

**Priority 1:**  
**Deliver Community Partnerships for a GDF and prepare for site selection**

**Priority 2:**  
**Deliver waste management solutions to support the UK nuclear estate**

**Priority 3:**  
**Transform our organisation for safe and effective delivery**

More Working Groups are expected to form in other parts of England over the coming year – and we expect existing Working Groups to set up Community Partnerships to take the process forward longer term too.

Our technical work includes preparation for: early seismic work on the sites, further investigations and studies (known as ‘Site Characterisation’) and to be prepared for the design and safety work required for a GDF in a specific location.

We will also continue to focus on delivering waste management solutions, so that the longer-lived radioactive waste is compatible with and ready for a GDF.

We will develop and strengthen as an organisation, ensuring we have the knowledge, expertise, and capability to deliver this project alongside our partners and building our operational experience.

As part of the NDA group, we will support the Integrated Waste Management Programme and form a single waste division with LLWR to utilise our combined expertise better. We are working closely with the NDA and LLWR on this important development and will ensure changes serve to enhance delivery of our core mission.

*“Our mission is about acting now for future generations, protecting our environment, boosting our economy and investing in communities.”*

## Priorities for 2021-22

- **Continuing the search to find a host community for a GDF** - Our work to identify a willing community and suitable site will build on the local conversations that are now under way, as we take further steps on the journey, working in partnership with local communities.

We will increasingly focus our efforts on the areas currently in Working Groups, and those still in the initial engagement phase. We will work to build strong relationships and trust across whole communities and support them to develop a community vision for their area, which reflects their needs and priorities.

We will continue to develop our capability, the systems and supply chain support required to evaluate sites, acquire permits and consents, to gain access to land and to mitigate the impacts of our activities.

We will also continue to work with a broad range of local, regional, and national stakeholders so that communities are aware of the major investment and benefits a GDF will bring.

- **Technical preparations for GDF** - The technical programme will develop the GDF design and safety case. During 2021-22, we will prepare for the early seismic work, where agreed with communities.

We will also continue work on the borehole sealing project to provide necessary evidence that GDF boreholes can be safely sealed, and build our operational and safety expertise to support our technical preparations.

- **Waste management solutions** - Working with the NDA, we will continue to play a key role in the implementation of UK Integrated Waste Management through the delivery of disposability assessment and waste package records assurance. Our work will enable the important job of hazard reduction and decommissioning at sites across the UK, as well as supporting wider industry to plan for and manage their radioactive waste effectively.

We will support NDA in considering near-surface disposal as part of a suite of solutions for radioactive waste, alongside a GDF.

Through continued leadership of the NDA waste records programme, we will work across the NDA estate to ensure adequate information is captured and managed to facilitate future disposal of packaged radioactive waste.



- **Transforming RWM** - It continues to be essential to grow significant new and improved capabilities and capacity across the organisation to deliver the GDF Programme. Critical areas to focus on for the next year will include programme management and delivery, a special focus on programme management of our technical work, development of our “intelligent client” capability across the whole organisation and continuing to improve our commercial capability and capacity.

We will also continue to build our Health, Safety, Security, Environmental and Quality (HSSEQ) culture in all we do, in preparation for the next phase of work. The work in this area will include strengthening our relationships with regulators.

*“We will also continue to work with a broad range of local, regional, and national stakeholders so that communities are aware of the major investment and benefits a GDF will bring.”*

- **Our Team** - Our team remains central to our strategy. This past year has been challenging because of COVID-19. The organisation has nevertheless managed to deliver great progress especially in taking the GDF programme forward and starting the organisational transformation necessary.

To deliver our goals, we will need to grow even further, attracting high quality and capable people, to a headcount of around 400 by the end of March 2022.

We are committed to providing a supportive and inclusive work environment in which all our people can realise their potential. We have had to respond during 2020-21 to the new challenges of lockdown and homeworking, and managed to significantly improve how we support people effectively in very different ways of working.

We need to do more to improve our diversity and will use our significant expansion to recruit using more diverse candidate pools, including wider use of NDA group secondments and early career schemes.





**Longer-term planning**

Looking further ahead and out to 2024, many of these priorities will continue.

We will continue to develop, work and build relationships with communities, to form more Working Groups and Community Partnerships, and to agree sites in those communities.

We will publish and deliver on our commitments on sustainability and socio-economic support, to demonstrate the value we intend to provide to the communities we work with.

We will complete our seismic investigations of sites which have been identified and use the information collected to prepare evaluations which will eventually feed into our site recommendations.

We will be preparing for the procurements and next stages of work on permissions, and the design and safety case development for a GDF in the likely site locations and geologies.

In parallel, we will continue to build and embed our safety culture and key capabilities, such as managing the supply chain, programme management, and site evaluation.

**A project of opportunity**

There is no denying the huge challenges involved in this work. But what we have seen this year is that we are leading a project of opportunity.

A GDF is massive infrastructure investment for a local community and its economy, and a vital project for the UK. It will create thousands of jobs over its lifetime of more than 100 years, bringing opportunities to develop a local workforce with the skills and expertise that will be needed. A GDF will also attract further inward investment, together with supply chain opportunities over the course of many decades and into the next century.

Our mission is about acting now for future generations, protecting our environment, boosting our economy and investing in communities.

**Karen Wheeler, Chief Executive Officer**





## Getting in touch

To learn more about the UK's mission to deal with radioactive waste

Email [gdfenquiries@nda.gov.uk](mailto:gdfenquiries@nda.gov.uk)

Telephone **03000 660 100**

Follow us on Twitter [@rwm\\_gdf\\_uk](https://twitter.com/rwm_gdf_uk)

or visit our website [gov.uk/rwm](http://gov.uk/rwm)