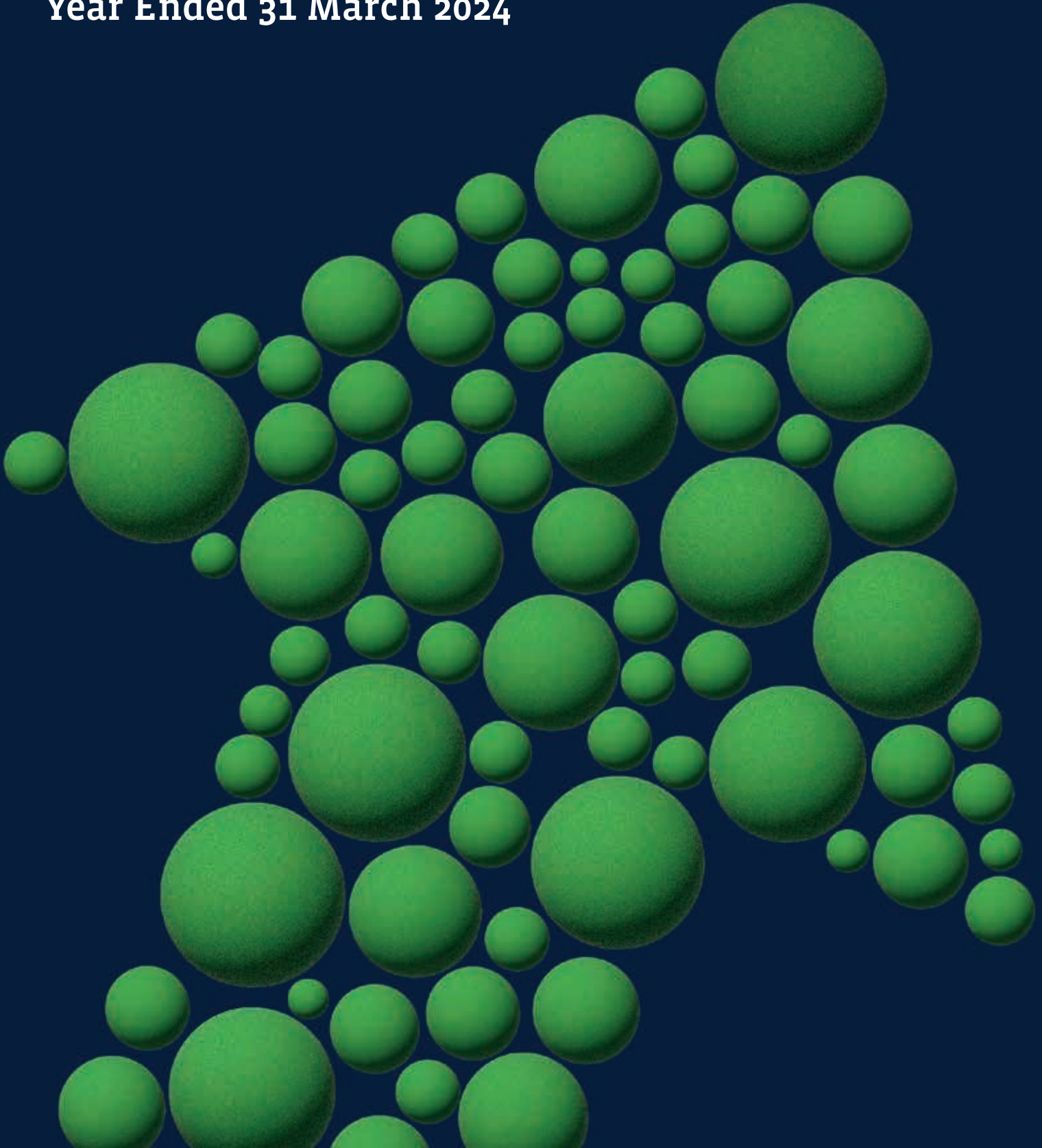


Annual Report and Financial Statements

NATIONAL NUCLEAR
LABORATORY 

Year Ended 31 March 2024



Contents

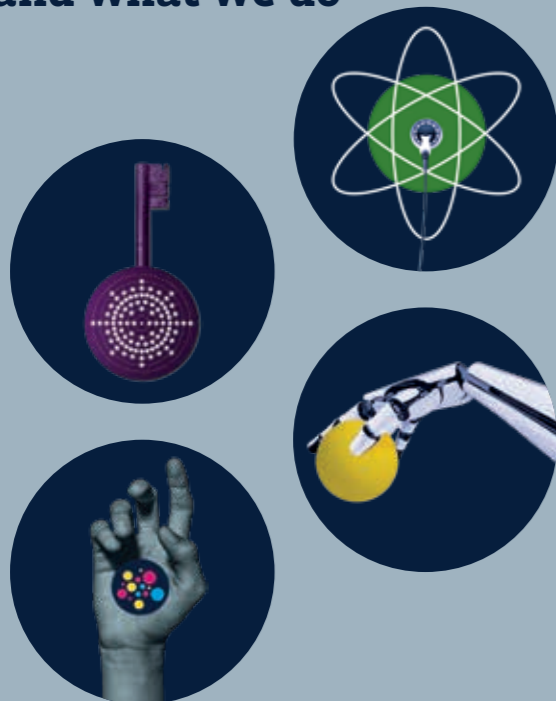
1.0

Strategic Report

- 1.1 Purpose
- 1.2 Chair's Welcome
- 1.3 Chief Executive's Overview

1.4

Who we are and what we do



- 1.4.1 Our strategy
- 1.4.2 Our business model
- 1.4.3 Our stakeholders

- 1.5 How we have performed
 - 1.5.1 Business performance
 - 1.5.2 NNL Value Framework
- 1.6 Financial review
- 1.7 Future outlook
- 1.8 Risks and uncertainties
- 1.9 Going concern
- 1.10 Section 172 statement

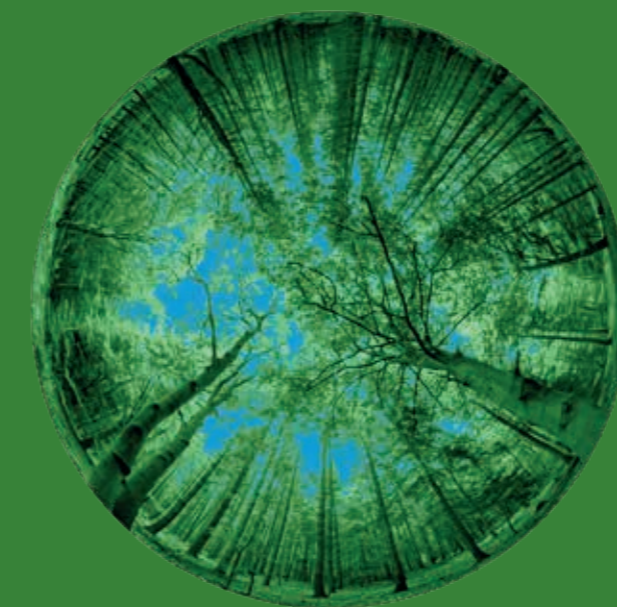
2.0

Environment, Health, Safety, Security and Quality (EHSS&Q)



3.0

Sustainability



4.0

Directors' Report

- 4.1 Our Board
- 4.2 Governance Statement
- 4.3 Remuneration and Staff Report
- 4.4 Directors' Report Continued

5.0

Independent Auditors Report to the Members

6.0

Financial Statements

Nuclear Science to Benefit Society

Country of Incorporation and Legal Form

National Nuclear Laboratory Limited is a Private Limited Company incorporated and domiciled in the United Kingdom.

Directors

Ian Funnell	Chair
Paul Howarth CBE FREng	Chief Executive Officer
Clare Barlow	Chief Human Resources Officer
David Beacham	Chief Customer Officer <i>(resigned on 3 May 2023)</i>
Matthew Miller	Chief Financial Officer
Fiona Rayment OBE, FREng	Chief Science and Technology Officer <i>(resigned on 31 October 2023)</i>
Iain Clarkson	Non-Executive Director
Edward Emerson	Non-Executive Director
Claire Flint	Non-Executive Director <i>(resigned 21 April 2023)</i>
Stephen Garwood FREng	Non-Executive Director
Ann Cormack	Non-Executive Director <i>(appointed on 21 April 2023)</i>

Secretary

Samantha Wheeler

Registered office and principal place of business

Chadwick House, Warrington Road, Birchwood Park, Warrington, WA3 6AE

Company registration number

03857752 Registered in England and Wales

Independent Auditors

Saffery LLP, Trinity, 16 John Dalton Street, Manchester, M2 6HY

1.0 Strategic Report

1.1 Purpose

National Nuclear Laboratory Limited's (NNL) financial statements include a strategic report that sets out the company's purpose and objectives as well as the key aspects of our progress and performance during the 2023/24 financial year.

The directors have prepared this report to meet the requirements of Section 414 of the Companies Act 2006. NNL's independent auditors are required by law to report on whether the information given in this strategic report has been prepared in accordance with the applicable legal requirements and is consistent with the financial statements. The auditors' report is included later in this document.



1.2 Chair's Welcome

This year's Annual Report and Accounts testifies to another significant year for NNL and the wider nuclear sector. Since March 2023, nuclear's importance has been further affirmed both internationally and at home in the UK. And, while nuclear itself is crucial to the sustainability of our planet's future, at NNL we've also been focusing on the sustainability of our organisation.

Last year, we felt a spirit of promise: there were important signs from both the UK government and the international community that nuclear was once again high on the energy agenda. That spirit of promise has certainly held true this year. At the end of 2023, COP28 formally recognised nuclear as one of the solutions to climate change for the first time, and the UK was among 22 countries to agree to triple global nuclear capacity by 2050. This agreement acknowledged many of nuclear's strengths, including its relative land efficiency (compared to solar farms, for example) and its potential to support decarbonisation beyond the power sector. As such, COP28 placed nuclear at the centre of the global race to net zero.

This move aligns with what many of us in the nuclear sector know already but which has been brought into stark relief by the World Nuclear Association's recent work: that nuclear not only supports but can even drive progress in each of the UN's sustainable development goals – from tackling poverty through reliable and affordable electricity to providing quality education by generating apprenticeships during plant construction.

In the UK, we remain reliant on imported energy, primarily gas and oil. This reduces our energy resilience in the event of extreme weather or geopolitical incidents, as we found in 2022 when rising energy prices caused anxiety for so many. Against

this backdrop, it is all the more striking to note that the UK's nuclear electricity generation share has fallen since the 1990s. What's more, looking ahead, experts predict that our use of electricity – in the home, in transport, and in industry – will increase by 50% by 2035, perhaps even double by 2050. How do we meet this increased demand, while strengthening our energy resilience, and remain in line with net zero? One answer is, of course, nuclear.

These issues have been laid out in the UK government's 'Civil Nuclear: Roadmap to 2050' report, published in January 2024. The roadmap underlines the government's commitment to nuclear and sets out its ambitions to invest in nuclear for everyone's future. As the UK's principal nuclear fission research and development organisation, NNL is a major part of this commitment.

Our purpose is 'nuclear science to benefit society'. If our work is not sustainable, it cannot truly achieve this aim. In March 2023, the NNL Board approved the sustainability plan for FY23/24 to help us maintain momentum in our pursuit of sustainability – not just environmentally but financially and socially.

Among many highlights in our efforts towards sustainability this year, I am particularly proud of our recent National Equality Standard accreditation, which recognises our commitment to inclusion. I am also proud to say that our education and training for facilities and business teams was well attended and, even more importantly, saw strong engagement.

As genuine scientific innovators, at NNL we often do things that no one has ever done before. Safety remains the very highest of our priorities. I am pleased to report that NNL maintained its strong safety performance, with no reportable incidents related to nuclear safety. However, we experienced one reported near miss and some other significant incidents. Though none resulted in injury or radiological release, these have been fully investigated and action plans are now in place.

Effective leaders must lead by example, particularly when it comes to driving positive change. March 2023 saw the completion of the Board Effectiveness Review, which made recommendations focused on three themes: board purpose and delivering a sustainable future for the business; board capability and addressing the transition challenge; and improving board dynamics to drive added value. We have responded to these recommendations proactively by focusing on stakeholder engagement and strengthening board composition by increasing the ratio of non-executive to executive directors.

“The importance of energy sovereignty, of clean energy, and the world's interdependency for the future is at the forefront of the public's minds and priorities in ways that we would not have expected 18 months ago.”

Likewise, our sponsor department, the Department for Energy Security and Net Zero (DESNZ) (formerly the Department for Business, Energy and Industrial Strategy), has undertaken a strategic review of NNL to assess our future role and capabilities. NNL will work with its shareholder to implement the findings of the review and, following our CEO, Paul Howarth's, announcement that he intends to stand down as CEO in Spring 2025, we will look to appoint a successor to drive forward the implementation of these findings. As the scientists among us know, to observe is to learn, and learning gives us the power to improve. I welcome this opportunity to learn how NNL can better serve our purpose, and I look forward to working with DESNZ to ensure that we continue to deliver nuclear science that benefits society. ○

1.3 Chief Executive's Overview

It has been another exciting year for nuclear, both globally – as our Chair Ian Funnell explained in his introduction – and here in the UK. Big ambitions have begun to take shape: in January, the UK government mapped out its vision for the nuclear sector and our role in achieving net zero by 2050. As the nation's laboratory for nuclear fission, NNL sits at the beating heart of this nuclear renaissance – and our unique position, expertise and facilities will play a crucial part in leading the charge.

Big ambitions are one thing, but having a clear path to achieving those ambitions is something else entirely. In January 2024, the government made a significant step towards achieving its ambition to achieve up to 24GW by 2050 with the publication of its 'Civil Nuclear: Roadmap to 2050' report. The roadmap is an important and welcome development in energy policy that reaffirms the government's commitment to nuclear and makes clear NNL's role in the delivery of that policy: our unique position in the sector, our expertise across the fuel cycle and our nationally strategic research facilities are all crucial to developing and deploying new nuclear technologies.

Our exceptional facilities and capabilities include four world-leading laboratories in the northwest of England, which support and enable strategically important nuclear programmes. To ensure that we not only keep pace with the UK's ambitions for nuclear but that we drive them forward, we must continue to invest in this infrastructure and expand our capabilities. In support of this aim, DESNZ has provided NNL with £120 million of funding since 2020. Building on this, the government's roadmap announced further funding of £9.35 million for two landmark projects at NNL: to develop a Uranics Innovation Centre and to complete a concept design for a high-assay low-enriched uranium (HALEU) deconversion test facility, with a view to supporting a UK HALEU programme.



We are proud of our ongoing collaboration with industry partners in support of UK national programmes. Our Technical Services Agreement with Sellafield Limited continues to go from strength to strength. An example of our work under this arrangement includes supporting Sellafield operations by running two campaigns of the Vitrification Test Rig and agreeing to extend the life of the plant by at least 5 years. We recently signed a long-term, strategic, collaborative Laboratory Related Framework agreement with the Nuclear Decommissioning Authority (NDA) and are supporting the NDA in developing plutonium disposition options, with progress being made on the design and build of a plant to demonstrate the hot isostatic pressing of certain plutonium containing streams. The spirit of collaboration continues with our defence customers where, just prior to the year end, we entered into a long-term collaboration agreement with AWE, delivering the first phase of a residues treatment contract. We continue to support Rolls Royce and the Submarine Delivery Agency on creating a new Post Irradiation Examination capability at our Active Handling Facility Laboratory.

Whilst NNL remains committed to a high standard of customer satisfaction, the unprecedented renewal of interest in nuclear across the civil and defence sectors has meant that NNL has had to prioritise available resources to best meet demand. During 2024/25 we will focus on improving delivery to respond to this changing landscape.

The financial performance for the year was in line with expectations established within the budget. Overall activity growth led to improved EBITDA performance of 14% compared to prior years. The level of cash held at the end of the year was £22.1m, however, slightly below expectations due to slower than anticipated settlement of due payments from customers. Our investment activities remain in line with expectations throughout the year and continue to deliver positive outcomes to enable future growth throughout the organisation.

In order to make the most of the growth opportunities outlined in the 'Civil Nuclear: Roadmap to 2050' we need the right people with the right skills. That's why we're supporting Sir Simon Bollom's important work on building nuclear skills in the UK's defence and civil workforce as part of the Nuclear Skills Taskforce.

The Nuclear Industry is a world community, where international collaboration benefits all. A prime example of this is our collaboration with colleagues in JAEA, the Japan Atomic Energy Agency. As part of the DESNZ Advanced Modular Reactor Research, Development and Demonstration programme we are working together to develop a demonstration High Temperature Gas-cooled Reactor (HTGR).

Nuclear goes far beyond the scientific community and government targets. Our work impacts everyone – starting with our local community. Over the past year, NNL has engaged with the public both at Nuclear Week in Parliament and via opinion polling to help us understand different perceptions of nuclear. At parliament, we unveiled a Lego model of an integrated energy system, showcasing how different energy sources could work together to decarbonise the most energy-intensive industries while also boosting local economies. We also spoke to people with different relationships to designated nuclear sites to better understand the public's opinion on nuclear.

But our most important stakeholder is ultimately the next generation. As our Chair explained in his introduction to this report, sustainability is key to everything we do, and is fundamentally about safeguarding the future for our children. For Schools Day on 9 October 2023, NNL sponsored 100 tickets for children to attend New Scientist Live, not only opening young minds to the possibilities of nuclear but also inspiring the next generation of scientists.

We, too, are always looking for opportunities to broaden our horizons. First, our strategic

“I could not ask for a stronger team around me to be delivering on our agenda. As a growing business, we are committed to delivering excellence for our customers.”

partnerships remain a priority as we seek to drive progress and learn from other sectors and stakeholders, both in the UK and beyond. Highlights from the past year include our memoranda of understanding with Bangor and Leicester Universities to advance education and research in nuclear; the Laboratory Related Framework agreement with the NDA, which will help us work together more efficiently and effectively; and supporting Nuclear for Climate at COP28.

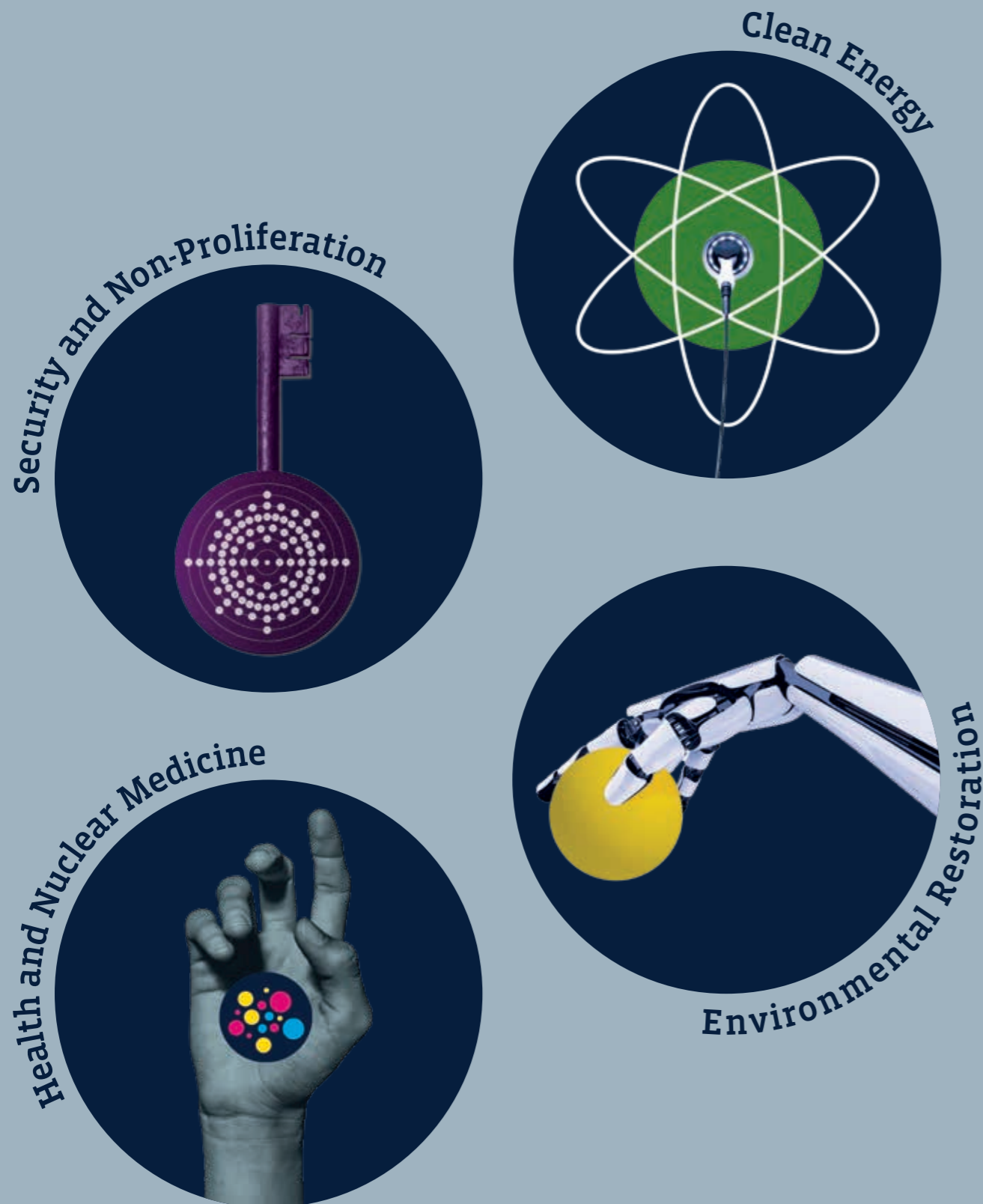
At the start of the new financial year, I announced that, after 13 years as NNL's Chief Executive, I have made the decision to retire in the late Spring of 2025. This announcement forms part of NNL's ongoing succession plans, and I have carefully considered the best approach and timing to ensure a smooth transition into the next phase of leadership, something which has been developed over the past few years. As illustrated in this Strategic Report, the role of nuclear in the UK and globally – and therefore our role at NNL – will only continue to grow in significance and I look forward to seeing through the many programmes and opportunities already underway and in the immediate pipeline. The next 12 months will represent another momentous year for the UK's nuclear and energy sectors, and I am keen to make sure NNL is well placed to deliver on its vital role within them, as a strategic national asset for the UK.

Finally, I join Ian Funnell in expressing my support for DESNZ's strategic review of NNL. Having led NNL through its creation and transition to a Partner Organisation of UK government, the strategic review presents a major opportunity for NNL to play its full role in supporting both the nuclear industry and the government's policy objectives, ensuring NNL can truly fulfil its aspirations and achieve recognition as a world-leading national laboratory.

I look forward to working with all of NNL's stakeholders as we take forward its recommendations.

1.4

Who We Are and What We Do



NNL is the UK’s national laboratory for nuclear fission. It is the country’s principal nuclear fission research and development (R&D) organisation.

Our purpose is to use nuclear science to benefit society. We do this by providing the technical knowledge and capability to support the country’s civil nuclear programmes and ensure they are delivered safely and cost-effectively.

We are here to help make sure our sector can deliver environmentally and financially affordable solutions to some of the biggest challenges of the twenty-first century. Whether it is contributing to the achievement of net zero or advancing nuclear science in the delivery of effective healthcare, the outcomes we achieve directly benefit us all.

Our values align our actions and act as our compass to guide our future.

government and stakeholders in the UK and worldwide, and we work with universities to enable academic access to our services.

We occupy a unique position in the nuclear innovation environment, spanning technology readiness levels three to six and beyond: taking science from inactive laboratory-scale demonstration to prototype deployment with real nuclear materials.



We are responsible for unique critical infrastructure and equipment. Our people have world-leading nuclear skills, and we are proud to employ many internationally recognised experts in their fields.

We use our broad knowledge and capability to advise independently and authoritatively

NNL hosts the Nuclear Innovation and Research Office (NIRO), a specialist unit funded by the Department for Energy Security and Net Zero (DESNZ) (formerly the Department for Business, Energy and Industrial Strategy), which is separated from our commercial operations by a series of ethical barriers. NIRO is staffed by experts from both NNL and the broader nuclear industry. It provides technical advice and support to the government in progressing a safe, secure, cost effective, sustainable and socially acceptable nuclear fuel cycle. This includes supporting government’s objectives and activities around international collaboration on nuclear research and development, including country to country bilateral agreements and engagement with the NEA and IAEA.

NNL is owned by DESNZ via a holding company, NNL Holdings Limited. NNL is overseen by a board of directors, the majority of whom are appointed by the UK government. The framework within which NNL operates, including the governance arrangements, is set out in a framework document which is publicly available at www.nnl.co.uk.

1.4.1

Our strategy

The past 12 months have seen significant developments in the increasingly fast-moving nuclear sector. The government and private sector are pursuing opportunities and the potential in nuclear with vigour.

DESNZ is pushing forward with civil nuclear power on several fronts. It has created a Future Nuclear Enabling Fund to support reactor vendors in progressing towards a final investment decision (FID) within the next Parliament, and it is also running the Advanced Modular Reactor (AMR) Research, Development and Demonstration (RD&D) Programme, with the ultimate aim of constructing a demonstration high-temperature gas reactor (HTGR) in the UK by the early 2030s.

After its announcement in 2022's British Energy Security Strategy, Great British Nuclear has now been established with a remit to drive new-build projects. This will initially be through a competition for small modular reactor (SMR) designs, of which six have already been shortlisted.

The 'Civil Nuclear: Roadmap to 2050', published in January 2024, brought all these developments together, restated the government's intent to bring Sizewell C to FID in this Parliament, and its ambition to secure investment decisions to deliver 3-7 GW of new nuclear every five years from 2030 to 2044.

The space sector is showing increasing interest in nuclear power.

In July, the UK Space Agency included nuclear power for space in its technology roadmap, and is funding projects on micro reactors, micro fuels and radioisotope power sources.

Beyond nuclear power, DESNZ's Medical Radionuclide Innovation Programme is supporting the development of radionuclide production capability to ensure that the UK has access to radionuclides for medical purposes.

The restructuring of the NDA under its One NDA approach continues, with the new Nuclear Restoration Services organisation combining former subsidiaries Magnox Limited and Dounreay.

In the sphere of nuclear security and non-proliferation, the government has committed to publishing a Nuclear Skills Taskforce report alongside a Defence Nuclear Enterprise Command Paper in 2024, explaining how we will ensure our civil and military nuclear ambitions address our shared challenges and opportunities. AUKUS, a trilateral security partnership for the Indo-Pacific region established by Australia, the UK and the United States in 2021, is now well into its implementation.

Over the last year, we have collaborated with our sponsor department, DESNZ, to further the context and manner in which we achieve our purpose and support the department's mission and government policy. In addition, the recent review of the research, development and innovation organisational landscape, led by Sir Paul Nurse, put the emphasis on ensuring all public sector research establishments have a clear mission and demonstrate the full value they bring to their stakeholders. It is important for us to be clear on the value we create, thus we have defined our role through the lens of five impact roles:

- a) Undertaking the practical science that supports the safe and secure operation and decommissioning of civil and military fleets;
- b) Facilitating future nuclear innovation through conducting the R&D that will stimulate and enable the nuclear ambition;
- c) Driving first-stage demonstration of technical innovation for the benefit of the UK;
- d) Acting as an advocate for nuclear fission by contributing to policy development and coordinating

public-facing communications; and

- e) Stewardship of sovereign capability (infrastructure, equipment and talent) to deliver current and future national policy.

Against a backdrop of a rapidly evolving nuclear landscape, we recognise that our strategy will also evolve to deliver and meet the needs of both UK nuclear policy and the wider sector. We will do this through the lens of the above impact roles, where NNL can take on both a leading and supporting position. NNL has always had an important role in supporting national programmes through practical science, and this will only increase as the current advanced gas reactors are shut down and the next generation of nuclear plants are commissioned to replace them. ○

NNL continues to be at the forefront of nuclear science and innovation, playing a critical role in helping the nuclear sector to achieve its ambitions. NNL's purpose is 'nuclear science to benefit society'. We recognise that the value we create extends beyond purely financial performance to enhance the strategic execution of our nationally critical nuclear civil and defence work programmes aligned to our four focus areas.

- In **clean energy**, we support the UK's operational fleet of reactors, and we are working alongside vendors and the DESNZ AMR RD&D programme to develop advanced nuclear reactors and fuels for the future. This includes developing nuclear sources of power for space missions and exploring how heat from nuclear can provide non-electric energy applications, such as in the production of zero-carbon hydrogen and industrial process heat.
- In **environmental restoration**, we are working with partners such as the NDA and its subsidiaries to enable their mission to decommission and clean up the UK's nuclear legacy estate.
- In **health and nuclear medicine**, we are developing new techniques to produce radionuclides which could be the basis of next-generation cancer treatments.
- In **security and non-proliferation**, we are keeping the world safe by helping the UK and the international community to ensure that nuclear technology and materials are used only for peaceful purposes.

1.4.2

Our business model

Our unique strengths

People and Capabilities



Critical Nuclear Infrastructure



Programmes: Science to Solutions



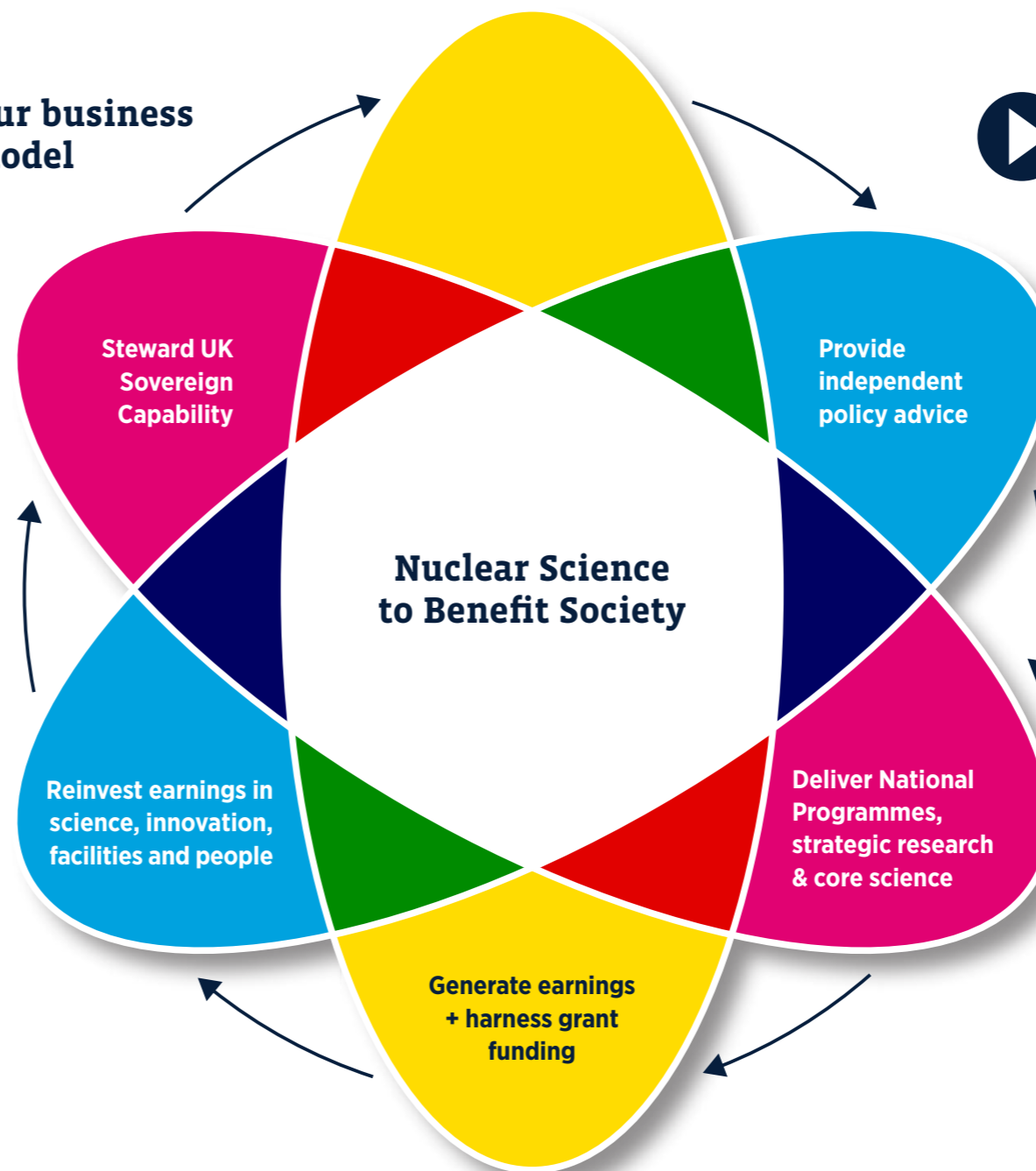
Government's National Laboratory



Long term partnerships



Our business model



Driving value creation across stakeholder groups

Government



People



Customers



Academia



Nuclear Industry



Wider Society



Our strategy is underpinned by our impact roles:

Practical science supporting national programmes

Innovation to stimulate and enable the sector

Driving first stage demonstration of new technologies

Nuclear advocacy: policy and comms

Stewardship of sovereign capability

Science, technology and innovation are at the heart of our organisation, bringing together critical infrastructure, equipment and expertise to underpin safety cases, minimise risk and inform decision-making. At NNL, we reinvest our earnings to further our understanding of nuclear science. Our science and technology (S&T) agenda focuses on core science, disruptive innovation and nationally important strategic research that enable national nuclear outcomes. Our approach is to do this collaboratively, enabling and leading partnerships nationally and internationally by making best use of expertise, infrastructure and investment.

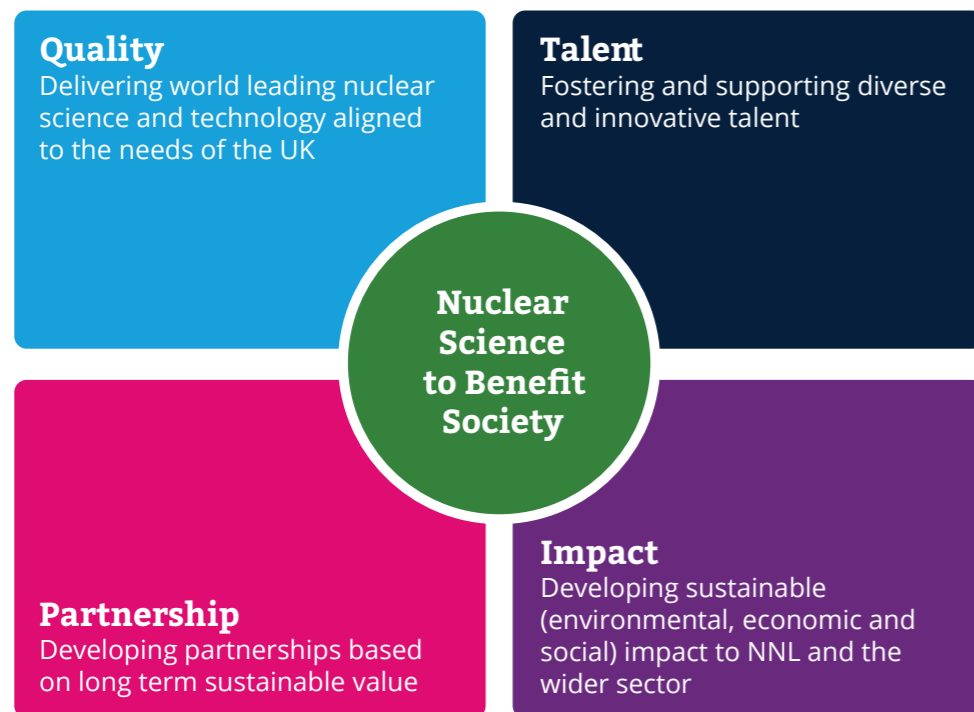
The nuclear landscape is evolving at quite a significant pace. Nuclear will play a key role in decarbonising the energy sector by 2050, creating sustainable carbon-free energy, powering space missions and enabling production of medical isotopes for health. Our work helps put the UK at the forefront of nuclear S&T.

In line with our purpose and strategy, we launched a new S&T agenda in 2021 to push boundaries. S&T is the heartbeat of NNL and enables the successful delivery of our purpose – nuclear science to benefit society. Our S&T agenda guides our investment in future capability. It includes three key pillars – core science, innovation and strategic research – and is underpinned by collaboration.

In combination with our strategic plan, our S&T agenda powers meaningful and sustainable change. We invest in S&T to serve our partners and our nation to cement the UK's position as a global thought leader in nuclear technology.

This year, we introduced our new S&T value framework as a mechanism for driving and communicating the value we generate.

Our S&T value framework has four key value themes: quality, talent, partnerships and impact. Together, these enable us to demonstrate the significant value we deliver for our sector and the UK in its drive towards being a scientific superpower.



It is made up of three key pillars:

Core science (focused on themes that develop core skills, utilise critical national infrastructure and drive university collaborations)

Innovation (disruptive innovation created from innovative ideas, customer led challenges and industry wide partnerships)

Strategic research (programmes underpinning the future national agenda that leverages R&D programme investments)

Strategic research: We have published groundbreaking case studies to showcase work through our S&T agenda, including:

Core science: Enabling safe and efficient operation of existing and future nuclear reactors

Innovation: Using artificial intelligence to deliver groundbreaking science

Innovation: Developing novel encapsulation formulations for a safe and sustainable future

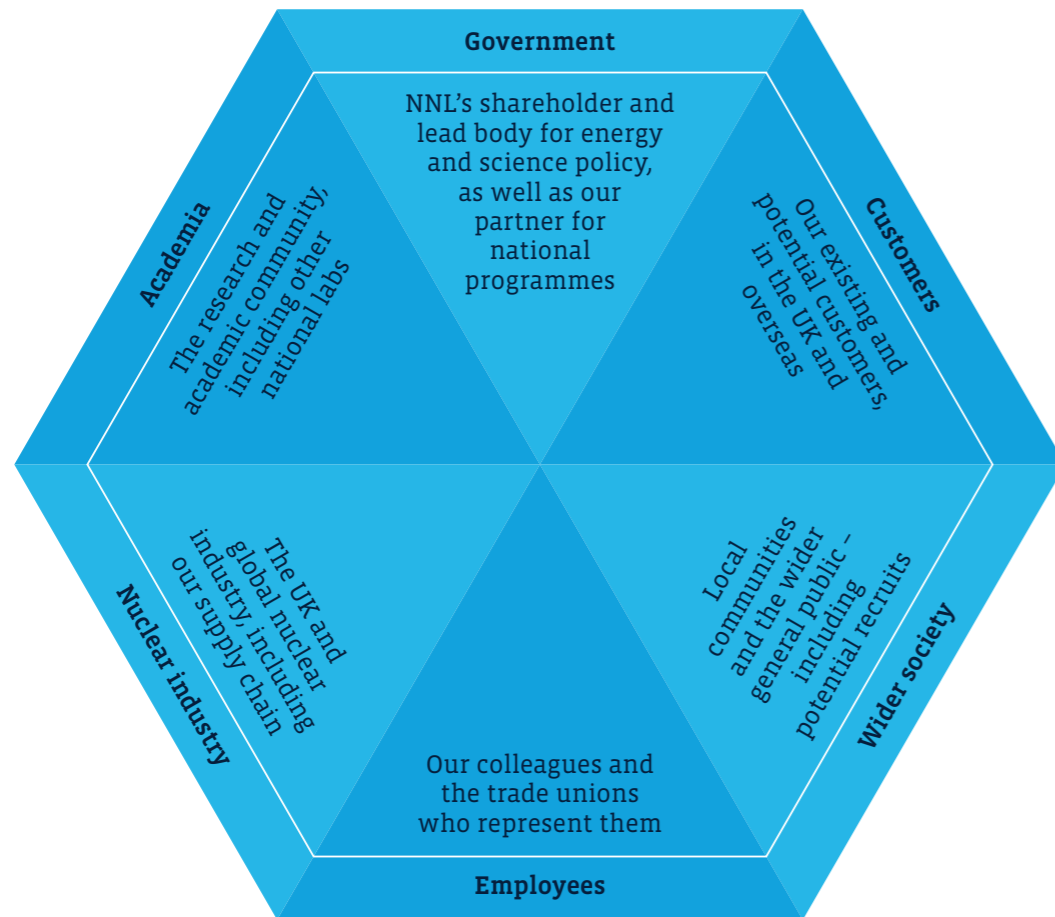
Strategic research: Building on our global partnerships to accelerate the future integrated-energy system

Collaboration: Developing our next generation of experts through innovative partnerships



1.4.3 Our stakeholders

We work closely with a wide range of stakeholders, which can be broadly categorised as follows:



We are a UK public corporation, so it is important that we hear and act on external views. A new corporate stakeholder engagement strategy was put in place in 2023 with the aim of improving the planning and coordination of our engagement activity, ensuring consistency of messaging and sharing feedback from our interactions. The strategy is focused on our senior stakeholders, particularly across government and associated organisations, and engagement is coordinated by a new government affairs function.

This has enabled us to work closely with our colleagues in DESNZ and UK Government Investments (UKGI) to create a joined-up approach to engagement with senior stakeholders across government and the sector.

To focus and direct our engagement activity, the following stakeholder objectives were agreed:

Secure buy-in for our role in the emerging nuclear landscape

Establish an enduring funding mechanism for our core capabilities

Ensure a consistent understanding of our strategy and its implications
Our approaches to stakeholder planning, relationship management, messaging and information sharing have matured significantly during 2023 and will continue to do so in 2024, when our government affairs function will grow to encompass the wider field of public affairs.

1.4.3.1 Government

Our senior level engagement with government provides insight into sectoral developments and the regional, national and global policy landscape. Intelligence is fed back into the business to support operational activity and wider strategic thinking. Likewise, NNL's views and priorities are fed back through these interactions to inform and influence the actions and positions of the government's own decision-making bodies.

Our focus through 2023 has been on building relationships with our new sponsor department (DESNZ) following the breakup of our former sponsor, the Department for Business, Energy and Industrial Strategy. We have established a government affairs function to coordinate interactions and we have agreed and implemented best practice sponsorship arrangements. Significant progress has been achieved with these initiatives: alignment of DESNZ policy and NNL strategy has increased, our visibility within the department has been enhanced and the quality of our relationships has grown.

Building on these foundations, our attention has switched to broadening our relationships with the wider department. We will initially seek to establish relationships across the department commensurate with our position as a national laboratory. We also intend to extend our approach with stakeholders across government departments that have interests in the nuclear and technology

sectors. Our initial priority is the Ministry of Defence (MoD), given the government's ambition to build on the synergies between the civil and defence nuclear sectors. We are also building our relationships with the Department of Science, Innovation and Technology (DSIT) to facilitate new applications of advanced nuclear technologies such as nuclear medicine and to power space exploration.

The DESNZ nuclear arm's length bodies and the wider network of national laboratories are also key government stakeholders. We already engage closely with these stakeholders (the former as customers) and are seeking to broaden the basis for these relationships consistent with our stakeholder objectives.

The overriding aim of our engagement activity with government stakeholders is to ensure that NNL is positioned and recognised as the government's national nuclear laboratory. Our DESNZ policy sponsors share this aim and, with this in mind, initiated a strategic review of NNL. The aims of the review are to determine:

- What should the NNL mission be?
- What role should NNL play in the UK nuclear (civil and defence) ecosystem?
- What does NNL require to be able to deliver the government's nuclear (fission) ambitions?

Throughout the year we have worked closely with DESNZ to support their strategic review of NNL and its capabilities. The review focussed on NNL's role and how it supports and enables delivery of government policy. The draft recommendations from the review were shared towards the end of the financial year. Next year, working in partnership with our sponsor team in DESNZ, we will put forward a response and an implementation plan to the strategic review recommendations.

1.4.3.2 Customers

We provide strategic advice, technical services and expert support to customers across most of the nuclear fuel cycle – from fuel and reactor analysis through post-irradiation examination of fuel and reactor materials, to waste management, clean-up and decommissioning support. Our customer portfolios are grouped into three categories: legacy, defence and generation, and government and new build.

Legacy

The legacy business area represents just under a half of NNL's overall revenue, which delivers much greater value than purely customer expenditure. It aligns with the Environmental Restoration Focus Area centred on the safe and effective clean-up and management of the UK's nuclear legacy.

We deliver value through a long-term collaborative arrangement with Sellafield Ltd, and we are starting to develop a similar strategic relationship with NDA through the delivery of solutions using NNL's capabilities at our world-leading laboratories in Cumbria. In addition, solutions are delivered for other UK customers such as Westinghouse and Urenco using our unique skills at our Preston laboratory. The portfolio also leads NNL's international activities (working with NNL's strategy team), delivering value for customers such as the European Space Agency, Tokyo Electric Power Company and the US Department of Energy, along with performing groundbreaking R&D where we leverage support via EU Horizon programmes and via UK Research and Innovation (UKRI) grants.

Defence and generation

The 'continuous-at-sea deterrent' and energy security remain at the forefront of UK government priorities.

NNL continues to establish capability to import and investigate naval fuel, holding high confidence programme dates throughout 2023/24. The NNL programme team has completed key infrastructure designs, installed and commissioned analytical capability within the active handling facility (AHF), and mobilised an accelerated working shift pattern at the AHF.

The importance of the role that the Atomic Weapons Establishment (AWE) plays within defence continues to grow alongside investment in the new deterrent and associated scientific capability. In recognition of the importance of AWE's national programmes, NNL and AWE have signed a collaboration agreement and five-year framework. The NNL-AWE pipeline has grown significantly, focusing on re-establishing capability, developing chemical processes and establishing novel and safe routes for processing zero-value assets. A key success is the processing of 18 drums of depleted uranium swarf ahead of schedule, resulting in a nomination for an MoD Chief Scientific Officer's award.

Energy Nuclear Generation Limited (EDF)'s UK nuclear output in 2023 totalled 37.3 TWh, which is around 15% of the UK's power output. NNL continued to play a key role in supporting EDF's nuclear power generation, achieving graphite minimum throughput levels, receipting two flasks of failed fuel and delivering five endoscopy surveys.

Government and new build

The UK government has committed to delivering net zero by 2050 while prioritising energy security through the British Energy Security Strategy. These policy commitments are at the centre of our work in the government and new-build portfolio.

Through the DESNZ AMR RD&D programme, the UK government prioritised the accelerated development of HTGR technology. Under this programme, NNL and partners are developing a new reactor technology, the United Kingdom Japan – High-Temperature Reactor (UKJ-HTR) project and associated tri-structural isotropic coated particle fuel (UK-CPF) project. The AMR fuel work follows on from the Advanced Fuel Cycle Programme and will result in the delivery of a pilot plant at our Preston facility capable of making kilogram quantities of advanced CPF, the fuel required for high-temperature reactors.

In the new build area, we continue our technical collaboration with Rolls-Royce SMR supporting a number of workstreams within the Phase 2 programme. In addition, new opportunities with Generation IV vendors have been progressed as we look to increase our capability and understanding across advanced reactor systems.

NNL are also continuing to support the Nuclear Safeguards Programme, the UK's considerable contribution to the International Atomic Energy Agency (IAEA) Safeguards programme aimed at the verification of peaceful use of nuclear technology.

Customer case studies are provided below on:

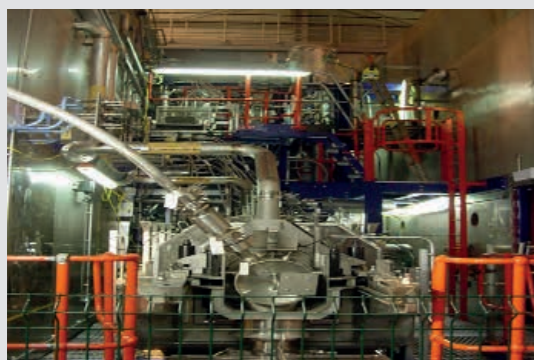
- a) Technical services agreement with Sellafield Ltd
- b) Plutonium science
- c) Developments in nuclear in space
- d) Government support for Medical Radionuclide Innovation Programme
- e) Post Irradiation Examination Capability and Readiness
- f) Magnox Swarf Storage Silo (MSSS) Skip Fill Optimisation

Case Study

Technical services agreement with Sellafield Ltd

National Nuclear Laboratory Limited (NNL) provides the unique skills, expertise and facilities required to achieve the Sellafield Ltd mission. In 2017, NNL and Sellafield entered into a technical services agreement (TSA) enabling Sellafield Ltd to procure technical services from NNL based on government-to-government working. The relationship is accredited under ISO 44001 (collaborative working standard) and was shortlisted for the Institute of Collaborative Working awards in 2023.

The organisations share a joint history and interdependency, and the long-term TSA, based on collaborative principles, was adopted to support safe and efficient delivery while demonstrating value for money for the UK taxpayer. The collaborative approach encourages investment in skills and capabilities, to sustain technical knowledge and maintain facilities to deliver high-quality solutions.



The benefits realisation captures optimum use of skills and facilities to deliver the right technical solutions at the right time. The collaboration drives the importance of achieving benefits aligned to the Nuclear Decommissioning Authority (NDA) value framework. This represents key value categories against pillars of sustainability and social value, which are central to the NDA mission. Several hundreds of benefit forecasts have been submitted as part of the TSA aligned to this value framework, which also delivers cost avoidance and programme acceleration.



The TSA allows NNL to deliver work for Sellafield Ltd through win-win contracting arrangements which incentivise delivery to provide earnings to invest for innovation. NNL uses these earnings to provide reinvestment in areas that deliver value to Sellafield Ltd – supporting better and faster environmental restoration. During 2023/24, over a third of NNL's total innovation spend was allocated against projects applicable to the Sellafield Ltd mission.

The Game Changers programme, delivered in conjunction with innovation experts FIS360, has successfully incentivised over 100 other organisations, ranging from universities to small to medium-sized enterprises (SMEs) in the supply chain to find ways to overcome complex challenges in the nuclear industry. Of the NNL supply chain spend under the TSA, 61% has been awarded to SMEs and academia since the start of the agreement.

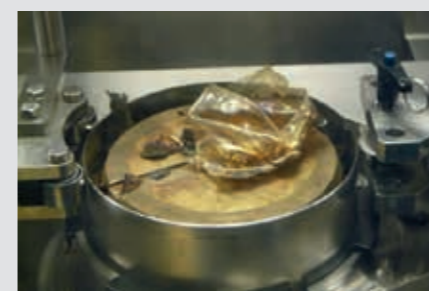
'We are incredibly proud of the collaborative relationship we have established with NNL. Working closely to develop and share the purpose of creating a clean and safe environment for future generations aligns with the values of both organisations.'

Robin Ibbotson,
Chief Technology Officer
Sellafield Ltd

Case Study

Plutonium science

From the 1950s until 2022, the UK reprocessed spent nuclear fuel for both UK and overseas customers. As a result of the technology used, plutonium was separated from uranium and the other fission products. Overall, reprocessing allows for a substantial reduction in high-level waste volume compared to spent nuclear fuel disposal, and it enables options for the additional recovery of value from that fuel. The separated plutonium is in storage at Sellafield and requires careful stewardship before a long-term solution is decided. One solution is to convert the plutonium into a durable waste form that is suitable for disposal. Work is still needed to best understand both how the chemistry of the stored plutonium changes over time and that of the final waste form.



National Nuclear Laboratory Limited (NNL) possesses a unique skill set, situated in some of the very few facilities in the world capable of handling the material and thus tackling this challenge. In recent years, computational modelling has been used to better understand the temperature evolution of stored plutonium in different types of storage. Skill retention in this area is essential to maintaining NNL's specialist capability and has therefore been a core focus. Knowledge retention through a literature review has enabled the development of skills and improved the understanding of actinides.



One area that is important to understand is the generation of hydrogen resulting from the radioactive decay of plutonium. This can pressurise the storage containers if not managed correctly and laboratory work has been conducted to better understand this.

NNL is currently the only organisation in the UK able to develop such capability and technology surrounding plutonium storage, with a responsibility to safeguard these skills going forward. The modelling technology established has been benchmarked against actual data from plutonium storage cans from the Magnox and thermal oxide reprocessing plants. Furthermore, in experimental work investigating radiolysis, the humidity of the environment has been varied to understand hydrogen generation in the context of americium oxide storage; this will underpin the safe and secure storage conditions of such material.

The fundamental science supporting plutonium storage has allowed for both the maintenance and expansion of NNL's capability, including by working closely with universities. In turn, this has allowed for significant improvement of the models being developed so that these can be more reliable for the future. Experimental work has also helped to gain an understanding of the behaviour of americium during storage and to identify the differences between adjacent actinides in the periodic table in storage conditions.

The Plutonium and Advanced Isotope Separations (PARIS) core science theme builds internationally recognised capabilities to work on solutions to some of the nuclear industry's biggest challenges. The key objectives of PARIS are to aid the understanding of the characteristics of plutonium ageing and storage under conditions relevant to the UK stockpile, analyse actinides in solution and to understand UK-based options for medical radioisotope production with a focus on practical production routes for what may be possible. This work allows NNL to support key industry challenges such as the disposition of plutonium, the production of radioisotopes using non-reactor-based technologies which may be used outside of the fuel cycle, and the development of knowledgeable experts in the field.



NNL's work in this area is strongly aligned to Sellafield Ltd for the safe and secure storage of plutonium and to the Nuclear Decommissioning Authority's plutonium disposition work. NNL has also successfully participated and leveraged investment through several European research programmes. Internationally, another major customer is the European Space Agency for the provision of isotope-based space power sources.

Case Study

Developments in nuclear in space

The year 2023/24 has been pivotal for the National Nuclear Laboratory Limited (NNL) nuclear in space programme. Plans for first use of the UK-developed system as a performance demonstration on the Rosalind Franklin mission to Mars in 2028 and the Argonaut lunar missions in the early 2030s have given a focus to the programme and its essential role on these missions.

Funding secured for the installation of a new £19 million laboratory in Central Laboratory will enable NNL to deliver a sovereign supply of fuel for radioisotope power systems (RPSs) or 'space batteries' powered by americium-241. The award of a major new contract from the European Space Agency (ESA) has also helped to accelerate our work on RPS development. The contracts build on the work that NNL has delivered for ESA over the last 10 years to develop a process to provide the required americium-241 fuel for RPSs and is currently developing the pelleting and encapsulation capability for the fuel. This technology is a critical enabler for space exploration in locations where there is insufficient solar heat and power available, including the outer solar system, during the two-week long lunar night and nighttime on Mars.

Christophe Fongarland of the ESA added: 'Radioisotope power sources are needed for

missions that cannot rely on solar energy generation. ESA's forthcoming lunar exploration missions have unique science returns. Argonaut can use americium-241 to survive and operate over multiple lunar days and nights, supporting human operations on the moon.'

The first missions planned which will use the UK's RPSs will be launched from the United States, which has a well-established nuclear launch regime. This will require a close collaborative relationship between NNL and the Idaho National Laboratory (INL), which delivers the US RPS programme. The Civil Nuclear Energy Research and Development Action Plan signed at the British Embassy in Washington, D.C. in September 2018 includes a working group, Radioisotopes for use in Space Technologies. This action plan includes NNL and INL, and it will be used to facilitate the launch approval process for the UK RPS to be used on these first missions.

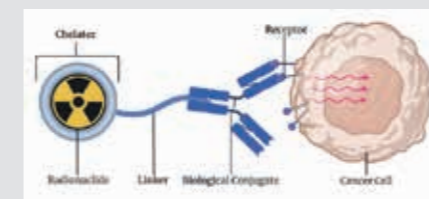
Highlighting NNL's role in delivering towards new uses for nuclear power, constantly advancing and developing new technologies, a news video produced by ITN Business explored the technological advances enabling humankind to journey deeper into space. Introduced by Dame Maggie Aderin-Pocock, British space scientist and science educator, it shows how NNL are supporting the UK Space Agency with mission-critical RPSs.



Case Study

Government support for Medical Radionuclides Innovation Programme

In 2023/24, the Department of Energy Security and Net Zero (DESNZ) launched the Medical Radionuclides Innovation Programme (MRIP). The MRIP's objective was to provide funding to support projects across academia and industry to deliver innovative research into technologies and techniques that could strengthen the UK's access to medical radionuclides in the future. National Nuclear Laboratory Limited (NNL) has been successful in securing funding towards three projects that will develop new access to key radionuclides supporting cancer diagnosis and treatment. These projects were enabled by, and will continue to support, the NNL focus area of health and nuclear medicine.



The three successful projects were:

- Investigating the recovery of strontium-90 from legacy nuclear material for the sustained production of yttrium-90, a beta emitter that could be used for cancer therapy
- Accelerated supply of radionuclides for cancer treatment by developing protactinium and actinium separation techniques
- Sustainable production of radionuclides for targeted alpha therapy from UK stocks of recycled uranium, providing thorium-228, radium-224 and lead-212 from legacy nuclear material

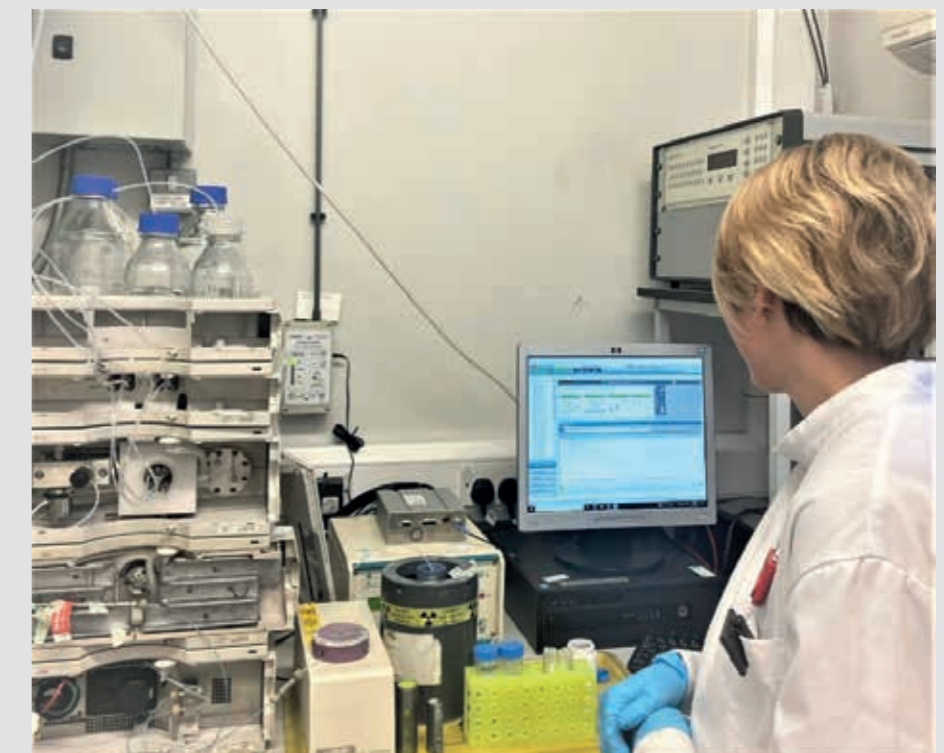
The focus of NNL's health and nuclear medicine programme is on the development of new production routes for radionuclides supporting targeted therapies, principally targeted alpha therapy (TAT). TAT is an emerging cancer treatment that uses radioactive drugs to kill cancer cells. The demand for the specific radionuclides used in TAT far exceeds the current level of global production. With no current UK production routes, research into TAT in the UK to develop new treatments is dependent upon the availability and import of these radionuclides. NNL has been developing chemical techniques to extract the valuable radionuclides from the material left over from reprocessing spent nuclear fuel, enabling the radionuclides to be potentially reused for the treatment of cancers. Establishing this new source of radionuclides is the first step in making the promise of TAT a reality for UK patients.

Beyond the incredible medical application of these materials, there are also benefits in the development of specialist nuclear skills. The techniques used to work with and extract these radionuclides

greatly enhance our knowledges of how to extract and handle similar materials for waste processing and decommissioning. These skills are needed in all aspects of the nuclear industry. This work is providing benefits now, in terms of medical advances, but also for the future in terms of UK skills.

Chris Heffer, Director for Nuclear Power, Infrastructure and Decommissioning at the DESNZ, said:

'We are thrilled to support a series of projects with over £1 million funding, run by the National Nuclear Laboratory under the Medical Radionuclide Innovation Programme. Access to nuclear medicines is critical, and as set out in our Civil Nuclear Roadmap, we will continue to support R&D in this space. These projects are at the cutting edge of separation science, developing innovative routes to harvest radionuclides from legacy material with the potential to enable life-saving diagnosis and therapy in the future.'



Case Study

Post-Irradiation Examination Capability and Readiness Programme

The government is committed to the UK's independent nuclear deterrent, which has deterred the most extreme threats to our national security and way of life for over 60 years. Generations of Royal Navy submariners, their families, support workers and industry partners have contributed to the maintenance of the continuous-at-sea deterrent, making it a truly national endeavour. Through the post-irradiation examination (PIE) programme, National Nuclear Laboratory Limited (NNL) provides unique skills, expertise and facilities to PIE of naval fuel to support clean and safe nuclear propulsion.

This financial year, 2023/24, has seen a step change in NNL's delivery of the PIE programme. NNL has successfully completed all major design reviews this year, and the remaining infrastructure required to import material is now entering the manufacturing phase. The development of cutting-edge PIE capabilities and techniques continue to progress through technology readiness levels (TRLs). This year saw several techniques successfully achieve TRL8, so they are now ready for operations. This year also saw the formation of a new operating model, promoting collaboration

across all programme stakeholders. The new operating model includes the Ministry of Defence, Rolls-Royce Submarines Limited, Sellafield Limited and Nuclear Decommissioning Authority staff, all brought together as an integrated team.

Finally, as we near PIE operations commencing, NNL has recruited, trained, and upskilled over 70 new facility and PIE technicians to support an accelerated working shift pattern in our active handling facility, alongside commencing clearance of legacy material to create additional operational capacity.

Christian Ashford, Nuclear Propulsion Irradiated Fuel Manager at Submarine Delivery Agency, said:

"NNL has a unique facility and skill set within the UK nuclear industry and as such, an instrumental role to play in the delivery of PIE data to support the Royal Navy's Submarine Fleet. There have been a number of challenges in FY 23/24 and the new integrated team approach has played a key role in building a strong foundation and enhanced confidence for delivery performance required on this programme".

Case Study

MSSS Skip Fill Optimisation

The Magnox Swarf Storage Silo (MSSS) baseline at Sellafield was conservatively established to safeguard the start of retrievals with the ambition to make improvements later via the Skip Fill Optimisation (SFO) programme. The baseline skip fill limits were set using the extant understanding of the expansion of wastes during storage due to ongoing corrosion, oxidation, and carbonation. This has led to waste in skips being significantly underfilled. The SFO study has substantiated significant increases in skip fill levels which will deliver benefits including: accelerating bulk retrievals; reducing MSSS Waste Container numbers by up to -4,000; reducing carbon dioxide emissions by up to -17,000 t during 3 m³ Box manufacture. In

addition to hazard reduction and environmental benefits, this will deliver aggregated cost savings of around -£1 billion in terms of cost of MSSS Waste Containers, MSSS operations and storage of MSSS Waste Containers.

NNL has supported Sellafield Ltd's SFO programme through embedded support in line with the principles of the long-term Collaborative Agreement between Sellafield Ltd and NNL. This has enabled a greater understanding of a number of areas including the formation and persistence of uranium hydride beyond that in the baseline which allowed safe drying of the waste during storage, the carbonation of Magnox corrosion product which showed that the complex set of carbonation reactions would not result in significant expansion the

change in corrosion rate of Magnox as the sludge it is in dries; and the expansion of Magnox as it corrodes and the porosity of corrosion product formed.

In addition, NNL's ongoing work to support Sellafield Ltd will continue which will feed into further optimisation. This work includes a greater understanding of the potential for oxidation of uranium dioxide powder in the waste and the observed lack of corrosion of Magnox in later compartments of the MSSS.

Achievements from this work have been recognised in the Sellafield Ltd Wave Awards 2023/24, where it was successful in the following categories: 'Empty legacy ponds and silos' and 'Maximise public value and return on investment'.

1.4.3.3

Academia

Academic partnerships in priority technology areas are an important component of our S&T agenda and a key enabler to the ambitions set out for our four strategic focus areas. Successful collaborations with universities will drive cutting-edge science and enhance a future nuclear talent pipeline for higher-level skills.

In our 2021/22 university collaboration plan, NNL committed to driving cutting-edge, breakthrough science and engineering to enable a sustainable, future nuclear talent pipeline for higher-level skills. By 2026, our key objectives are to:

establish at least two new strategic partnerships with world-leading universities;

develop a flagship group of PhDs (supporting at least 15 new NNL-funded PhD students per year), post-doctoral research associates and technical (degree) apprentices providing a talent pipeline for the nuclear sector, with increasing recruitment of PhD-qualified talent to NNL and the nuclear industry;

build on the award-winning Centre for Innovative Nuclear Decommissioning (CINDe) and deliver a follow-on, industrial, NNL-based PhD programme in partnership with industry (CINDe2); and

implement a new framework to simplify the way we work with academia.

A regular drumbeat of breakthrough scientific discoveries achieved through collaboration with academia will be demonstrated through an exemplary publication record, intellectual property creation and citations. Enhanced value will be achieved through leveraged investment, with academia recognising NNL as a key partner in high-profile collaborations co-funded by NNL, UKRI, DESNZ and industry, and through the increased use of NNL's world-leading nuclear infrastructure.

Investing in collaboration with academia:

PhDs: During the last six years, NNL has invested over £30 million with 50 universities to support PhDs, post-doctoral research associates and contract research. This year, 33 NNL staff commenced the industrial co-supervision of 40 PhDs at 21 universities, with NNL as the industrial sponsor for half of these through our 15 core science R&D themes. NNL is delivery partner for the Nuclear Decommissioning's PhD bursary scheme, which co-funds the other half of the PhDs.

Publications: Research undertaken has enhanced NNL's scientific profile through the publication of articles in scientific journals. Typically NNL publishes around 70 journal articles each year, most of which are co-authored with academics as well as associated citations totalling around 10,000 by January 2024.

Strategic research: Through our strategic research programmes, such as Alpha Resilience Capability and the DESNZ-funded CPF and AMR programmes, NNL continues to sponsor post-doctoral research at several universities during 2023/24. It is envisaged that NNL will also commence delivery of two new strategic research programmes funded through the DESNZ Nuclear Fuel Fund during that year. The Uranics Innovation Centre will involve NNL sponsorship of 10 post-doctoral researchers at three partner universities, and up to 30 master's degree projects within the wider university community, many of whom will experience working in NNL's unique active facilities.

Two strategic partnerships: NNL's first new strategic relationship was established with Bangor University in 2022. During 2023/24 NNL co-sponsored degree apprenticeships, PhDs, post-doctoral researchers and senior technical staff, leveraging the shared use of both organisations' facilities and expertise in several key research topics, including new nuclear fuel and medical radioisotopes. In 2023/24, NNL and the University of Leicester launched a new strategic collaboration, widening and strengthening a decade-long collaboration initially focused on nuclear space power, at an event in February 2024 attended by NNL's Chief Executive Officer (CEO), Professor Paul Howarth, and the university's Vice Chancellor, Professor Nishan Canagarajah.

Sharing knowledge and experience: The importance of relationships with NNL has been recognised by academia, with NNL staff holding 42 honorary or visiting appointments at universities, 12 of which are professorial. NNL staff contributed to the skills pipeline by delivering a regular series of lectures and project supervision (as part of three undergraduate and four master's degree programmes) and a wider portfolio of non-specific, nuclear-industry-related guest lectures at 16 universities. NNL also coordinates and co-delivers the University of Liverpool's Science and Technology Leadership Programme, which is attended by staff from NNL (all those graduating in 2023/24 gained a distinction) and other industrial and academic organisations across the UK.

Royal Society: NNL continues its long-standing relationship with the Royal Society (the UK's national academy for science) with NNL's Dr Aiden Peakman's prestigious four-year Royal Society Industry Fellowship, which commenced in 2022/23. This seconded him to the University of Manchester, where he is developing new collaborative research programmes in reactor modelling. Aiden and former Industry Fellow and NNL colleague Professor Nick Smith (NNL's university lead) are life members of the Royal Society Industry College.

Royal Commission 1851: During 2023/24, NNL chemist Samantha Ree was awarded an Industrial Fellowship by the Royal Commission for the Great Exhibition of 1851 to support her part-time PhD at the University of Manchester on the development of methods to extract medical radioisotopes for cancer treatments. Sam will be based at NNL's new Radioisotope Development Lab at our Preston facility.

University framework: NNL is in the process of launching a contracting framework with 13 universities to enable rapid responses necessary to quickly establish NNL-co-sponsored collaborative, post-doctoral research programmes.

Case Study

Advanced Modular Reactor Research, Development and Demonstration Programme

As part of the Department of Energy Security and Net Zero (DESNZ) £385 million Advanced Nuclear Fund, a commitment was made for an Advanced Modular Reactor (AMR) Research, Development, and Demonstration (RD&D) Programme, with the aim of better understanding the technology and enabling an AMR demonstration by the early 2030s. In December 2021, following underpinning analysis and a call for evidence, the focus for the programme was confirmed as high-temperature gas reactor (HTGR) technology.

The overarching aim of the AMR RD&D programme is to develop and demonstrate HTGR technology to reduce technical and commercial risk and maximise benefits through developing UK-owned intellectual property. The programme is designed to identify and deliver the optimal technology demonstration with respect to maximising the impact that HTGRs could potentially have on achieving the UK's net-zero target by 2050, minimising the cost of energy produced by HTGRs, incentivising private investment in their development and maximising the economic benefits to the UK.

The programme was split into Phase A and Phase B and two areas – Reactors and Fuels.

National Nuclear Laboratory Limited (NNL), in partnership with the Japan Atomic Energy Agency (JAEA), has been awarded projects under both the Reactor and Fuel programmes.

AMR – Reactors

Funding of Phase B was via an open competition. NNL and JAEA were awarded funding of £15 million under Phase B to progress the HTGR concept design proposed in Phase A to a maturity suitable for entry into regulatory review. It is also intended to carry out 'no-regrets' research and development activities to support the programme and

produce robust delivery plans for a potential Phase C.

During Phase B, reactor design work will be transferred from Japan and reviewed against criteria aimed at assessing suitability for deployment in the UK. This assessment will define the UK-specific design work that will then be delivered by the consortium. The project will also see significant engagement with the supply chain through the form of multidisciplinary frameworks to support the design development. The UK regulators will be informed of progress throughout the project through a series of scheduled touchpoints centred around specific technology topics.

AMR – Fuels / Coated Particle Fuel (CPF) Step 1

Phase B Fuels has been renamed CPF Step 1, and the programme has been directly awarded to NNL with a value of £16 million and with delivery scheduled for March 2025.

The scope of work builds on that undertaken in Phase A and in the DESNZ Advanced Fuel Cycle Programme in the development and demonstration of an end-to-end manufacturing process for CPF. This will include technical knowledge exchange with our partner, JAEA, and associated fuel manufacturers Nuclear Fuel Industries Limited, as they look to reinstate their dormant CPF line in Japan. Learning will be exchanged through visits, workshops and information exchanges.

Experimental work will be undertaken to further develop the UK fuel manufacturing capability to include coating and compaction of kernels produced at the NNL Preston laboratory. Understanding of the quality assurance requirements to support both laboratory scale and commercialisation activities will also be undertaken.

As with the reactor programme, there will be an engagement programme with the regulators to understand how qualification for this new fuel type can be achieved.

1.4.3.4 Nuclear Industry

NNL is actively involved across the entire nuclear sector. Many of the organisations and companies in the sector are our customers, and the work we do for them enables them to achieve their objectives.

Besides customer work, we are also engaged with cross-sector bodies such as the Nuclear Industry Association to support the sector in various ways. We promote professional development in nuclear through our support of the Nuclear Institute. NNL funds its employees' membership fees and provides time and mentoring for people to progress towards full membership or fellowship. Our former Chief Science and Technology Officer (CSTO) Fiona Rayment is the 2024 President of the Nuclear Institute.

We strive to improve diversity in the nuclear sector through engagement with the Nuclear Institute's subsidiary groups, the Young Generation Network, for early careers, Women in Nuclear and Racial Equality in Nuclear.

We also support the nuclear skills agenda through our engagement with both the Nuclear Skills Strategy Group and the Nuclear Skills Taskforce.

We have links to nuclear sector groups both regionally, such as the Northern Nuclear Alliance, and internationally, such as the World Nuclear Association, the IAEA, the Organisation of Economic Co-operation and Development Nuclear Energy Agency (OECD-NEA) and the Generation IV International Forum.

Beyond nuclear, we also engage with stakeholders in adjacent industries and sectors, such as Hydrogen UK and the Hydrogen Energy Association (on nuclear-enabled hydrogen), the Jet Zero Council (on nuclear-enabled sustainable aviation fuel) and the North East of England Process Industry Cluster (on nuclear for industrial heat in Teesside).

1.4.3.5 Employees

We aspire to be a world-leading organisation, and we can only do that if we lead the way in creating an environment where our employees can thrive. Against the backdrop of a fast-growing sector, the ability to attract and retain talent is critical.

In 2023/24 we have focused on understanding our employee value proposition and how it contributes to the experience of our people both at work and beyond.

Every NNL employee is an individual, and we want to support every one of them to make the most of their careers here. We want the best people, and once they are here, we want to keep them. We create positive experiences, so our people remain advocates for NNL and the wider nuclear sector, even beyond their employment with us.

Our employee value proposition is comprised of six elements. In this section we consider our activities during the year under the different employee value proposition headings.



Deeper Connections

Help employees to strengthen their family and community connections, not just work connections.

"I feel understood"



Holistic Well-being

Don't just provide people with holistic well-being offerings; make sure they use them.

"I feel cared for"



Radical Flexibility

Give people flexibility of where, when and how they work.

"I feel autonomous"



A Shared Purpose

Take actions on societal and cultural issues: don't just make statements about purpose.

"I feel invested"



Personal Growth

Provide people with opportunities to grow as people not just as professionals.

"I feel valued"



Competitive Reward & Benefits

It isn't simply just about the money...but it still matters.

"I feel rewarded"

Deeper Connections

We need the right skills for the future to be able to maintain NNL's rightful place on the world stage, and to continue to be able to make an impact on humanity's biggest challenges.

This year has seen an exciting emphasis and focus placed on the strategic importance of the nuclear sector highlighting the need for it to be able to attract new talent to the UK. NNL has been at the forefront of planning for this, primarily supporting the development of the Destination Nuclear campaign, a national advertising campaign for the sector launched during Nuclear Week in Parliament.

NNL is a member of the Nuclear Skills Executive Council and the Nuclear Skills Delivery Board, helping to develop an understanding of the higher-level skills agenda and planning needed to deliver the strategic requirements for the supply of future skills and capabilities. NNL also continues to collaborate with industry at the HRD Roundtable Forum and a new North West Skills Hub.

Across NNL we have continued to invest in our recruitment activities, and during this year we have welcomed over 155 new employees to NNL. Branding and campaigns help us attract the best talent to NNL and our focussed ED&I agenda plays an important part in helping us attract and retain talent in our organisation.

Shared Purpose

We are striving to create an organisation with purpose, where people believe they are doing meaningful work. Our purpose launched in 2021 and it sits alongside our strategy. Underpinning this are the NNL Values & Behaviours launched in 2018, and we continue to embed these attributes in all aspects of people-related activities.

In delivering our vision of nuclear science to benefit society NNL is committed to embedding equality, diversity, and inclusion in our ways of working and decision-making processes. We aim to have a workforce that is truly representative and welcoming of all sections of society where all our people feel respected, included and empowered to perform at their best.

This year NNL was proud to achieve our National Equality Standard (NES) re-accreditation; the first time the organisation has been through re-accreditation since 2021, and with a higher standard achieved than the previous assessment.

We have made huge steps forward in our campaign to collect ED&I data across NNL and over the last two years we have increased the number of employees who have voluntarily shared their data to 97%.

NNL hugely values the importance of developing new talent and this year we were proud to welcome a total of 42 new Apprentices and Graduates onto our Early Careers programmes, providing new joiners with the best foundation for entry to the business and the wider nuclear sector. We also welcomed 15 new joiners to our post-doctorate programme for people who have a PhD or equivalent qualification; this programme is a first of its kind for the nuclear sector.

Our total of 104 Early Careers people and 24 people on our post-doctorate programme means that this population now represents approximately 10% of all our people and this year we have seen a 20% overall increase in Early Careers applications for our 2024 intake.

Competitive Rewards & Benefits

Enhancing our terms and conditions to attract and retain the best sector and national talent has been a key priority for us. We strive to ensure that we are able to offer our employees a purpose-led, rewarding and inspiring place to work, and a competitive and engaging holistic reward offering.

In June 2022 we were proud to be able to launch our new family-focused people, policies and processes which offer a range of benefits that go above and beyond statutory rights and enable diversity and inclusion in our workplace by providing a flexibility that enables people to stay in work and pursue rewarding careers.

This year we have built on our promises by launching our new NNL Code of Conduct along with our Ways of Working policies, accompanying those policies with supporting processes and line management guidance. Time Away from Work policies will follow on in Q1 of 2024-25. Our new policies modernise our working practices and make clear the standards of conduct and behaviour we expect at NNL, whilst ensuring we offer support to our people where they need it.

Personal Growth

The opportunity for personal growth and development is of paramount importance for us to provide to all of our employees. We want our people to see NNL as a place to have a career, not just a

job. Supporting them to explore how they want to develop and creating the conditions so everyone can achieve that is central to our strategy.

The experience of new employees in their first few months within a new company is critical to helping them find their feet quickly, to feel connected and that they have joined a company where they can achieve their career aspirations.

We have refreshed and repackaged our corporate induction programme to enhance the new starter experience and, in the coming year, will launch the NuStart Programme to provide a structured and engaging digital roadmap for an employee's first 90 days.

We are proud to help our people through their professional career journeys, whether in a specific professional discipline or adding to their general knowledge and skillset. This year 15 colleagues have been studying for the Science & Technology Leadership post graduate qualification with the University of Liverpool and NNL is supporting another 33 employees to obtain further academic or professional qualifications.

During the year we have continued our return to face to face classroom training for Leadership and Behavioural courses and in total we have delivered 6953 e-learning courses to support induction, compliance, access to NNL's facilities/systems and health and wellbeing activities.

Holistic Wellbeing

NNL has a fundamental commitment to open communications and two-way engagement to help us understand our employees' needs and enhance 'what it means' and 'what it feels like' to work at NNL.

We regularly communicate with all employees through our monthly Team Talk engagement call, supplemented by our biannual all-employee Team Talk Live roadshows hosted by ELT members across all NNL sites. In 2022/23 we launched our employee engagement tool, Pulse, to reach out to all of our people. The insights provided by advanced data gathering and analysis capabilities have already informed our approach and decision making on hybrid working and other issues.

NNL has a fundamental commitment to open communications and two-way engagement. We continue to engage with and involve employees in the design and development of solutions relating to our people projects and activities, and we regularly share business updates.

Our monthly Trade Union Forum is established within our HR calendar. It allows us keep trade union colleagues closely involved in what is happening in the business. Together we are making NNL a great place to work.

We are aware that the post-pandemic environment and the current state of global politics are more complex, stressful and worrying to people than they were previously and therefore we have been very proactive this year in promoting our Employee Assistance Programme (TELUS Health) to increase awareness of the services that they provide, coupled with enhanced, easy to access resources on our internal intranet site.

During autumn and winter we delivered webinars with 'Everymind at Work' specifically focussing on Mental Health, Building Resilience and Managing Everyday Stress; the content, style and support of these sessions was well received and has helped us understand more about the direct impact of these issues on our employees.

Our Health & Wellbeing focus remains on determining themes, issues and trends across the organisation and we continue to partner with our Trade Union to ensure we tackle challenges proactively, whenever possible, before they become an issue.

Radical Flexibility

As we continue to adapt to new hybrid ways of working our focus remains on developing the flexible approach and mindset that allow us to achieve the right balance of home and work life, while ensuring we also meet the needs of our business.

Our new family-focused people policies and processes help us do this by offering a range of benefits that go well above and beyond statutory rights and enable diversity and inclusion in our workplace by providing a flexibility that enables colleagues to stay in work and pursue rewarding careers.

The majority of colleagues continue to tell us that these changes have positively impacted their work-life balance, their sense of being trusted and empowered, and their productivity.

We will continue to use insights from our people to adapt our approach and the support we offer to ensure the best outcomes for all.

Case Study

Early Careers

Sophie Cooper joined NNL as a postgraduate in 2021, and in 2024 was crowned 'Postgraduate of the Year' at UK Nuclear Skills Awards. Sophie completed a PhD at the University of Manchester titled 'Covalency in Molecular Actinide Chemistry', and whilst not funded by industry, this work led Sophie to realise her passion for actinide chemistry and her desire to put this fundamental research to good use in the nuclear industry.

Sophie works as a chemical modeller within NNL to support nuclear operations through a range of techniques and projects. This role includes using atomistic modelling skills build up from her PhD studies, as well as developing new skills in thermodynamic modelling. Sophie is currently a UK representative in a project run by the OECD-NEA aimed

at developing a new thermodynamic database based on advanced fuels and fission materials. As well as representing the UK's interests on the steering group of this programme, Sophie has also shown initiative reaching back to other experts within our organisation to identify needs.

Sophie also has a sub role as NNL's University Engagement Assistant, as part of which she has helped create the new Academic Collaboration pages on NNL's internal SharePoint site. This involved developing a searchable database and dashboard front-end, which is now used as the definitive record of more than 400 projects, co-sponsored and/ or co-supervised by NNL staff. Sophie also helped to deliver a biennial, internal industrial PhD supervisors' learning event. Furthermore, Sophie has been appointed as the new NAILS (Nuclear Academic and Industry Liaison Subcommittee) secretary.

Sophie commented: "This experience has exposed me to a wide range of people in the business whom I would not otherwise have met. As well as developing networks for future academic collaboration, it has really allowed me to understand how we initiate research with our academic partners at NNL, which will be vital for my future career. Moreover, this experience has been really rewarding, getting to see the impact of my work on the company in real time."

Sophie also volunteers with the Nuclear Institute's North West branch, formerly as communications lead and more recently as a communication and university liaison officer, supporting a number of events including a joint introduction to shielding and criticality event with the YGN (Young Generation Network).



1.4.3.6 Wider Society

NNL aims to be a responsible and open member of the communities where our colleagues live and work, and to be transparent about our work and how we do it. Alongside delivering nuclear science to benefit society, we also engage with schools and communities to ensure our work has the greatest impact in the areas that need it most. In doing so, we follow the UK government's Social Value Model, aligning our interventions with local priorities.

NNL works in areas in the northwest of England where inequalities are stark. We are working to understand our communities better to make sure that the opportunities and benefits of our work are felt as broadly as possible, particularly in areas that have not always had the same access to them.

An example of this is the work that we implemented with our increasingly diverse early careers staff, focused on a school in Warrington with a high percentage of girls and underrepresented communities. Our intervention in the GCSE curriculum for physics raised awareness and understanding of nuclear technologies substantially, with very positive feedback. By returning and growing these interventions year on year, we will measure the impact that we have, drawing all available talents to our sector.

As part of our work on advanced reactor technology and fuels, we have developed a range of interventions including outreach, equality, diversity and inclusion, levelling up and developing the supply chain. We are working on the attractiveness and visibility of nuclear sector careers focusing on schools and universities, where we know the opportunities are not currently clear.

Case Study

NNL sponsors 100 school children to attend New Scientist Live

NNL exhibited at the New Scientist Live event on 7-9 October 2023. Over 23,000 people of all ages descended on the Excel Centre in London, curious about the latest in science and technology. There were a variety of experiences and talks including NNL's Dr Tim Gregory giving his popular talk on meteorites.

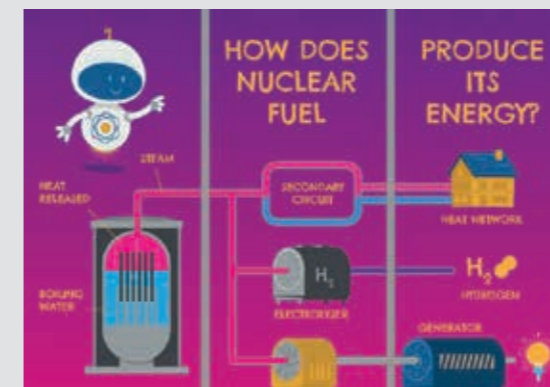


For Schools Day, on Monday 9 October, NNL sponsored 100 tickets for children to attend. The Archbishop Tenison's CE High School in Croydon received some of the tickets, and Mr Bowers, Head of Science, said: "The event was brilliant exposure for all 70 pupils. One group of girls was very taken with the simulation of taking blood and injecting medication into veins, spotlighting a future medical career." Another pupil added: "It was a really good trip. This was my first trip in secondary school!"

Dr Gareth Headdock, Vice President, Government and New Build concluded: "We were very pleased to be able to promote an interest in STEM subjects and encourage children to consider future careers as scientists and engineers."



As one of over 80 exhibitors, visitors to our stand had the opportunity to interact with our Lego® model of an integrated energy system. Through conversations with NNL's scientists, graduates, and apprentices, they gained a better understanding of the role nuclear can have within a clean energy future. NNL's Scientific Apprentice Melissa Lovell recalled, "It was an amazing experience to speak to so many people about nuclear and watch them walk away with a totally different mindset". She added, "being able to chat about apprenticeships in such an informal setting helped to have more honest discussions, opened their minds to all the different possibilities within nuclear and left them feeling happier about science."



1.5 How we have performed...

1.5.1 Business performance

Overall business performance was strong through the financial year with overall activity growth of 12%. Our focus this year has been on improving our business processes and efficiencies to support this growth. We have delivered this support through investment in business improvement, capital projects and science and technology.

NNL measures its performance not only in financial terms but also in relation to the impact NNL delivers to its stakeholders. As highlighted throughout this strategic report we have seen strong performance in delivery across our stakeholder base. This includes delivery to our customers, including the strengthening of our relationship with Sellafield Limited and NDA through the introduction of a Laboratory Related Framework; our successful collaboration with AWE through the first civil - defence Lab to Lab collaboration agreement which has seen the delivery of DU swarf processed ahead of schedule and agreement on a second phase; our PIE Programme which has held its critical path for 14 months, providing schedule stability to Rolls Royce/MoD; and following our successful bid we have worked closely with our partners at JAEA to deliver on the second phase of the AMR competition.

Our Science and Technology Agenda goes from strength to strength, seeing a record 78 high impact journal publications, including 85 NNL employees publishing as authors for the first time as an NNL employee. 2023/24 also saw the launch of our ground-breaking open innovation platform Open Nuclear, building partnerships with external innovators to co-develop and deliver solutions to challenges across NNL's Focus Areas.

In terms of our people, we continue to see record growth of around 15% this year, as well as an increase in the percentage of women within our business from 31% to 32%. During the year we have focused on the development of our Employee Value Proposition by introducing a suite of family friendly policies as well as supporting personal growth through our skills agenda. We continue to focus on our ED&I agenda and were proud to achieve the National Equality Standard (NES) re-accreditation earlier this year.

As we entered the financial year we were recovering from the impact of a legacy issue with the radiological shielding of manipulator ports within our Active Handling Facility (AHF). The return to service plan for AHF has been closely managed and held throughout the year, seeing our facility coming back online in a phased programme to support business delivery. Whilst we continue to achieve our targets relating to safety and security we did encounter both a significant event and two near misses in the financial year. In all instances no injuries were suffered and a full investigation was undertaken. These incidents have once again highlighted the paramount importance of health and safety within our organisation.

Our business continues to evolve in readiness for further change. The recommendations highlighted in the DESNZ strategic review demonstrate NNL's potential as we move through a period of change in the nuclear industry. As our purpose - nuclear science to benefit society - becomes firmly embedded in our organisation we strive to think and operate as a national asset.

1.5.2 NNL Value Framework

Throughout the year we have been piloting a Value Framework with a view to presenting a balanced view of the value we create for our stakeholders. We have been working with both internal and external stakeholders to identify the key categories of value together with a set of Key Performance Indicators (KPIs) which will enable both the board and the organisation as a whole to assess and articulate value creation.

In 2022/23 the NNL board endorsed the five categories of value aligned to our purpose: foundational value, societal value, human value, customer value and financial value. Over the course of this year we have developed a suite of metrics to measure those categories of value.

We have used the Value Framework below to monitor business performance

		Category	Metric	2022/23	Target	2023/24	RAG
Stakeholder Outcomes	Foundational	Safety	Health & Safety	0	Events <3	1	
				0	Actions Missed: 0	0	
		Security	Security	0	Significant Events: <3	0	
				0	Actions Missed: 0	0	
		Information Security	Information Security	N/A	Events (ONR) Events (ICO)	14 0	
	Culture and Assurance	Assurance Culture	3	Actions outstanding: <9 (per period)	9		
	Quality	Quality	1	Actions outstanding: <9 (per period)	0		
	Customer	Outcome	Customer satisfaction	Green	Green	90.7%	
		World Leading NNL	S&T impact case studies	5	Total no published (5)	6	
			S&T impact leverage	£30m	Leverage (5x S&T investment = £30m)	£32.0m	
	Human	Workforce Performance	Nuclear sector skills health	N/A	10% (% of Early Careers)	10%	
			Workforce engagement	N/A	75% (% engagement in Pulse Surveys)	78%	
		Attrition	N/A	10%	8.6%		
	Social	Environment	Carbon scope 1,2,3	Intensity ratio reduced by 10%	Reduce SECR - Intensity Ratio by 5%	22.3	
		Social	ED&I Index	Av 31%	64% completion of ED&I data	97%	
Financial	Revenue / Activity	Revenue	£128.6m	£149.0m	£148.9m		
		Activity	£177.0m	£195.7m	£199.9m		
	Margin	EBITDA	6.9m	£7.7m	£7.9m		
	Capital Allocation	Total free cash	£29.8m	£23.5m	£22.1m		

As the UK's National Laboratory, NNL generates earnings which are reinvested in the technical knowledge and capability which ensures that the country's civil nuclear fission energy programmes are delivered safely and cost-effectively. Earnings before Interest, tax, depreciation and amortisation (EBITDA) is the Alternative Performance Measure (APM) which NNL uses to monitor the level of earnings generated for reinvestment. EBITDA is reconciled to loss from operations as follows:

	2024 £'000	2023 £'000
EBITDA	7,856	6,915
Investment in business change, science & technology and strategic investment included in administrative expenses	(13,350)	(15,679)
Difference between pension contributions paid, and IAS 19 P&L charge included in administrative expenses	1,767	211
Difference in accounting treatment between statutory accounts and management accounts	(448)	2,065
Depreciation & amortisation	(11,449)	(9,377)
Loss from operations	(15,624)	(15,865)

1.6 Financial review

Our financial performance for the year was in line with expectations established within the budget. Overall activity led to improved EBITDA performance of 14% growth from prior years. This was achieved through close control of the organisation's cost base, particularly through facility availability and associated recoveries. The level of cash held at the end of the year was slightly below expectations due to slower than anticipated settlement of due payments from customers. The investment activities remain in line with expectations throughout the year and continue to deliver positive outcomes to enable future growth through the organisation.

We achieved revenue from contracts this year of £148.9m, increasing from the 2023 figure of £128.6m. The increased volume and an improved level of profitability delivered a gross margin of £37.1m (2023: £27.7m). Administrative expenses have increased to £53.1m (2023: £43.6m). In addition to depreciation of £9.9m (2023: £8.2m) administrative expenses also include asset impairments of £0.6m (2023: £nil) and net write offs on disposals of £9.7m (2023: £nil). Due to future uncertainty around demand for the hot cells in Central Laboratory the directors have taken the decision to write the carrying value of NNL's investment down to £nil (2023: £5.6m). An increased investment in cyber security has also driven an increase in administrative costs. The resulting loss from operations figure of £15.6m was similar to the previous year's loss of £15.9m although underlying trading performance improved.

Investment in key infrastructure continued during the year resulting in property plant and equipment balances of £125.1m (2023 - £110.8m) at the year-end.

At the statement of financial position date, NNL had total assets of £236.4m (2023 - £222.0m) and total liabilities of £161.2m (2023 - £139.4m). Further details are set out in the financial statements on pages 92 to 127.

Revenue
£148.9m ▲

EBITDA
£7.8m ▲

Property plant and equipment balances
£125.1m ▲

Right of use assets valued at
£12.0m ▼

Lease liabilities valued at
£12.2m ▼

Total assets
£236.4m ▲

Total liabilities
£161.2m ▲

1.7 Future outlook

Uncertainty in the global political and economic climate is impacting supply chains and driving inflationary pressures which have been important factors in the development of our strategic and business plan for 2024/25. As with many organisations we recognise the increased level of uncertainty that is impacting the forward outlook for the business.

Our purpose, nuclear science to benefit society, drives our strategic planning. We have developed a set of leadership objectives that will shape the work that we undertake in the future. Our objectives ensure that we support government policy, enhance our skills and capabilities, provide the stewardship of critical nuclear infrastructure, and develop an enabling organisation that maintains efficient and effective delivery to all stakeholders.

Our plan supports ongoing commitments to our stakeholders through customer delivery, science and technology, capital and strategic investment. We have a strong baseline in our customer portfolio utilising long-term contracts and relationships with Sellafield Limited, EDF, Rolls Royce and AWE. These relationships ensure we are able to support government policy and develop the science and technology that could be potentially used for future adjacent markets in the health and space sectors.

As custodians of unique and critical nuclear research infrastructure in support of national missions that are estimated at over £2 billion in value on a replacement cost basis, we will strive to ensure that they continue to receive the investment needed to remain operational and efficient. Alongside our facilities, we will ensure that we invest in our people and future capabilities. We will work to transfer knowledge from this generation to the next, ensuring we can turn today's apprentices and graduates into the subject matter experts of tomorrow.

As reported in the CEO Statement, the NNL CEO has recently announced his intention to retire in the Spring of 2025. Under our CEO's tenure, NNL has grown significantly in size and stature, becoming an integral part of the UK's nuclear sector, and recognised for its world-leading capabilities and contributions to nuclear science. With our CEO, continuing to lead NNL until Spring 2025, we are confident in being able to offer full continuity of service for our customers and partners and, in 2025, a smooth transition.

1.8 Risks and uncertainties

We have continued to strengthen and improve risk and opportunity management throughout 2023/24, and the approach to risk at board level has continued to mature. Specifically, the board has reviewed its risk management framework, reviewed and updated the risk appetite statements, and thoroughly refreshed its business risks. A full list of our business risks is set out in Section 4 'Governance Statement'.

As we enter the new financial year, we have reviewed our business risks in light of both the changing economic environment and changes directly impacting NNL. The UK nuclear landscape has continued to evolve during 2023/24, and further changes are anticipated, driven by the need to address the UK's energy and national security challenges. While this introduces uncertainty, the principal risks impacting NNL are in the areas of programme delivery,

critical national infrastructure, cyber security and stakeholder relationships.

Immediately prior to the year end we were notified that Sellafield Ltd has taken the decision to bring the Replacement Analytical Project (RAP) to a strategic pause. This decision will have implications for our people, finances and facilities and we are working closely with Sellafield to manage these implications. As outlined above, some of our programmes continued to be impacted this year by the AHF embargo, and while we anticipate the phased return to service to continue throughout 2024/25, there is a risk that our programmes may be further impacted. Connected to this risk, we recognise that, as custodian of a suite of ageing facilities, we need to secure ongoing investment in our critical national infrastructure and asset management capability.

As with all organisations, we are seeing increasing cyber security threats. The impact of these risks on customer programmes requires careful stakeholder management. This challenge is compounded by changes to the UK nuclear landscape. The board will continue to monitor, manage and mitigate these risks throughout the year.

The board is responsible for the management of all matters of risk and opportunity across the business. Support is provided by the Audit, Risk and Assurance Committee, which advises the board on the suitability of the assurance, audit and risk processes. The Environment, Health, Safety and Security Committee provides in-depth reviews across the health and safety of our business activities.

1.9 Going concern

The company's business activities, together with factors likely to affect its future development, performance and position have all been considered.

NNL generates profit to reinvest and this can lead to in year losses driven by the timing of earnings versus investment decisions. NNL is currently in a planned phase of investing historic earnings which has

given rise to in year losses in this year's Annual Report and Accounts. Detailed financial forecasts, prepared by management and reviewed by the directors clearly identify positive cash flows from core operations available to support future discretionary investment in pursuit of the purpose of nuclear science to benefit society.

Based on the detailed cash flow forecasts prepared by management, which included any reasonably possible change in key assumptions on which the cash flow forecasts themselves were based, the directors continue to believe that there is a reasonable expectation that the company has adequate resources to continue to adopt the going concern basis in preparing these financial statements.

1.10

Section 172 Statement

The directors have elected to include a statement under S172 of the Companies Act 2006 in section 4.4 of the Directors' report.

Approval

This Strategic report was approved by the board of directors on 22 July 2024 and signed on its behalf by:



Samantha Wheeler
Secretary
13 August 2024

2.0

Environment, Health, Safety, Security and Quality (EHSS&Q)



2.0 Environment, Health, Safety, Security and Quality (EHSS&Q)

At NNL we operate an extensive suite of critical national infrastructure across several sites (including our own and those run by others). We handle a wide variety of highly challenging materials, many of which are radioactive, as well as working with heavy engineering machinery in our rig halls.

The nature of the research we undertake often means we are undertaking unique processes for the first time; this means a focus on change management around both nuclear and conventional safety requirements. This year we have experienced a significant increase in output and a record number of new recruits thus enhancing our organisational capability. All of this creates an environment where our focus on remaining safe and secure, alongside managing our environmental impacts, must be paramount at all times. We therefore continue to ensure safety is incorporated into everything we do – and to sustain this ethos as a core value of our business and all our personnel.

We once again achieved a good performance (fig1), with no notifiable events being externally reportable around nuclear safety (related to the INES scale). A near miss surrounding lifting equipment met the criteria of a RIDDOR dangerous occurrence and was reported to the ONR. In addition we experienced a few other significant near misses which were fully investigated and for which action plans put in place. None of the events resulted in injury or radiological release. Minor safety case & security plan breaches levels improved from the previous year, with a slight increase in minor accidents for which associated improvement initiatives were completed. Minor events and near misses maintained a similar level as the previous year.

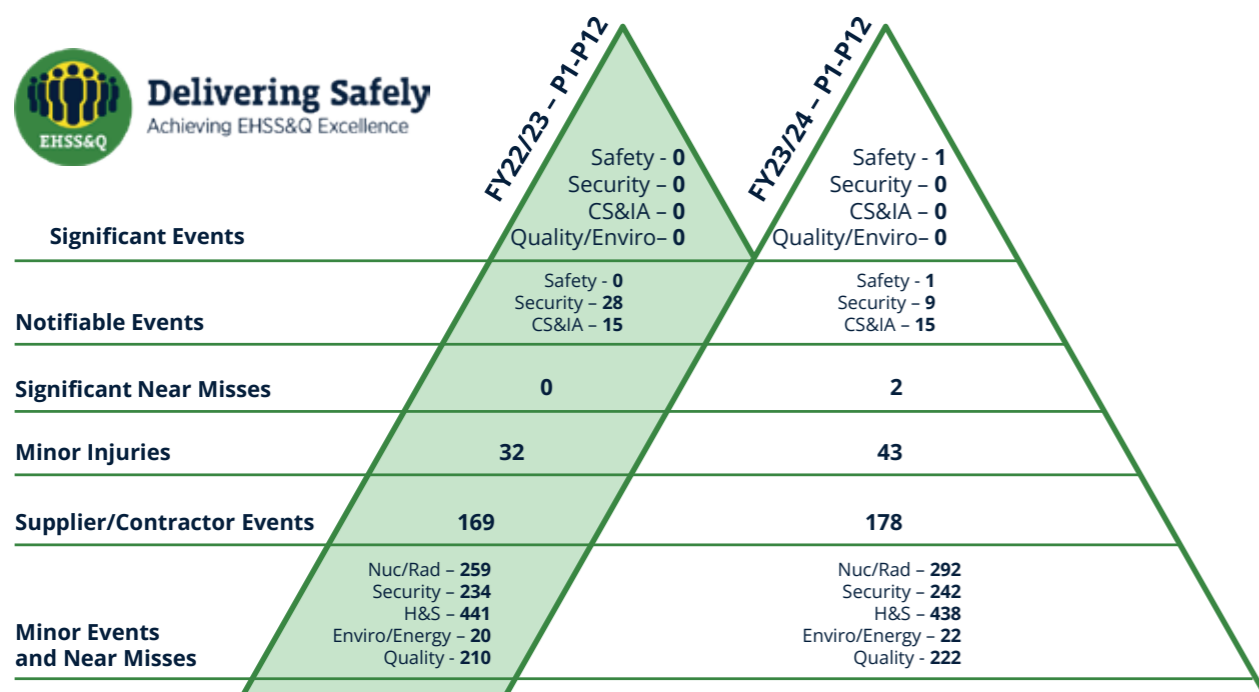


Fig 1: EHSS&Q Performance

Continuous improvement is a key driver with notable improvement initiatives in leadership and management for safety, waste and energy management realised this year.

Relationships and interfaces with our regulators continue to remain strong and positive, with the annual intervention program completed without any significant concerns. We continue to maintain and develop our Nuclear Site Security Plans (NSSPs), working collaboratively with our regulators, particularly in the area of cyber security and information assurance (CS&IA).

We continue to review and de-risk our facility operations as we enhance and improve their infrastructure and capability in line with future national challenges. A significant focus has been on our Active Handling Facility to improve shielding requirements and our safety cases to enhance our capability going forward.

We were proud to be awarded the RoSPA Order of Distinction (21 consecutive Golds) Award during the year. However, ensuring we remain vigilant and continue to learn lessons from events and near-misses - both within NNL and across the industry - remains a priority.

The health and wellbeing of all our personnel has been a focus of a variety of initiatives and campaigns during the year with excellent participation and interaction.

Combined with safety, security (including the increasingly important area of cyber security) remains a key area of focus, with security and resilience processes becoming much stronger and more robust as we continue to build and sustain our security culture.

Our quality oversight processes continue to be developed and improved to ensure a first class service to our customers.

Whilst defining our sustainability framework for the future, we maintained a strong performance in the area of environmental management and control, with robust compliance with all environmental permits and authorisations across all our facilities. This was supported by improvements in our processes to track energy usage and Streamlined Energy Carbon Reporting (SECR). Awareness initiatives surrounding sustainability topics were planned and delivered across all business areas.

There were successful surveillance audits for our Occupational H&S Certification (ISO 45001), Environmental Management Certification (ISO 14001) and Quality Management Certification (ISO 9001) were completed during the year. Our surveillance audits for Energy Management Certification (ISO 50001) were also successfully undertaken and our Information Security Management (ISO 27001) system was also successfully recertified.

While challenges remain, we continue to identify, and progress, suitable disposal routes for difficult waste streams, with some long-standing legacy wastes disposed of this year.

The 'Achieving EHSS&Q Excellence' vision and long-term strategic plan to sustain a strong nuclear safety, security, and conformance culture, underpinning operational delivery excellence, continued to progress with the cultural maturity model road map indicating we continue to move towards a 'proactive' culture. A full strategic review has been completed with outcomes progressed through our strategy deployment process.

3.0 Sustainability



3.0 Sustainability

Delivering against the sustainability agenda is key to the success of NNL’s business and our purpose of ‘nuclear science to benefit society’.

NNL has for many years embedded sustainability within its commitments, decision-making, operations and robust culture.

NNL has used governance and incentives to positively enhance the awareness and interaction with social, economic and environmental

factors. It is not just a good thing to do, it is the most astute and economically wise thing to do.

NNL's Sustainability Ambitions and Strategic Objectives

- Environmental** We will achieve Net Zero emissions by 2030, reduce our wider environmental impacts by half and double our positive contributions in respect of nature and resource use.
- Social** We will maximise our social impact, benefiting our people and our communities.
- Economic** We will optimise for long-term inclusive economic growth and financial stability, whilst balancing this with broader measures of value and performance

*Scope 1 and 2 only for 2030

NNL developed its sustainability ambitions in 2021. Our commitment to achieve Net Zero by 2030 was deliberately ambitious in order to drive progress in this area. This approach has been successful in increasing efficiencies and we have seen a steady reduction in carbon emissions since 2018/19. However, as we move into 2024/25 we recognise that a number of the assumptions on which our ambitions were based have changed, in particular those where we have deep dependencies with our landlords such that we need to review our ambitions and assess

their feasibility in this changed landscape.

NNL is committed to the net-zero agenda and continues to support the DESNZ Sustainability Strategy (2021) inclusive of key ambitions. NNL is aligned with UK Government and is committed to delivering net zero in its own operations. Throughout the next year the initial five year NNL Carbon Reduction Plan will evolve into a forward-focused integrated sustainability plan.

- NNL measures Scopes 1 and 2 reported as a Carbon Intensity

Ratio and compared to a baseline established in 2018/19. **The company to date has reduced carbon emissions associated with Scope 1 & 2 by over half 50%**

- Scope 3: Total emissions from business travel in rental cars or employee owned vehicles continues to increase. Analysis of the T&S claimed business mileage data shows business mileage has not returned to pre-pandemic levels and despite business growth and increased headcount the business mileage in 2023/24 is relatively steady.

We set out below some examples of actions taken this financial year towards our sustainability ambitions.

Objective	Action
People	<ul style="list-style-type: none"> Sustainability training: Onsite and remote interactive sustainability workshops, delivered to facilities and business teams, attendance and, most importantly, engagement was strong. 97% of our employees completed Sustainability eLearning. Bonus targets: We aligned our remuneration incentives to our sustainability ambitions by incentivising completion of a sustainability e learning course and introducing an equality, diversity and inclusion (ED&I) metric. Giki Zero: We continue to promote our partnership with Giki Zero, a UK-based social enterprise and certified B-Corp, enabling our people to calculate their own carbon footprints, with a wide variety of actions proposed that can help to reduce it. Behavioural observations: To ensure the conversation continued, a behavioural-based observation sustainability category was introduced to our behavioural-based observation platform.
Society	<ul style="list-style-type: none"> National Equality Standard (NES): NNL obtained NES ED&I reaccreditation Racial Equality in Nuclear (REIN): NNL employees established the REiN network in 2023/24 Science, technology, engineering and mathematics (STEM): We have developed a STEM Outreach strategy and created a dedicated STEM Outreach role. We have 48 STEM Ambassadors across the organisation.
Emissions	<ul style="list-style-type: none"> Virtual meetings: We continue to use MS Teams to engage with our customers and stakeholders to reduce all parties' carbon footprints. Improvement plans: We continue to implement improvement plans in areas of high usage of energy resources to ensure ongoing improvements as part of our standard operating activities. Examples include replacement windows across a number of our facilities to improve efficiency, and all lighting being replaced by LED lighting. Within the AHF we are replacing all zinc bromide cave windows with solid lead glass which significantly reduces the environmental impact of handling zinc bromide. Low Carbon energy: We continue to explore opportunities to use sources of low carbon energy, either from within the industry or from NNL generation, with conversion to alternative sources wherever practical.
Resources	<ul style="list-style-type: none"> Waste: As part of our greening government commitments (GGCs), NNL has committed to reducing waste to landfill and actively applying the circular economy and waste management hierarchy. Technology: Effectively using technology, both during refurbishments and on an ongoing basis, to support efficient use of resources, with automation of controls increased across facility areas. IT waste: Recognising our responsibility to adopt an approach to hardware disposal which aligns with our sustainability ambitions, we have made a commitment that any surplus kit will go to a waste disposal company who guarantee zero to landfill. Following the rollout of new Surface laptops across the organisation surplus IT kit was offered to charities, through our employees and to our employees themselves; a total of 290 laptops and 67 monitors were repurposed.
Procurement	<ul style="list-style-type: none"> Supply chain: NNL's requirements with respect to the environment cascade through the supply chain. Vendor management procedures require all suppliers to comply with our sustainability requirements (including operation of an ISO 14001 certificated environmental management system and development of a sustainability plan). A more detailed supplier assessment questionnaire is required for suppliers of more complex and/or high-value goods and services. SME: We have improved our expenditure with SMEs against target with 41% of spend (non-governmental) with SMEs and 59% of spend in the North-West. Policies and procedures: The inclusion of sustainability in our policies, procedures and operations ensures that we continue to enhance and continuously improve our sustainability efforts, from concept through to design requirements, and that all our activities are engineered to deliver energy efficiency and actively demonstrate a circular economy.
Beyond NNL	<ul style="list-style-type: none"> Nuclear partners: We are working with site licence companies and landlords to align our sustainability practices to facilitate understanding of potential renewable energy alternatives and opportunities. GGCs: NNL is a partner organisation of the Department for Energy Security and Net Zero (DESNZ) and has GGCs directly supporting the government's aspirations to be carbon net zero by 2050. NNL is focused on taking action to reduce carbon emissions and working with DESNZ as a partner organisation to achieve carbon net-zero 2050. COP28 in Dubai: NNL representatives attended COP to promote nuclear energy and support Nuclear for Climate from the Young Generation Network.

3.0 Sustainability

During 2022/23 we commissioned a socioeconomic impact assessment to be carried out by PwC. This report was published earlier this financial year. Using FY2022 as a reference point, NNL’s economic impact was summarised as:

- Providing unique R&D capabilities that support the broader nuclear sector, which is estimated to contribute £16bn to the UK economy. NNL’s cutting edge research will be key to securing the sector’s future development in the UK;
- A Gross Value Added (GVA) impact of £200m, including direct GVA of £96m and a further £104m generated through the supply chain and employee spending. Almost half of GVA is generated in Cumbria and Lancashire, strengthening their local economies;
- Supporting 2,458 full-time equivalent jobs (FTEs), including 1,118 direct FTEs and 1,340 FTEs through the supply chain and employee spending. NNL’s jobs have a higher median wage than the national and regional averages indicating NNL is enabling highly productive jobs;
- Investment in Research and Development (R&D), with £164m of revenue and investment to support nuclear R&D and scientific services activities. The results of this R&D can create significant impact – for example, NNL estimates that its support for environmental restoration at Sellafield since 2008 has saved the UK taxpayer more than £7bn;
- An investment in staff training and development of £2.3m, providing skills that support NNL’s operations but also provide value to the broader nuclear sector. This includes 95 employees on formal early careers development programmes; and
- Sponsorship of 156 PhD / post-doctoral research associates (PDRAs), to develop further the level of knowledge and skills within the nuclear sector.

We have commissioned a further economic impact assessment to be produced for financial year 2023/24 which will be available in the summer of 2024.

Environmental reporting

As both a private limited company incorporated under the Companies Act 2006 and as a public corporation, NNL is required to report its environmental performance under both the Streamlined Energy Carbon Reporting Regime and the Greening Government Commitments.

NNL has retained full accreditation to ISO 14001:2015 Environmental Requirements and ISO 50001:2018 Energy Management demonstrating our long-standing commitment to continually improve and actively mitigate as far as reasonably practicable the negative impact on our planet and its people.

Our Annual Energy Review included an intensity ratio calculation for the UK government’s Streamlined Energy and Carbon Reporting (SECR). Our reviews indicated our facilities have a relatively consistent energy usage, and we have shown a continually reducing energy intensity ratio.

Business travel has increased to 1,431,748 km but is still lower than pre-pandemic levels (Scope 3: 2019-20 kilometers =1,981,193.57) despite a significant increase in employee numbers.

NNL Streamlined Energy Carbon Report (SECR)	2023/24	2022/23
Streamlined Energy Carbon Reporting (SECR)	Government conversion factors https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2023-full-set-for-advanced-users	Government conversion factors https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022-full-set-for-advanced-users
ANNUAL Energy consumption/data <i>converted to kwh [mandatory]</i>	Electricity = 9,437,743 kWh	Electricity = 9,684,376 kWh
	Gas = 845,815 kWh	Gas = 956,197 kWh
	Steam = 6,560,407 kWh	Steam = 6,363,659 kWh
Scope 1: data	10,531 km	11,858 km
Fleet Vehicle: Small diesel car, up to 1.7 l		
Fleet Vehicle : Medium diesel car, 1.7 - 2.0 l	63,269 km	49,054 km
Fleet Vehicle : Large diesel car, >2.0 l	1,371 km	1,343 km
Scope 3: data	Kilometres = 1,431,748	Kilometres = 1,331,474
T&S claims: assumption medium diesel car, 1.7 - 2.0 l		
Scope 1 / tCO2e	Gas = 154	Gas = 172
Emissions from activities for which the company own or control including combustion of fuel & operation of Facilities	NNL fleet emissions = 12.3	NNL fleet emissions = 10.5
Scope 2 / tCO2e	Electricity = 1954	Electricity = 1873
Emissions from purchase of electricity, heat, steam and cooling purchased for own use	Steam (CHP) = 1179	Steam (CHP) = 1086
Scope 3 / tCO2e	Business Transport emissions = 239 tCO2e	Business Transport Emissions = 224 tCO2e
Total emissions from business travel in rental/leased vehicles or employee owned vehicles		
Total gross Scope 1 & Scope 2 emissions (tCO2e) tonnes (t) of carbon dioxide (CO2) equivalent (e)	= 154 +12.3 + 1954+1179 = 3299 tCO2e	= 172 +10.5 + 1873+1086 = 3142 tCO2e
Intensity ratio: (gross Scope 1 + 2) tCO2e / £Million Revenue [mandatory]	3299 tCO2e/£148M NNL Intensity Ratio (2023-24) = 22.3	3142 tCO2e/£128M NNL Intensity Ratio (2022-23) = 24.5
Carbon Intensity Ratio % change = 9.2% reduction		

Notes

1. Total gross emissions are noted in 'tonnes of carbon dioxide equivalent' (tCO2e).
2. Government conversion factors for company reporting of greenhouse gas emissions have been used to derive tonnes of carbon dioxide per annum from each energy source.

NNL is accredited to ISO 50001:2018 Energy Management and ISO 14001:2015 Environmental Requirements and is committed to improving energy performance and to mitigating excessive energy use and environmental impact as a result of NNL’s business activities, by applying effective controlled processes and effective risk management, delivering continual energy efficiency, reduced environmental impact and continuous improvement through our activities. NNL supports Greening Government Commitments (GGC), as an Operational Partner as detailed in the BEIS Sustainability Strategy 2021.

Methodology NNL boundaries are defined as three Active Handling Facilities (AHF), one inactive facility, a head office and two satellite offices, in total approximately 75,000 m2. NNL has established and actively uses an energy baseline, using a systematic, data driven and fact-based process, focused on continually improving energy performance. NNL monitors and measures all energy consumption, using meter readings for facilities and energy data supplied by landlords for offices in shared buildings. Where estimates are used, the data is extrapolated against historical data and ratified against an equivalent metered office/facility. NNL’s energy consumption is well understood, forecasted accurately and with any deviation fully investigated. To date, anomalies in forecasts have directly correlated to outages.

3.0 Sustainability

Continual energy performance improvement: The organisation ensures awareness of Sustainability, Environmental Requirements & Energy Management through mandatory education (eLearning), workshops, and regular promotion of best practice underpinning the reduction of environmental impact, delivery of net zero and continual energy management efficiency improvement.

Ongoing improvement is achieved through behavioural awareness and scheduled maintenance. All infrastructure and equipment are designed and upgraded to deliver improved energy efficiencies. In addition, NNL has a key performance indicator (KPI), that measures environmental, sustainability & energy management improvement activities across nineteen business areas. Progress against KPIs is verified and formally reported quarterly as a percentage completed and in part is incentivised through the business bonus scheme.

Greening government commitments

The current GGC framework is for 2021-2025. Targets are measured against a 2017/18 baseline and are to be achieved by March 2025. DESNZ is the lead department for setting policies for the UK to become net zero by 2050, and NNL is part of the DESNZ family for GGC. DESNZ group performance towards government departments' GGCs can be found in the DESNZ Annual Report and Accounts using the link below:

Department for Business, Energy & Industrial Strategy - Annual report and accounts 2022-23 (publishing.service.gov.uk)

NNL - waste target: Reduce the amount of waste going to landfill to less than 5% of overall waste	2023/24	2022/23	2017/18 Baseline
	Tonnes	Tonnes	Tonnes
Waste recycled externally (excluding IT equipment)	67	48	180
Waste incinerated with energy recovery	4	16	0
TOTAL WASTE RECYCLED (% of total)	68 (59%)	48 (41%)	181 (93%)
TOTAL WASTE NOT TO LANDFILL (excluding waste reused)	72	64	183
TOTAL WASTE SENT TO LANDFILL	44	52	10
TOTAL WASTE (excluding. waste reused)	115	117	193
TOTAL LANDFILL WASTE DEEMED HAZARDOUS (including clinical waste) *	49	22	2

GGC Performance Criteria	Unit of measurement	DESNZ 2025 Targets	2023/24	2022/23	2017/18 baseline
Paper Use (Scope 3)	Equivalent to A4 reams	Reduce paper used by at least -50% versus 2017/18 baseline	2,294 -65%	2,333 -64%	6,625
Water use (Scope 3)	m ³	Reduce water consumption by at least -8% from 2017/18 baseline	7,414 m ³ -6.4%	9,070 m ³ +14%	7925m ³
Domestic Travel (UK) (Scope 3)	Rail Travel (km)	Reduce the distance travelled of domestic business flights by at least -20% from 2017/18 baseline	548,472 km	796,781 km	941 km
	Domestic Flights (km)		41 flights 27,692km -46%	36 flights 26,555 km -48%	85 flights 51,595 km
International Travel (Scope 3)	Number of flights Distance (km)	Report the distance travelled by international business flights	162 flights 1,343,044 km	68 flights 1,144,307 km	44 flights 242,356 km

Notes

1. Please refer to the SECR for details of Scopes 1, 2 and 3 emissions (business travel)
2. NNL boundaries are defined in cubic metres for water usage as explained in SECR.
3. DESNZ targets do not stipulate criteria for the reduction of travel. DESNZ strongly encourages train travel over other methods.
4. DESNZ targets are those it sets for NNL as a business. The targets reflect NNL's contribution to the DESNZ family commitments year on year using baseline data from 2017/18.

Prompt payment in government contracting

NNL follows the Prompt Payers Code of Practice and commits to paying 95% of all supply chain invoices within 60 days.

	2023/24	2022/23
Average time taken to pay invoices (days)		7
Paid within 30 days (%)	98.7	100
Paid 31 to 60 days (%)	1.2	-
Paid 61 days or more (%)	0.1	-

TCFD Compliance Statement

The Financial Stability Board created the TCFD to develop recommendations for the types of information that companies should disclose in relation to climate change. The recommendations provide a standardised approach to climate change reporting, so that risks and opportunities can be categorised consistently, and organisations across different sectors and jurisdictions can be compared.

NNL has reported on climate related financial disclosures consistent with HM Treasury's TCFD aligned disclosure application guidance which interprets and adapts the framework for the UK public sector. NNL has complied with the TCFD recommended disclosures around governance (all recommended disclosures) and metrics and targets (for disclosures (b) see SECR page 55). This is in line with the central government's TCFD aligned disclosure implementation timetable. For completeness summary information regarding Strategy and Risk Management is included for the year under review. NNL plans full disclosures for these areas and for Metrics and Targets disclosures (a) and (c) in future reporting periods in line with the central government implementation timetable.

3.0 Sustainability

Governance: The organisation's governance around climate-related risks and opportunities

<p>Progress this year:</p> <ol style="list-style-type: none"> Regular board engagement on sustainability (quarterly reporting) The Environmental, Health, Safety and Security Committee (EHSSC) terms of reference expanded to incorporate sustainability The Audit, Risk and Assurance Committee terms of reference expanded to include the monitoring of narrative reporting integrity (including sustainability) All board papers include sustainability impact assessments 2022/23 Annual Report included reporting against the TCFD for the first time Executive risk, assurance and compliance meetings established to monitor and oversee sustainability progress Establishment of the Sustainability Integration Group to coordinate progress on sustainability and to report to the executive committees on performance and on risk, assurance and compliance <p>Future focus:</p> <ol style="list-style-type: none"> Establishment of a quarterly report to the EHSSC Sustainability implementation plan to be developed Sustainability dashboard to be developed and reported quarterly at executive meetings 	<p>Board oversight of climate-related risks and opportunities</p> <p>Throughout 2023/24, the board have focused on developing the sustainability governance framework. The board undertook a review of its approach to managing sustainability benchmarking its approach against other organisations and taking account of best practice. In July 2023, it took the decision to expand the EHSSC scope to provide assurance regarding the oversight and assurance of NNL's strategy goals, policies procedures, performance and disclosures in relation to sustainability.</p> <p>The board has also been actively involved in the development of metrics for reporting on environment, social and economic progress within the value framework.</p> <p>Management's role in assessing and managing climate-related risks and opportunities</p> <p>The extension in EHSSC scope has been supported by the establishment of a risk, assurance and compliance meeting at the executive level and the Sustainability Integration Group at a working level.</p> <p>These entities have focused attention on the need for increased clarity regarding NNL sustainability ambitions and objectives as well as the development of metrics for demonstrating performance.</p>
--	---

Strategy: How climate-related risks and opportunities impact the organisation's business, strategy and financial planning

<p>Progress this year:</p> <ol style="list-style-type: none"> Embedded sustainability within the 2023/24 strategy Development of a climate change risk and opportunities assessment questionnaire <p>Future focus:</p> <ol style="list-style-type: none"> Work with the wider business to identify climate-related risks and opportunities Conduct high-level scenario planning against NNL strategy 	<p>The NNL strategy has been influenced by the changing environment and the opportunities presented by net zero for the nuclear industry.</p> <p>While our strategy recognises the risks and opportunities presented by climate change, we have not carried out a formal climate change risk and opportunities assessment. We have prepared a climate risk and opportunity assessment, and we are working with the Sustainability Integration Group to collate responses from across the business.</p>
--	--

RISK: How the organisation identifies, assesses and manages climate-related risks

<p>Progress this year:</p> <ol style="list-style-type: none"> Sustainability Business Risk has been further developed in align with the maturing risk management framework Development of a climate change risk assessment tool <p>Future focus:</p> <ol style="list-style-type: none"> Work with the risk management committee to integrate sustainability and climate risks into the risk management system Work with the risk management committee to monitor development of sustainability and climate risks and opportunities 	<p>Over the course of the year, the board has reviewed and updated the risk appetite statements and thoroughly refreshed all its business risks, including sustainability.</p> <p>A climate change risk and assessment tool has been developed, and the Sustainability Integration Group has been considering how best to engage the business to complete this assessment.</p>
--	--

Metrics and targets: The metrics and targets used to assess and manage climate-related risks and opportunities.

<p>Progress to date:</p> <ol style="list-style-type: none"> Continue to report against GGCs Continue to report against SECR <p>Future focus:</p> <ol style="list-style-type: none"> Development of metrics to be included in the NNL value framework 	<p>NNL reports its environmental performance under both the GGCs and SECR regime.</p> <p>In addition to reporting our energy usage and emissions, we are currently developing a suite of societal (environmental, social and governance) metrics which will form part of the value framework.</p>
---	---

4.0 Directors' Report

for the year ended
31 March 2024

The directors present their report together with the audited financial statements for the year ended 31 March 2024.

Directors

The directors of the company who were in office during the year and up to the date of signing the financial statements were:

Ian Funnell	Chair
Paul Howarth CBE FREng	Chief Executive Officer
Clare Barlow	Chief HR Officer
David Beacham	Chief Customer Officer <i>(resigned 3 May 2023)</i>
Matthew Miller	Chief Financial Officer
Fiona Rayment OBE FREng	Chief Science and Technology Officer <i>(resigned 31 October 2023)</i>
Iain Clarkson	Non-Executive Director
Ed Emerson	Non-Executive Director
Claire Flint	Non-Executive Director <i>(resigned 21 April 2023)</i>
Stephen Garwood FREng	Non-Executive Director
Ann Cormack MBE	Non-Executive Director <i>(appointed 21 April 2023)</i>

4.1 Our Board



Ian Funnell
Chair

Ian has extensive experience in both executive and non-executive roles with a strong background in the UK and international energy sectors, the global oil & gas and digital industry sectors and the delivery of major infrastructure projects. Ian's track record includes a focus on business performance, a strong stakeholder engagement ethic and an extensive network across businesses at Board level, senior levels of government and academia across the UK and internationally.

Ian originally joined ABB in 1999, a global technology company that works closely with utility, industry, transportation and infrastructure customers, and was appointed CEO of ABB UK in January 2015. In January 2020, he was appointed CEO of Hitachi Energy Ltd in the UK and Ireland, where he contributed widely to sector initiatives in support of decarbonisation until July 2022,

when he stepped down from his executive role.

He has previously held positions on the Made Smarter Commission, the UK Government's Advisory Board of Innovate UK (Energy Revolution), CBI President's Committee, Chair of the CBI's Northwest Regional Council, and the Covid Recovery Commission, where he helped shaped recommendations for the government's levelling up and building back better programmes.

Ian is also Chair of the NG Bailey Group, Chair of the Energy Futures Laboratory at Imperial College London, an advisor to the President of Hitachi Europe and an Ambassador of the Women Leaders Association.

Ian is a Chartered Engineer, a Fellow of the Royal Academy of Engineering, and a Fellow of the Institution of Engineering and Technology.



Ann Cormack
Non-Executive Director

Ann has a wealth of experience, having served as a Council Member and Trustee of leading international affairs think tank Chatham House from 2017 to 2023, where she held the interim Chair post of the Nominations Committee. Ann also served on the Audit and Risk Committee for the Foreign and Commonwealth Office between 2011 to 2019 before becoming a non-executive director at FCDO the following year. She was also a Council Member for the British Institute of Energy Economics, appointed Vice Chair and Chair during 2006-2007.

In her executive career, Ann was most recently Executive Head of Human Resources for the De Beers Group, a role she held from 2017 to 2021, leading the people transformation of the global business through Covid-19. She served on the Remuneration

Committee of Element 6, a synthetic diamond, cubic boron nitride producer (a joint venture of the DeBeers Group) and, prior to that, worked for Rolls-Royce as Director International from 2013 to 2017.

Ann is currently on the Board and Audit, Risk and Assurance Committee of Envipco, a reverse vending machine manufacturer in the Netherlands which collects bottles and cans, repaying the deposits to the customers to encourage recycling and promote sustainability. She was recently elected to the Business Committee of the General Council of the University of Edinburgh, her alma mater.

In addition to her non-executive director role, Ann is Chair of the Remuneration Committee.



Iain Clarkson
Non-Executive Director

Iain joined the board in October 2019, having previously served as Chief Financial Officer of WYG plc, an international consulting, engineering, and project management business. Prior to that role, Iain was Finance Director for Amec Foster Wheeler's clean energy business, following various Finance Director positions in Westinghouse Electric Company, a global nuclear technology provider, including two periods spent working in the United States.

Iain started his career with Coopers & Lybrand, where he qualified as an associate chartered accountant before moving into corporate finance to work on mergers and acquisitions. He moved into industry in 1996 and now has over 20 years' financial leadership experience in international consulting and engineering businesses. He has a particular specialism in the international energy sector. In addition to his non-executive director role, Iain is Chair of the Audit, Risk and Assurance Committee.



Edward Emerson
Non-Executive Director

Edward joined UK Government Investments (UKGI) in 2015 and has worked on both corporate finance and corporate governance projects.

Prior to joining UKGI, Edward worked as a lawyer. He trained with the Scottish Government before moving into private practice, first in Scotland and then in London, specialising in project and asset finance. Edward combined work and study to complete a master's degree in global energy and climate policy, and he further augmented

his sectoral experience with secondments to Network Rail, ING and UK Export Finance.

Edward has also completed a two-year secondment with the Cabinet Office, where he first led on business, energy and environmental policy coordination in the Economic and Domestic Affairs Secretariat, working closely with HM Treasury and No 10. Edward then led a team preparing for the UK's exit from the EU, before being asked to help establish and lead a team within the Covid Taskforce.

4.1 Our Board



Stephen Garwood, FEng
Non-Executive Director

Steve joined the NNL board in May 2020, having been Professor of Structural Integrity at Imperial College London and serving as a non-executive director of Transport Systems Catapult. Prior to those roles, Steve was Director, Research and Innovation – Nuclear, at Rolls-Royce plc until retiring in 2013. Over the previous 15 years, he held various Engineering and Technology Director roles for Rolls-Royce plc, including Head of the Technical Authority for the nuclear submarine plant.

After a PhD in Applied Mechanics, Steve started his career with The Welding Institute in 1976, rising to Head of Engineering, before joining Rolls-Royce and Associates in 1996. He was elected a Fellow of the Royal Academy of Engineering in 2002.

In addition to his non-executive director role, Steve chairs NNL's Technical Advisory Board. He continues to serve as an independent on a number of Nuclear Advisory Boards and is an honorary Professor at Imperial College London.



Clare Barlow
Chief HR Officer

Clare Barlow is the Chief Human Resources Officer and board member at National Nuclear Laboratory. As well as a Non-Executive Board member for the Royal Airforce and a Trustee for Age UK Lancashire.

Clare joined NNL in 2018 from BAE Systems, where she spent the previous 10 years as Human Resources (HR) Director for the UK and International Combat Air division. Prior to BAE Systems, Clare was Head of HR at Royal Mail, British Airways and a number of manufacturing organisations.

As a Board Executive and qualified Executive Coach, Clare has a wealth of experience spanning both HR and business roles, specialising in strategy development, organisational development, change management and employee relations.

Having worked across a wide range of industries and international arenas Clare is passionate about driving business growth underpinned by a sustainable and including people agenda

Clare lives in Lancashire with her husband Warren and daughter Hannah.



Paul Howarth
Chief Executive Officer

Paul has extensive experience in the nuclear industry covering operations, commercial and research portfolios in the UK and also overseas. He has worked with a broad range of stakeholders across Government, industry and academia. More recently he has also worked in the research, technology and innovation sector beyond nuclear and chaired AIRTO (Association of Innovation Research & Technology Organisations) as well held a Non-Exec Board position of the National Physical Laboratory.

Paul began his career working on the European Fusion Programme where he completed his PhD in Nuclear Physics after a first degree in Physics and Astrophysics at the University of Birmingham. He subsequently worked in Japan on their advanced nuclear fuel cycle programme and subsequently with BNFL at numerous locations in the UK in roles covering technology commercialisation, plant support and advanced

reactor development; this culminated in supporting policy development for the UK Government on the case for new nuclear build in 2007.

Paul also co-founded the Dalton Nuclear Institute and worked for the US organisation Battelle alongside US National Laboratories on M&O contract development. In 2009 he was part of the M&O team that was awarded the contract to run NNL; and he subsequently became CEO of NNL in 2011 where he has led the organisation through the transition to become a Government Owned public corporation. He is a fellow of the Institute of Physics, the Nuclear Institute and was elected to the Royal Academy of Engineering in 2014. He also holds an MBA and is an alumnus of Harvard Business School. In 2024 he was awarded a CBE in the King's Birthday honours for services and contribution to the energy, nuclear and R&D sectors.



Matt Miller
Chief Financial Officer

Matt was appointed Chief Financial Officer of NNL in April 2019 and he has supported the business successfully through a sustained period of growth including the increase levels of capital expenditure projects in support of critical national infrastructure.

Matt joined NNL from BAE Systems where he had spent the previous 16 years in a wide variety of roles, most latterly as Finance Director for the Dreadnought Submarine Programme.

Throughout his career, Matt has developed a deep understanding of Financial Management, Corporate Governance and Information Management and Technology.

Matt is a Fellow of the Chartered Institute of Management Accountants (CIMA), he is a member of CIMA council and trustee of the CIMA Benevolent Fund. Outside work, Matt is married with two children and is a qualified Rugby League Coach with Chorley Panthers.

4.1 Our Board



Samantha Wheeler
Company secretary

Sam is Company Secretary to our NNL board, having held the position as Deputy Company Secretary since 2021. Prior to joining NNL, Sam was Company Secretary in the NHS, advising senior colleagues on governance matters throughout the Covid-19 pandemic and helping to develop the Green Plan for County Durham and Darlington NHS Foundation Trust.

During Sam's career, she has provided both legal and governance advice across several industry sectors, after starting her

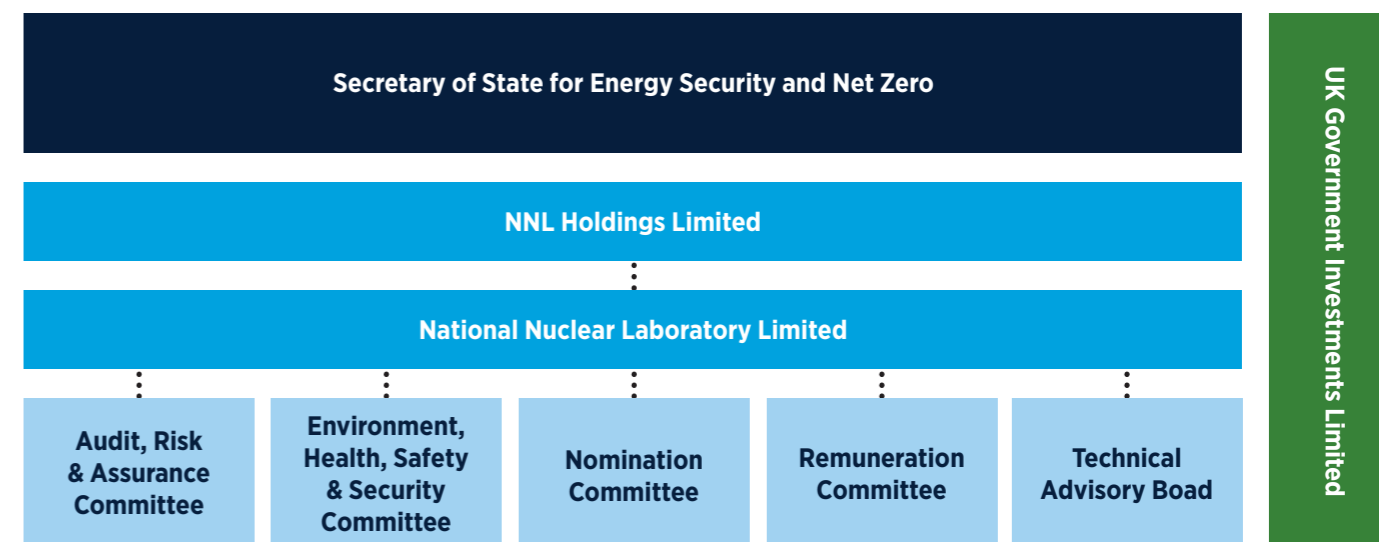
career as a corporate lawyer for PwC Legal. Sam has a breadth of knowledge of the public sector, with expertise in rail, nuclear and health. Since qualifying as a chartered company secretary Sam has strengthened her knowledge of corporate governance and is keen to introduce it to the sector. Sam is both an Associate of the Chartered Governance Institute and a qualified solicitor.

4.2 Governance Statement

National Nuclear Laboratory Limited (NNL) is owned by NNL Holdings Limited, which is wholly owned by the Department for Energy Security and Net Zero (DESNZ) (shareholder). The primary purpose of NNL Holdings Limited is to act as NNL's parent company and to

finance strategic investments in the NNL business. DESNZ manages its ownership of NNL through UK Government Investments Limited (UKGI). UKGI provides strategic oversight of NNL's corporate governance and advises the government on the management

of its interest in NNL. A UKGI representative is appointed to both the NNL board and the NNL Holdings board. A framework document governs the relationship between DESNZ, UKGI and NNL.



NNL is a private company limited by shares. DESNZ owns NNL via NNL Holdings Limited and NNL is classified by the Office for National Statistics as a public corporation. NNL is not required to comply with the provisions of either the 'Corporate governance in central government departments: code of good practice' or the UK Corporate Governance Code 2018, but it aims to take appropriate account of the principles and provisions of both to the extent that they apply. Similarly, under the terms of the framework document, NNL is required to comply with the principles of managing public money to the extent that they apply.

The following governance statement provides an insight into NNL's corporate governance framework during 2023/24.

Governance framework

The board has responsibility for establishing and taking forward NNL's strategic aims and objectives while maintaining a sound system of internal control that safeguards its assets. The board supports high standards of governance and, as far as is practicable given the company's size and status, has, together with UKGI, continued to develop the governance of the business in accordance with the 'Corporate governance in central government departments: code of good practice', the UK Corporate Governance Code 2018 and 'Managing Public Money' guidance.

The NNL framework document was entered into in June 2021. DESNZ is currently undertaking a strategic review of NNL. It is expected that following completion of the strategic review, DESNZ, UKGI and NNL will commence a review of the NNL framework document.

Board and its committees

During the financial year 2023/24 ended 31 March 2024, the board of directors comprised a non-executive Chair, four further non-executive directors and up to five executive directors: Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Customer Officer, Chief Human Resources Officer (CHRO) and the Chief Science and Technology Officer (CSTO). Over the course of the year, as executive directors stepped down from the board, the board took the opportunity to align itself with best practice corporate governance and to reduce the number of executive directors on the board from five to three (the CEO, CFO and CHRO).

4.2 Governance Statement

The board met eight times in 2023/24, including two board workshops in September and December. Attendance by members at the board and committee meetings is set out in the table below.

Name	Position	Board+	ARAC++	Remuneration Committee	Nomination Committee	EHSSC	TAB
Ian Funnell	Chair	8	-	5	9	-	-
Paul Howarth	Chief Executive Officer	8	-	-	-	-	-
Clare Barlow	Chief HR Officer	8	-	-	-	-	-
Iain Clarkson	Non-Executive Director	8	4	5	8	4	-
Ed Emerson	Non- Executive Director	7*	4	5	8	4	-
Steve Garwood	Non-Executive Director	7	4	5	9	4	4
Ann Cormack (appointed on 21/04/23)	Non-Executive Director	8	-	5	9	-	-
Matthew Miller	Chief Financial Officer	8	-	-	-	-	-
Fiona Rayment (resigned on 31/10/23)	Chief Science and Technology Officer	4	-	-	-	-	3
Claire Flint (resigned on 21/04/23)	Non-Executive Director	0	-	1	1	-	-
David Beacham (resigned on 03/05/23)	Chief Customer Officer	0	-	-	-	-	-
Number of meetings		8	4	5	9	4	4

* Ed Emerson took parental leave during the summer of 2023 which meant he was unable to attend the July board meeting.

Executive board members regularly attend committees of which they are not formerly members. For example, the CFO regularly attends both ARAC and EHSSC, and the CHRO regularly attends both RemCo and NomCo. Similarly, the non-executive directors often attend TAB meetings over the course of the year.

Ian Funnell, Iain Clarkson, Ann Cormack and Steve Garwood were all considered independent on their appointment to the board.

The role of the board

The NNL board is responsible for setting NNL's strategic direction. The board provides effective and proactive leadership of NNL within a framework of prudent and effective controls and risk management processes. The board sets NNL's values and behaviours, and it ensures that NNL's obligations to its shareholders and others are understood and met.

The NNL board's role is to support and constructively challenge the NNL executive and to apply scrutiny both in the development of NNL's business strategies, plans, business cases and targets and in the assessment of its performance in delivering the approved strategic and business plans. The board leads in the assessment and management of risk.

The framework document details the responsibilities and accountabilities of both the Chair and the CEO.

Key focus areas for the board regarding governance this year have included:

- **Strategy:** Continuing to align NNL's strategy with the policy objectives of its shareholder and working closely with it on the strategic review of NNL
- **Stakeholder engagement:** Strengthening NNL's approach to stakeholder management through the development of stakeholder mapping and engagement plans
- **Board composition and succession:** Continuing to develop NNL's succession plans, taking account of overall board composition and balance of skills with particular focus on arrangements for CEO succession

- **Governance:** Responding to the findings of the board effectiveness review by improving the structure of board agendas, board papers and reporting

- **Diversity and inclusion:** Working with the executive team to deliver on the NNL equality, diversity and inclusion (ED&I) strategy and supporting National Equality Standard (NES) reaccreditation.

The board delegates the day-to-day management of NNL to an executive leadership team (ELT), comprising the executive board members: currently the CEO, CFO, CHRO and other senior executives.

All board and board committee meetings held during the year have been quorate. All decisions made by the board and its committees have been recorded appropriately. The board reviews the effectiveness and the terms of reference of each of its committees on an annual basis.

The unitary nature of the board means that non-executive members and executive members share the same responsibility to challenge board decisions on the development of NNL's strategy and operations. The non-executive board members bring a wealth of experience and complement the executive representation on the board in the provision of challenge, scrutiny and support on operational and strategic matters.

All board members have full and timely access to relevant information to enable them to discharge their responsibilities. All directors have access to independent professional advice, at NNL's expense, if required.

The board met eight times this year, with meetings taking place across our facilities at Preston, Sellafield, Workington and Warrington. Through these visits, the board have had the opportunity to visit our facilities,

meet with members of the workforce from our senior leadership team to our early careers cohort.

Board performance and effectiveness review

The board undertakes regular evaluations of its effectiveness which look at both the board and its committees. In line with best practice, an externally facilitated review takes place every three years, and an internally facilitated review takes place during every intervening year.

An externally facilitated review of the NNL board was undertaken early in 2023, with the report being published on 20 March 2023. The report concluded that the board governance arrangements at NNL continued to be correctly constituted and efficiently run. It noted that board membership had experienced significant change and that the board would continue to transition into the future. The review made a number of recommendations to help the board to continue to develop its ways of working and its leadership of NNL through this period of change. Those focused around three key themes: board purpose and delivering a sustainable future for the business; board capability and addressing the transition challenge; and board dynamics to drive added value.

The board prepared an action plan to respond to the review recommendations, resulting in an increased focus on stakeholder engagement, board governance and succession planning, as referenced elsewhere in this report. It is intended that we will conduct an internal review in 2024/25.

Board committees

The board has three committees: Audit, Risk and Assurance Committee, Remuneration

Committee, and Nominations Committee. The board also has two advisory committees: Technical Advisory Board and Environment, Health, Safety and Security Committee.

Each committee is chaired by a non-executive board member. Each committee reports directly to the board by way of an annual report and access to minutes. Urgent matters are escalated by the committee Chair to the board as appropriate.

Audit, Risk and Assurance Committee (ARAC)

ARAC's role is to assist the NNL board in fulfilling its oversight responsibilities by reviewing and monitoring the financial information provided to shareholders, the system of internal controls, the risk management framework, and the internal and external audit processes. ARAC's purpose is to critically challenge and review the effectiveness of the controls to ensure that they are adequate for meeting the requirements of compliance, operations, corporate governance and information management.

ARAC comprises three non-executive directors and is chaired by an independent non-executive director, currently Iain Clarkson. The committee invites executive directors, the Head of Independent Assurance and senior representatives of the external auditors to attend meetings as and when appropriate.

ARAC met four times in 2023/24. ARAC's activities included reviewing and endorsing the annual statutory accounts for board approval. The auditors, Saffery LLP, undertook its first audit for the 2022/23 financial year ending 31 March 2023. The appointment of new auditors provided an opportunity to review and revisit current practices and

4.2 Governance Statement

consider fresh ways of working. This approach was welcomed by the internal team. ARAC reviewed and endorsed the Annual Report and Accounts for board approval.

Progress with overall business controls was assessed by ARAC through the annual review of independent assurance. Key cross-cutting themes have been identified by independent assurance, and ownership of these themes has been allocated to individual executive owners. ARAC reviewed and endorsed planned activities and management sponsorship of planned interventions for the upcoming financial year.

Over the course of the year, ARAC continued to monitor and review the development of the risk management framework and the approach being taken by the executive team. The business risks have been comprehensively reviewed and updated together with development of risk 'bowties' and risk appetite statements. ARAC reviewed and endorsed for board approval the risk appetite statements. ARAC will continue to support NNL in the development of its risk and opportunity management processes.

Remuneration Committee (RemCo)

RemCo's role is to assist the NNL board in ensuring that remuneration policy and practices are designed to support strategy and promote long-term sustainable success, that remuneration outcomes are clearly aligned to company performance, purpose and values, and that the company's long-term strategy is delivered successfully.

RemCo is responsible for NNL's remuneration policy and determines the pay and remuneration levels for the NNL executive team and

workforce. It also provides guidance and oversight on the organisation's overall culture. RemCo's work is undertaken with reference to the NNL framework document, civil service pay guidance and the UK Corporate Governance Code 2018, where they apply.

RemCo monitors data and narrative insights from human resources (HR), employee surveys, forums and site visits to identify trends and to ascertain whether the company culture, workforce and wellbeing are consistent with the company's long-term strategy and purpose. The introduction of pulse surveys has allowed the leadership team to monitor organisational culture and to respond with agility to any challenges identified. RemCo ensures that decisions are made with wider consideration of the organisational culture, people development and performance, and that they are underpinned by NNL's strategy and values. Engagement with the trade unions throughout the year has reflected the ongoing strong relationships. RemCo has oversight of the key people metrics, including industrial relations and employee engagement, in addition to any external benchmarking data.

RemCo comprises five non-executive directors and is chaired by an experienced HR professional, non-executive director. The CHRO and CEO attend RemCo meetings as representatives of the executive, and other executive directors are invited to attend meetings as appropriate (other than when their own remuneration or terms and conditions of employment are under discussion).

RemCo met five times in 2023/24 to consider performance and reward and to provide oversight of wider remuneration matters. RemCo undertook a comprehensive review of NNL pay benchmarking and approved a pay negotiation window.

A trade union forum, chaired by a board director, formally represents the views of most of the employees and leads negotiation on wider pay policy. All three trade unions recommended acceptance of the pay deal for 2023/24, and discussions are currently underway regarding the pay deal for 2024/25.

RemCo determines the appropriate performance conditions for NNL personal leadership bonus scheme awards. These are based on a balanced scorecard of metrics, achievement of key results that deliver on NNL's strategy and the way in which these results were accomplished. For the year ending 31 March 2023 NNL did not satisfy all elements of the bonus criteria and RemCo was asked to review the overall business performance of NNL and to consider exercising its discretion regarding payment of bonus. The failure to satisfy the financial element of the bonus scheme was primarily due to the impact of the embargo on the Active Handling Facility. It was acknowledged that whilst this item was not exceptional the impact of that item was not reflective of the overall performance of the company. RemCo undertook a comprehensive review of the overall business performance taking account of the challenges of NNL acting as the custodian of legacy, historically underinvested, critical nuclear infrastructure. Following this review RemCo agreed that the impact of the AHF Embargo be treated as an unusual event and exercised its discretion to approve payment of the bonus at threshold level.

RemCo also reviewed and approved the design of the bonus scheme for 2023/24. The bonus scheme for 2023/24 introduced two additional elements to take account of NNL's sustainability ambitions and to align the scheme to the NNL purpose.

NNL staff are public servants and are subject to certain public sector pay and conditions as set out in the framework document. This stipulates that appointment of the CEO is subject to ministerial approval and that NNL salaries will not exceed that of the CEO, thereby setting the strategic rationale for the NNL remuneration policy. The executive, including the CEO, received the same annual pay increases as the wider NNL workforce, and the related bonus proposals were assessed in line with the NNL personal leadership bonus scheme.

RemCo has continued to ensure that NNL takes appropriate account of public sector pay and guidance.

Nominations Committee (NomCo)

NomCo's role is to advise the board on matters relating to NNL's leadership requirements and the board's succession planning requirements. NomCo is responsible for recruiting the best qualified candidates for the board and NNL executive, including any executive directors. Recommendations are made to the board for its approval and onward recommendation to the shareholder. The shareholder is responsible for appointing the Chair and non-executive directors, and for approving appointment of the CEO.

NomCo comprises five non-executive directors and is chaired by the Chair of NNL. NomCo invites executive directors to attend meetings as and when appropriate.

NomCo met nine times in 2023/24 and has overseen the development of a robust succession plan for both the non-executive and executive directors. During the course of the year, NomCo has been heavily involved in the CEO succession planning including the development of a succession timeline, recruitment

process and job description leading to the announcement of the CEO's retirement in April 2025. In addition, NomCo has commenced the recruitment process for a replacement non-executive director and is overseeing the selection of a new member of the executive team, the Chief Operations and Performance Officer, who will join the company early in the new financial year.

The executive search agency Thomas Thor has been selected to assist in the recruitment of the new CEO and Gatenby Sanderson was selected through a procurement process by UKGI (which manages the shareholder function on behalf of DESNZ) to assist in the recruitment campaign for the new NNL non-executive director.

NomCo continued to review the approach to executive succession planning, organisational culture and succession priorities. In particular, the committee undertook a comprehensive review of succession plans for NNL board and senior executive roles, and it noted the blend of internal and external solutions with a focus on diversity. NomCo also reviews the wider NNL talent and skills plan.

Throughout the year, NomCo monitored the implementation of recommendations arising from the board effectiveness review, with particular attention paid to the recommendations in relation to succession planning.

As highlighted in Section 1.4.3.5 Employees, NNL received NES reaccreditation this year. NNL is currently refreshing its ED&I strategy to respond to recommendations. NomCo has taken full account of the ED&I strategy in the development of its approach to nomination and succession planning.

Technical Advisory Board (TAB)

TAB is not a formal board subcommittee. Instead, TAB is a formal advisory committee to the NNL board and is chaired by a non-executive director. TAB's purposes are to provide advice to the NNL board on its technical strategy, effectiveness and the impact of its science and technology (S&T) programmes to deliver the mission, and to offer strategic technical advice on other matters when called on to do so. In particular, it provides advice and assurance on the NNL research and development reinvestment programme.

TAB membership includes the NNL CSTO together with government representation through chief scientific advisers (DESNZ and the Ministry of Defence), representatives from key industry stakeholders, strategic partner universities, national labs and independents. The committee invites both non-executive directors and executive directors to attend meetings as and when appropriate.

A comprehensive review of TAB was undertaken in 2021, and the TAB stakeholder feedback report made several recommendations regarding TAB management, focus and governance which were welcomed by the NNL board. The implementation of the recommendations has taken place throughout 2022/23 and 2023/24, with 12 of the 13 recommendations having progressed to completion. The board is working with TAB to continually improve its format, communications and visibility, and to enhance the profile of the S&T carried out.

4.2 Governance Statement

TAB met four times this year, with key items of discussion including clean energy, NNL technical capabilities, security and non-proliferation, and the NNL S&T agenda.

Environment, Health, Safety and Security Committee (EHSSC)

The role of the EHSSC is to provide assurance to the board regarding the oversight and assurance of NNL's strategy goals, policies procedures, performance and disclosures in relation to environment health and safety, physical and information security and sustainability.

The EHSSC comprises three non-executive directors and is chaired by a non-executive director. The committee invites executive directors to attend meetings as and when appropriate. The EHSSC met four times in 2023/24

Over the course of the year, the scope of the EHSSC was expanded to incorporate oversight and monitoring of NNL's sustainability strategy. The terms of reference have been amended to include oversight of NNL's strategies, goals and commitments relating to environment, health and safety, security and sustainability. It is expected that the reporting and monitoring of the sustainability agenda will mature over the next financial year.

The EHSSC has considered and approved the annual reviews of environment, occupational health, safety, security and quality (EHSS&Q), CS&IA, and the data protection officer (DPO). In addition, the EHSSC has received the annual reports from NNL's Nuclear Safety Committee and Nuclear Security Committee.

Each meeting has received independent assurance input, with the agenda item being common to both the EHSSC and ARAC. Engagement with independent assurance from across the business has remained high. There has been progress on areas flagged for improvement, with further work requested to demonstrate improvement plan and metrics.

Executive leadership team

The CEO has primary responsibility for the day-to-day management of the business and discharges the responsibilities through the ELT formed by the executive directors leading the business. The ELT meets formally on a regular basis and not fewer than 12 times a year. The roles and responsibilities of the ELT include:

- Developing the NNL strategy, strategic aims and objectives to ensure that the company fulfils its purpose
- Developing the strategic and business plans, annual budget, targets and metrics to ensure NNL delivers on its purpose
- Developing and overseeing a people agenda providing organisational leadership
- Developing and overseeing a stakeholder engagement plan to ensure stakeholders and NNL's reputation are managed appropriately
- Monitoring and managing performance against NNL's strategic aims, objectives and the business plan, and ensuring that any necessary corrective action is taken to drive business performance
- Reviewing the detailed key performance indicators for NNL that monitor overall progress against a framework of targets

and ensuring corrective actions are taken

- Monitoring continuous improvements and enablers in the business that mitigate risk and/or drive improvement
- Monitoring the effectiveness of all environmental protection, health and safety, security (including information security) and quality aspects of NNL activities (including the review and management of assessments of NNL management processes)
- Developing a risk management strategy and overseeing the management of risk relating to all aspects of the NNL business, including risks to statutory, regulatory and government compliance, strategy and its delivery, and operational performance
- Monitoring assurance activities undertaken to ensure compliance with statutory and regulatory requirements
- Ensuring that corporate governance arrangements are established which take appropriate account of the requirements of the UK Corporate Governance Code 2018 and 'Corporate governance in central government departments: code of good practice'
- Ensuring that financial considerations are fully taken into account at all stages in reaching and executing decisions, and that financial appraisal techniques are followed
- Ensuring that NNL operates effectively and to a high standard of probity, ensuring propriety, regularity and value for money at all times, in NNL's day-to-day operations and management
- Approving matters that are within the delegated authority of the

CEO and endorsing items for board approval

The ELT has recently restructured its meetings to enable it to focus on specific areas of the business. The ELT holds a monthly ELT strategy workshop, ELT performance meeting and ELT risk, assurance and compliance meeting to enable it to discharge its responsibilities effectively.

Risk management

NNL's directors are confident about the company's future. Nevertheless,

risks and uncertainties do exist which could adversely impact future financial performance. ARAC oversees and advises the board on the current risk exposure, future risk strategy, the effectiveness of risk mitigation processes and the capability to address new risk types. The responsibility for managing these risks lies with the NNL board.

NNL complies with the five principles set out in the Orange Book and is focussed on continuous improvement (Principle E). A Board sponsored improvement programme has been underway since 2022 to enhance both the Risk Management

Framework and its implementation consistent with these principles. The improvement journey was initially focussed on Governance & Leadership (Principle A), the role of risk in decision making (Principle B), and building the risk capability within the company (Principle C). Risk processes and infrastructure (Principle D) will be the focus of attention through 2024/25 alongside risk culture (Principle B).

The board reconfirmed the set of business risks in December 2023. However, throughout the year, the board used the risk register below to manage and mitigate risk:

Board Risk	Summary Description	Summary Mitigation
Programme delivery and customer/supplier relationships	As a result of increased demand on resources and capability combined with insufficient resource availability and ineffective business processes, there is a risk of customer programmes failure, which would result in an inability to deliver on the business plan, with a resulting impact on costs, revenues and reputation.	<ul style="list-style-type: none"> • Proactive management of our end-to-end external relationships with our customers and suppliers • Internal activity balanced with availability and affordability constraints • Capability, capacity and delivery improvement programmes • Governance of capacity and prioritisation of resources • Development and implementation of business system improvements
Sponsor (DESNZ) relationship and governance	As a result of poor stakeholder engagement or a governance/management failure, there is a risk that NNL's role, corporate status and/or relationship with the government is jeopardised, leading to changes in the direction of the business, corporate structure and/or freedom to operate.	<ul style="list-style-type: none"> • Proactive management of relationships and maintain a broad base of support • Deliver business targets and strategic objectives, fulfil role as national laboratory • Demonstrate NNL's value and effectiveness • Demonstrate consistent, effective governance and sound management
Safety and security	As a result of an out-of-line situation, there is a risk of a significant safety and/or security incident which would cause significant harm to individuals (including our employees) the environment and/or NNL business.	<ul style="list-style-type: none"> • Provide visible EHSS&Q leadership • Deliver EHSS&Q strategy, culture and performance • Share and learn from best practice (nuclear and non-nuclear community) • Responsibly manage operation of large-scale, high-hazard nuclear facilities
People	As a result of a weak employee value proposition or an adverse industrial relations environment, there is a risk that NNL fails to retain or attract the skills and talent required now and in the future to deliver on its purpose.	<ul style="list-style-type: none"> • Continue to evolve NNL's employee value proposition and invest in skills and capability • Manage succession, remuneration and industrial relations
Cyber security	As a result of either malicious or accidental activity across the corporate or standalone estate, there is a risk that a cyber or information security event causes a loss of information, a loss of reputation, significant disruption to our business activities and possibly financial impact through loss of business or fines.	<ul style="list-style-type: none"> • Establish visible leadership • Maintain highest standards in cyber and information security • Develop and implement an information security plan and information security strategy • Security by design planning • Security clearances, testing, health checks and audits • Share and learn from best practice effective relationships with customers and stakeholders at all levels

4.2 Governance Statement

Board Risk	Summary Description	Summary Mitigation
Strategic and business development	As a result of inadequate strategic planning and stakeholder engagement, there is a risk that NNL fails to execute or deliver against its strategy, resulting in changes in the direction of business, corporate structure and/or freedom to operate.	<ul style="list-style-type: none"> Develop a robust strategic plan Engage with stakeholders and adapt strategy accordingly Agree implementation plans for component strategies, resource and monitor delivery, facilities and skills plans Agree and implement continuous improvement Establish culture, systems and processes required for effective business partnering
Stakeholder relationships	As a result of ineffective stakeholder planning or poor management, there is a risk that stakeholder engagement is ineffective, resulting in poor quality relationships, a lack of trust, misaligned aims and ambitions, and a failure to deliver outcomes that align with stakeholder expectations.	<ul style="list-style-type: none"> Effective stakeholder planning Establish culture, systems and processes required for effective stakeholder management
Critical national infrastructure	As a result of ineffective asset management, there is a risk that mission-critical infrastructure (plant and/or equipment) is not available when required, resulting in an inability to deliver on the business plan.	<ul style="list-style-type: none"> Appropriate investment in critical nuclear infrastructure Capital replacement upgrade of key infrastructure Proactive asset management regime Technical basis of maintenance Suitably qualified and experienced people
Sustainability	As a result of a failure to develop or implement an effective sustainability strategy, there is a risk that NNL is not recognised as a sustainable business, adversely impacting its reputation with stakeholders.	<ul style="list-style-type: none"> Statutory requirements understood and addressed Establish culture, systems and processes required by a sustainable business
Financial sustainability	As a result of a sustained cash outflow, there is a risk that covenants are breached, resulting in the need for additional funds to remain a going concern, with related reputational damage.	<ul style="list-style-type: none"> Management of cash to remain above minimum threshold levels Effective controls to prevent fraudulent activity Effective investment to improve future capability and capacity to realise opportunities
Quality	As a result of system or process failure or the degradation of standards, there is a risk that NNL fails to deliver to the requisite quality standards, resulting in technical output that is not commensurate with its status as a national laboratory.	<ul style="list-style-type: none"> Ensure key control measures and suitably qualified and experienced persons are in place Internal independent assurance Systems improvements
Business continuity	As a result of a failure to manage the outcomes of external unexpected events effectively, there is a risk of prolonged closure of an NNL facility, resulting in disruption to operations, with financial and reputational consequences.	<ul style="list-style-type: none"> Established business continuity and emergency response arrangements Routine exercises to practise deployment

The business risks relate to the delivery of NNL's strategic objectives and business plan, and the mitigations are implemented accordingly through an approach aligned with best practice. Reporting is structured against these risks, which are captured in a business risk register, which is itself reviewed on a regular basis by both the board and executive.

The board and executive undertake a programme of deep dives into individual risks, recommends appropriate actions and ensures that the risk register is updated

accordingly. Risk mitigation is a key consideration in the strategic planning process and informs annual objective setting. Progress with the delivery of business objectives, which encompass risk mitigations, is routinely monitored by the board and executive.

The revised approach to business risk significantly enhances the level of granularity at which the board assesses the risk to the business and is intended to further improve the effectiveness of the board's approach to risk management.

Government functional standards

The government has published a series of standards for use by functional teams across government. NNL has voluntarily agreed to adopt the standards and, following a gap analysis against the mandatory requirements, is working towards compliance with the mandatory standards. During 2023/24, NNL has made great progress towards achieving compliance with eight of the fourteen functional standards, with owners assessing compliance

levels at above 90%. NNL will continue to work towards compliance with the mandatory standards in 2024/25.

Internal controls

Independent Assurance (IA) assessed the systems of governance, risk management and internal control through undertaking a programme agreed by NNL's Audit, Risk and Assurance Committee (ARAC). The results of this activity, including assurance opinions and progress with implementing recommendations arising from that work, were reviewed by the ARAC. The annual opinion is based on this as well as that of other external bodies such as the oversight provided by the relevant nuclear site licence companies, the Office of Nuclear Regulation (ONR) (external regulator in respect of nuclear security, safety and safeguards), the Environment Agency and Lloyd's Register Quality Assurance (LRQA).

Independent Assurance published 30 assurance reports throughout the year. 20% of which were graded as 'green', demonstrating a good level of assurance with only minor improvement opportunities noted and 63% were graded as 'yellow' or 'amber' where minor to moderate assurance weaknesses were noted as being required. The remaining 17% of reports were in response to specific board requests or were support work and did not receive a grading. Of the highest level internal findings raised in the last three years, Compelling Advice and Letters of Concern, six notices are extant and receiving executive leadership attention.

Where specific weaknesses have been identified, management has agreed appropriate corrective action and timescales for improvement in the majority of cases. Planned corrective action is monitored closely by independent assurance and external regulators and reported

to the ARAC. NNL's board also has direct oversight as appropriate.

NNL's risk management systems have been routinely monitored by IA as part of the annual programme. A moderate level of assurance was obtained. Several improvements remain underway to improve the cohesiveness of the process by ensuring full visibility and oversight of risk at a corporate level. Work also continues to achieve linkages between functional and business level risks, and to provide effective escalation and appropriate focus at board level.

On balance these outcomes are consistent with providing a moderate level of assurance over the adequacy and effectiveness of NNL's systems of governance, risk management and internal control.

Quality assurance of analytical models

NNL recognises that ensuring quality is imperative to our ability to operate as a national laboratory. As such, all technical modelling undertaken within NNL must follow a robust technical modelling procedure referenced in NNL's integrated management system. NNL has not formally aligned its quality assurance processes to the MacPherson Review's recommendations on best practice principles for quality assurance for the use of analytical models in government or The Aqua Book, although our technical modelling procedure reflects many of the principles contained within these documents. As NNL is increasingly conducting work directly for the UK government, we undertook a review of our processes and procedures during FY 2022/23. The review identified some minor recommendations that were actioned in FY 2023/24, with further improvements under review, so we would therefore continue to rate

NNL as 'Applicable and working to comply'.

All business planning financial models are owned by the CFO, who is supported by a team of qualified accountants with a deep business knowledge.

Management information

The board is satisfied that the management information it receives is of high quality as a result of the:

Assurance mechanisms that are in place, including the internal compliance and assurance function, ARAC and the EHSSC

Accreditation, certification and regulatory environments within which NNL operates

Findings from external audits

Feedback from TAB, which includes representatives of strategic partners from academia, government and industrial organisations

Modern Slavery Act 2015

The Modern Slavery Act 2015 (s54) requires organisations with a global turnover in excess of £36 million to publish an annual slavery and human trafficking statement. NNL is committed to preventing modern slavery and human trafficking. NNL will not tolerate the abuse of men, women or children, and it strives for total transparency right through its business and supply chains. Accountability is assigned to the NNL CFO, with the procurement team undertaking day-to-day management. NNL's Modern Slavery Act Statement for the financial year ending 31 March 2024 (made pursuant to Section 54(1) of the Modern Slavery Act 2015) has been approved by the NNL board

4.2 Governance Statement

and published on the NNL website www.nnl.co.uk.

Gender pay gap report

NNL reported its gender pay gap analysis in March 2024 for the period 31 March 2022 to 31 March 2023 pursuant to the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017.

This year was NNL's seventh consecutive year of reporting, and our trend towards greater gender balance has continued. We are now at 32% women business-wide, and 25% women in science, technology, engineering and mathematics (STEM) roles. This compares favourably with our sector, which averages around 20% women.

Our sustainable approach means that we are now starting to see results in our median gender pay gap, which was 8.36% for this reporting period. This is better than the UK-wide median gender pay gap (14.3%) and an improvement on the previous year's result. This reflects more women moving into senior roles, either through recruitment or promotion, and thus the differences in representation in the more highly

paid quartiles continuing to close slowly.

More details on our progress are available in our gender pay gap report for 2023 (published at foleon.com). Our CSTO in this period chaired the Organisation for Economic Co-operation and Development Nuclear Energy Agency's gender balance task group, which successfully delivered a policy instrument on gender balance. This group uses a framework with three pillars of data – attract, retain and advance – to consider how we are improving gender balance internationally. We make use of this structure to assess our progress in our gender pay gap report: highlighting those activities we believe have supported our successes (such as gender inclusive recruitment practices) and where we know we have further work to do (such as continuing to grow the diversity of our STEM pipeline).

In our wider ED&I programme, we have focused on more interactive activities in this period, including celebrating National Inclusion Week with inclusion team pauses and activities throughout the week. This led to over 30% growth in the number of ED&I advocates

within the business and a doubling of our data-sharing rates. Our leaders have continued to show their committed to ED&I – in this period, our executives and board participated in our first reverse mentoring programme. In keeping with our strategic plan for 2021, where we identified collaboration as a cornerstone of our organisation, NNL has supported the groundwork for Racial Equality in Nuclear (a pan-sector, ethnicity network) as well as many other pan-sector ED&I initiatives.

Information governance

Cyber and Information security risk is managed by the senior information risk owner, with the support of the chief information security officer and a team of information security specialists working alongside senior information asset owners who meet regularly to provide oversight and governance of information risk and assurance.

NNL has an appointed DPO and has implemented a virtual data protection team of deputy DPOs and data protection specialist advisers who ensure that personal data is managed appropriately within NNL.

4.3 Remuneration and Staff Report

As a public corporation NNL is not mandated to publish the fees or salaries that were paid to the directors who are, or were, members of the Board during the period under review. NNL has chosen to align with the government's approach to public sector pay reporting for 2023/24. This report will be developed further, and comparative figures, if not already stated will be published from 2024/25.

4.3.1 Senior management remuneration policy

NNL directors are public servants and are subject to certain public sector pay and conditions as set out in the framework document. This stipulates that appointment of the CEO is subject to ministerial approval and that NNL salaries will not exceed that of the CEO, thereby setting the strategic rationale for the NNL remuneration policy. The executive, including the CEO, received the same annual pay increases as the wider NNL workforce, and the related bonus proposals were assessed in line with the NNL personal leadership bonus scheme.

More details on the work of NNL's Remuneration Committee is given on page 68.

4.3.2 Senior management remuneration

Senior management for the purposes of this report is restricted to those charged with governance, being the NNL board. Non-Executive Director's directly employed by DESNZ do not receive additional remuneration for their position on the NNL board and have been excluded from this table.

There were no off-payroll engagements of board members or senior officials with significant financial responsibility during 2023/24 (2022/23 £nil)

The table below is stated in bands of £5,000 except for benefits in kind (BIK) which is rounded to the nearest £100.

Director	Salaries and Allowances £'000s	Performance or Bonus payable £'000s	BIK*** £	Accrued pension** £'000s	2023/24 Total £'000s
Executive Directors					
Paul Howarth	220-225	65-70	1,900	80-85	375-380
David Beacham* Resigned 3/05/2023	15-20	-	100	(0-5)	10-15
Fiona Rayment* Resigned 31/10/2023	90-95	15-20	800	35-40	145-150
Clare Barlow	170-175	30-35	1,800		210-215
Matt Miller	180-185	40-45	1,300		220-225
Non-Executive Directors					
Claire Flint Resigned 21/04/2023	0-5	-	-	-	0-5
Iain Clarkson	20-25	-	-	-	20-25
Stephen Garwood	20-25	-	-	-	20-25
Ian Funnell	35-40	-	-	-	35-40
Ann Cormack Appointed 21/04/2023	20-25	-	-	-	20-25

* Relates to time in post as a director

** Accrued pension reflects the non-cash benefit received in year as a result of membership of NNL's defined benefit pension scheme. This is calculated using a multiple of lump sum and pension accrued in year. The real increase/(decrease) excludes changes due to inflation of 3.1% and may go up or down depending on market factors and the time value of money.

*** BIK relate to membership of NNL's medical insurance scheme.

4.3 Remuneration and Staff Report

4.3.3 Senior management pension entitlements

During the year under review three directors were members of NNL's defined benefit pension scheme. A further two directors accrued benefits under a money purchase scheme in respect of qualifying service.

Non-Executive Directors do not receive pensionable remuneration.

4.3.4 Fair pay disclosures

The following percentage changes are based on the mid-point of the banded remuneration of the highest paid director (bands of £5,000) For changes in the year under review.

	Salaries and Allowances 2023/24	Performance or Bonus payable 2023/24	Salaries and Allowances 2022/23	Performance or Bonus payable 2022/23
Highest paid director	6%	-31%	3%	0%
Average change for all employees	9%	-45%	1%	-4%

Pay ratio information

Year	25 th percentile pay		Median pay		75 th percentile pay	
	ratio	Total pay and benefits £000's	ratio	Total pay and benefits £000's	ratio	Total pay and benefits £000's
2023/24	7:1	37	5:1	50	4:1	71
2022/23	9:1	29	6:1	46	4:1	62

4.3.5 Analysis of staff numbers and costs

The average monthly number of employees during the year was as follows:

	Permanently employed 2023/24	Other 2023/24	Total 2023/24	Permanently employed 2022/23	Other 2022/23	Total 2022/23
Scientific, technical, engineering and facilities	924	35	959	862	37	899
Administrative	500	50	550	476	55	531
Total	1,424	85	1,509	1,338	92	1,430

Staff composition by number

	Male 2023/24	Female 2023/24	Total 2023/24	Male 2022/23	Female 2022/23	Total 2022/23
Directors	6	3	9	7	3	10
Employees	1,020	480	1,500	994	426	1,420
Total	1,026	483	1,509	1,001	429	1,430

Staff costs, to include temporary staff and spend on consultancy are disclosed in note 4 to the financial statements.

4.3.6 Sickness absence

During the year under review overall average working days lost due to sickness absence (per staff year) amounted to 7.4 days.

4.3.7 Staff turnover

As a public corporation NNL is not subject to reporting requirements under the cabinet office guidance for staff turnover in the civil service. NNL's framework document categorises its employees as public servants rather than civil servants.

4.3.8 Trade union facility time

NNL is not currently required to disclose trade union facility time under schedule 1 of The Trade Union (Facility Time Publication Requirements) Regulations (2017). NNL's engagement with trade unions is referenced throughout the annual report.

4.4 Directors' Report

Directors' responsibilities statement

The directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulation.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have prepared the company financial statements in accordance with UK adopted International Financial Reporting Standards (IFRSs) and applicable law. Under company law, the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the company and of the profit or loss

of the company for that period. In preparing the financial statements, the directors are required to:

Select suitable accounting policies and then apply them consistently

State whether UK-adopted IFRS have been followed, subject to any material departures disclosed and explained in the financial statements

Make judgements and accounting estimates that are reasonable and prudent

Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the company will continue in business

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006.

The directors are also responsible for safeguarding the assets of the company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Results

The Statement of Comprehensive Income is set out on page 92 and shows the loss for the year. A detailed review is set out in the strategic report.

The directors do not recommend the payment of a dividend (2023 - £Nil)

Support for people with disabilities

Job applicants and National Nuclear Laboratory Limited (NNL) employees with disabilities are given the same consideration for job vacancies as any other candidates. NNL is committed to a policy of equal opportunities for all employees. Great care is exercised in our recruitment and

selection procedures to ensure that there is no discrimination, and training is given to meet individual needs. Applications by people with disabilities are given full and fair consideration and, wherever practical, provision is made for their special needs to help them to realise their potential. The same criteria for training and promotion apply for people with disabilities as to any other employee. If an employee becomes disabled, every effort is made to ensure their continued employment. Reasonable adjustments to the workplace and to working methods will be made wherever it is reasonable and practicable to do so. People with disabilities have the same scope to realise their potential and the same prospects as any other employees. Managers are encouraged, and have the authority, to respond to the

needs of people with disabilities, including adjusting working hours or responsibilities.

Statement on engagement with employees

It is NNL's policy to encourage employee involvement as the directors consider that this is essential for the successful running of the business. NNL keeps employees informed of performance, developments and progress by way of an intranet, electronic communications, newsletters and briefing sessions. Employees are represented by trade unions. Additional information can be found in Section 1.4.3.5 Employees and in our section 172 statement.

Statement on engagement with employees and suppliers, customers and others

Details of all of our stakeholders and how we engage with them is set out in Section 1.4.3 'Our stakeholders'. Further information regarding engagement with our people, communities and wider society is included in Section 3 'Sustainability'. In our Section 172 statement, we explain how we take account of our stakeholders' interests in our decision-making.

Streamlined energy carbon reporting

Our streamlined energy carbon reporting is set out in Section 3 'Sustainability'.

Charitable and political contributions

During the year, NNL supported face-to-face community projects and organisations promoting science, technology, engineering and mathematics subjects

NNL has a policy of not making political donations and consequently there were no political donations during the year (2023 - £Nil).

Directors' insurance and indemnities

The directors have the benefit of the indemnity provisions contained in the company's Articles of Association, and the company has maintained directors' and officers' liability insurance throughout the year for the benefit of the company, the directors and its officers.

Financial risk management

Details of the company's financial instrument risk exposures and management are discussed in note 17 to the financial statements.

Research and development

During the year, the company carried out research and development activity on behalf of its customer base and invested £10.2m (2023 - £2.3m) on its self-funded programmes.

Directors' confirmations

All the current directors have taken all the steps that they ought to have taken as directors to make themselves aware of any relevant audit information and to establish that the company's auditors are aware of that information. As far as the directors are aware, there is no relevant audit information of which the company's auditors are unaware.

4.4 Directors' Report

Section 414 Statement

Under S414 of the Companies Act 2006, the directors have elected to include the future outlook in Section 1.7 of the strategic report.

Section 172 Statement

In their discussions and decisions during the year ended 31 March 2024, the directors of NNL have acted in a way that they consider, in good faith, would be most likely to promote the success of the company for the benefit of its members as a whole having regard to the matters set out in subsections 172(1) (a) to (f) of the Companies Act 2006:

- (a) the likely consequences of any decision in the long term,
- (b) the interests of the company's employees,
- (c) the need to foster the company's business relationships with suppliers, customers and others
- (d) the impact of the company's operations on the community and the environment,
- (e) the desirability of the company maintaining a reputation for high standards of business conduct, and
- (f) the need to act fairly as between members of the company.

Our strategic report explains that NNL is a purpose-led organisation. Our purpose of 'nuclear science to benefit society' reflects our commitment to serving the greater good. The board decision-making takes account of the views of and impact upon stakeholders as well as the expected outcomes and long-term impacts of a decision.

Principal decisions – a definition

NNL defines a principal decision as one pertaining to matters that require a significant amount of board or subcommittee time and that affect the company in a significant way. Principal decisions therefore typically include those relating to:

Matters of strategic importance (e.g. restructurings, changes to strategy, investment decisions)

Matters that are commercially material and of financial or operational importance

Matters that will substantially affect NNL's employees

Decisions on board level policies

NNL's processes have been developed to capture future principal decision-making in a formal manner and ensure that stakeholder engagement requirements have been considered. Board paper templates incorporate sections identifying when the taking of a principal decision is proposed and requires completion of a stakeholder impact assessment to support decision-making.

Matters of Strategic Importance

Decision	Endorsement of NNL's input to DESNZ's 2023/24 Strategic Review of NNL
Context	<p>NNL was requested to provide its position on the three questions noted in the Terms of Reference of the DESNZ Strategic Review of NNL:</p> <ol style="list-style-type: none"> 1) What should the mission of the National Nuclear Laboratory be? 2) What role should the National Nuclear Laboratory play in the UK nuclear (Civil and Defence) ecosystem? 3) What does the UK's National Nuclear Laboratory require to enable delivery of government's nuclear (fission) ambitions? <p>The Board was requested to endorse NNL's proposed position.</p>
Stakeholder Considerations	<p>NNL's future mission and role, and the changes required to enable their implementation will impact on all NNL stakeholders. NNL's position on these matters reflects feedback from stakeholders over the long term.</p> <p>DESNZ are conducting an extensive stakeholder engagement exercise as part of the Strategic Review and intend to share its preliminary conclusions with stakeholders to test the appetite for any changes. NNL's position on its future mission and role should therefore be considered as a formal input to a much wider stakeholder consultation.</p>
Strategic actions proposed to be supported by the Board	The Board endorsed NNL's input into the DESNZ's 2023/24 Strategic Review
Expected long term outcome of decision	Changes to the function and potentially the form of NNL.

4.4 Directors' Report

Matters of Strategic Importance

Decision	Endorsement of NNL's information security strategy and associated improvement plan
Context	<p>NNL has recognised the need to improve its information security maturity to address a range of improvements, including culture and effective risk management. This has been recognised internally and through a regulatory intervention associated with information security.</p> <p>An enhanced capability has been mobilised within NNL through investment in a chief information security officer (CISO) function alongside the development of a comprehensive information security strategy and associated improvement plan.</p> <p>The NNL board have been engaged and regularly updated regarding these developments and have endorsed both the approach and the associated plans.</p>
Stakeholder considerations	<p>Regulators: The information security strategy and associated improvement plans were formal Office of Nuclear Regulation (ONR) deliverables which have been delivered and accepted. Regular formal and informal engagement with ONR is undertaken at multiple levels in the business in relation to information security.</p> <p>Government (governance and policy): Cyber security is a significant priority for the government and a significant focus within DESNZ in relation to the civil nuclear cyber security strategy. Engagement with DESNZ is live and effective at multiple levels in the organisation: chief executive officer, senior information risk owner (SIRO) and CISO.</p> <p>Employees: Employee engagement is essential to successful implementation of the required improvements. Initial communications in relation to the plan itself have been undertaken, and a comprehensive communication and engagement plan is underway.</p> <p>Nuclear sector: Significant engagement is undertaken across the sector to share experience and best practice. NNL actively engages in sector-wide activity with CISO and SIRO working groups.</p> <p>Customers and potential customers: Robust information security arrangements are fundamental requirements for all our customers. The improvements described here are fundamental to retaining customers' trust.</p>
Strategic actions proposed to be supported by the board	The board has supported the development and implementation of the information security strategic plan and associated improvement plan.
Expected long-term outcome of decision	Enhanced information security arrangements and culture resulting in a significant improvement in risk posture.

Matters that are commercially material and of financial or operational importance

Decision	Endorsement of submission of NNL bid to DESNZ AMR RD&D Phase B programme
Context	<p>The DESNZ invited proposals for Phase B of the Advanced Modular Reactor (AMR) Research, Development and Demonstration (RD&D) Programme – Reactors. The aim of the programme is to progress the design of a high-temperature gas reactor, perform underpinning research and to develop and prepare the business case for the next phase of investment.</p> <p>NNL successfully led a consortium in Phase A of the programme and requested endorsement from the board to submit a Phase B proposal.</p>
Stakeholder considerations	<p>Government (governance and policy): AMR RD&D Programme – Reactors is aimed at delivering UK policy. It was proposed that NNL's official partner be the Japanese national laboratory, Japan Atomic Energy Agency.</p> <p>The partnership will facilitate the introduction of international reactor technology into the UK and development of that technology to meet UK aims in support of policy objectives.</p> <p>Academia / research community: Discussions were had with several universities about supporting the programme and delivering portions of the scope.</p> <p>Employees (and trade union representatives): Significant internal stakeholder engagement was conducted to gain assurance that NNL had appropriate skills and resource to deliver the programme. It was recognised that participation in the programme would provide employees with the opportunity to develop key skills and experience.</p> <p>Communities and wider society: A social value workstream was set up as part of the bid team to ensure wider societal benefits were incorporated into the NNL proposal.</p> <p>Nuclear industry and supply chain: Significant supply chain engagement was conducted to understand how the supply chain could support delivery of Phase B.</p>
Strategic actions proposed to be supported by the board	<p>The board approved the submission of the NNL bid for Phase B subject to receiving approval from its shareholder, NNL Holdings Limited.</p> <p>The programme was deemed to be a Reserved Matter under the Articles of Association of NNL and required approved by its shareholder NNL Holdings Limited. The submission was subsequently approved by NNL Holdings Limited.</p>
Expected long-term outcome of decision	A key UK strategic technology will be progressed and NNL will gain significant expertise in high-temperature reactor technology. The UK supply chain will support the programme and deliver aspects of the scope. The programme will provide opportunities for training and upskilling scientists and engineers from across the UK sector in advanced nuclear technologies.

4.4 Directors' Report

Decision	Approval of entry into a technical services agreement with Nuclear Decommissioning Authority
Context	<p>NNL has an objective to secure long-term frameworks with its key partners and customers to enable it to develop strategic relationships.</p> <p>The purpose and benefit of the technical services agreement (referred to as the Lab Related Framework (LRF)) is to simplify and standardise the contracting mechanism for work which can only be carried out by NNL, thereby reducing the time to get into contract and to make NNL's unique services more accessible to the Nuclear Decommissioning Authority (NDA) group. The LRF will facilitate closer working between the two government-owned companies and enable a shared understanding of the future pipeline of work allowing NNL to respond to that requirement and plan its resources/facilities more effectively.</p>
Stakeholder considerations	<p>Government (governance and policy): The proposal for NNL and NDA to enter into the LRF was developed under the strategic supplier relationship management initiative sponsored by the Cabinet Office.</p> <p>Customers and potential customers: The strategy to develop longer-term contracting arrangements enables more visibility of the pipeline of demand from customers and speeds up access to NNL services, removing bureaucracy and procurement risk (including reduced Legal and Commercial department support).</p> <p>Employees (and trade union representatives): The entry into long-term frameworks provides security for NNL employees.</p> <p>Communities and wider society: Ensures a long-term pipeline of work for our unique nuclear facilities and provides opportunities for developing new technologies to enable nuclear science to benefit society.</p> <p>Nuclear industry and supply chain: The LRF underpins the demands on our facilities and thus supports the continued investment in improving our nuclear assets. This improvement work benefits the supply chain.</p>
Strategic actions proposed to be supported by the board	Approval of entry into the LRF with NDA.
Expected long-term outcome of decision	Development of a long-term strategic relationship providing greater visibility of the demand pipeline and securing NNL's future as a sustainable business delivering nuclear science to benefit society.

Decision	Approved the contract extension for the PIE capability and readiness contract between Rolls-Royce and NNL
Context	The previous contract expired on 31 December 2023. It was proposed that the contract be extended to ensure contractual cover continues seamlessly.
Stakeholder considerations	<p>Government (governance and policy): This programme is critical to maintaining a continuous-at-sea deterrent which means we work closely with both the Ministry of Defence and DESNZ.</p> <p>In particular, we work with DESNZ to underpin the active handling facility (AHF) and maintenance of UK post-irradiation examination (PIE) capability.</p> <p>Customers and potential customers: The primary customer is Rolls-Royce enabling the wider submarine programme. Both NDA and Sellafield Limited support PIE activities on the programme.</p> <p>Employees (and trade union representatives): This contract will facilitate longevity of employment; development and maintenance of both technical and facility capability; provision of a longer-term career progression pathway and of challenging and meaningful work, enabling long-term knowledge retention and transfer.</p> <p>Communities and wider society: Commencement of PIE operations will enable NNL to commit to a long-term programme. This will provide continuity of employment, development of sustainable suitably qualified and experienced personnel, maintenance of key UK skill base and investment in the AHF.</p> <p>Nuclear industry and supply chain: Long-term demand on supply chain to enable NNL to provide the technical equipment required and ensure obsolescence issues are addressed.</p>
Strategic actions proposed to be supported by the board	Feedback and support to the proposed approach.
Expected long-term outcome of decision	Extending the existing contract for longer than 12 months will assist in establishing long-term technical capability to support the MoD's long-term programme and therefore its strategic plan. This will continue the relationship between NNL and both the MoD itself and Rolls-Royce (as the technical authority). The work supports the CASD strategic requirements and underpins the future of NNL's AHF. It facilitates the continued development and maintenance of key technical and facility capability for the UK.

4.4 Directors' Report

Decision	Approval to progress development of a mixed oxide fuel line
Context	The Nuclear Decommissioning Authority (NDA) is considering options for reducing its plutonium stockpile. The mixed oxide (MOX) fuel line is an existing inactive, non-commissioned NDA asset within Central Laboratory at Sellafield. This project is to deliver the capability from concept design to an actively commissioned fuel line for sole use by NDA. This is in support of the NDA's plutonium disposition strategy for the reuse and disposal of the existing UK plutonium stockpile.
Stakeholder Considerations	Government (governance and policy): The development of an MOX fuel line is aligned to government policy on plutonium disposition. Customers and potential customers: This project has been delayed due to resource constraints, and progress will be welcomed by our customer. Employees (and trade union representatives): Provides work for employees in the short, medium and long term. No trade union issues are anticipated, and this forms part of NNL's business plan. Communities and wider society: Progress on this project will have a positive impact by reducing the nuclear legacy risk/hazard and improving the security of material on the Sellafield site. Nuclear industry and supply chain: A positive impact will be seen through generating additional work for the supply chain and providing a solution to the UK's plutonium stockpile issue.
Strategic actions proposed to be supported by the board	To endorse NNL providing MOX fuel line capability to NDA in line with government policy and as captured within NNL's business plan.
Expected long-term outcome of decision	To enable the MOX fuel line capability to be delivered and to use this to support/inform the NDA's plutonium disposition strategy and government policy.

Approval

This Directors' report was approved by the board of directors on 22 July 2024 and signed on its behalf by:



Samantha Wheeler
Secretary
13 August 2024

5.0 Independent auditors' report to the members

for the year ended 31 March 2024

Opinion

We have audited the financial statements of National Nuclear Laboratory Limited (the 'company') for the year ended 31 March 2024 which comprise the statement of comprehensive income, the statement of financial position, the statement of cash flows, the statement of changes in equity and notes to the financial statements, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and UK-adopted international accounting standards.

In our opinion the financial statements:

give a true and fair view of the state of the company's affairs as at 31 March 2024 and of its loss for the year then ended;

have been properly prepared in accordance with UK-adopted international accounting standards; and

have been prepared in accordance with the requirements of the Companies Act 2006.

Basis for Opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Conclusions relating to going concern

In auditing the financial statements, we have concluded that the directors' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to

events or conditions that, individually or collectively, may cast significant doubt on the company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the directors with respect to going concern are described in the relevant sections of this report.

Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

Our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements, or our knowledge obtained in the course of the audit or otherwise appears to be materially misstated. If we identify such material

5.0 Independent Auditors' Report

inconsistencies or apparent material misstatements, we are required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information we are required to report that fact.

We have nothing to report in this regard.

Opinions on other matters prescribed by the Companies Act 2006

In our opinion, based on the work undertaken in the course of the audit:

the information given in the Strategic Report and the Directors' Report for the financial year for which the financial statements are prepared is consistent with the financial statements; and

the Strategic Report and the Directors' Report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified material misstatements in the Strategic Report and the Directors' Report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or

the financial statements are not in agreement with the accounting records and returns; or

certain disclosures of directors' remuneration specified by law are not made; or

we have not received all the information and explanations we require for our audit.

Responsibilities of directors

As explained more fully in the Directors' Responsibilities Statement set out on page 78 of the Directors' Report, the directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the directors determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The specific procedures for this engagement and the extent to which these are capable of detecting irregularities, including fraud are detailed below.

Identifying and assessing risks related to irregularities:

We assessed the susceptibility of the company's financial statements to material misstatement and how fraud might occur, including through discussions with the directors, discussions within our audit team planning meeting, updating our record of internal controls and ensuring these controls operated as intended. We evaluated possible incentives and opportunities for fraudulent manipulation of the financial statements. We identified laws and regulations that are of significance in the context of the company by discussions with directors and updating our understanding of the sector in which the company operates.

Laws and regulations of direct significance in the context of the company include The Companies Act 2006 and UK Tax legislation.

Further, the company is subject to other laws and regulations where the consequences of non-compliance could have a material effect on amounts or disclosures in the financial statements; through a significant fine, litigation or restrictions on the company's operations. We identified the most significant laws to be The Health and Safety at Work etc. Act 1974 and The Environmental Protection Act 1990.

Audit response to risks identified:

We considered the extent of compliance with these laws and regulations as part of our audit procedures on the related financial statement items including a review of financial statement disclosures. We reviewed the company's records of breaches of laws and regulations, minutes of meetings and correspondence with relevant authorities to identify potential material misstatements arising. We discussed the company's policies and procedures for compliance with laws and regulations with members of management responsible for compliance.

During the planning meeting with the audit team, the engagement partner drew attention to the key areas which might involve non-compliance with laws and regulations or fraud. We enquired of management whether they were aware of any instances of non-compliance with laws and regulations or knowledge of any actual, suspected or alleged fraud. We addressed the risk of fraud through management override of controls by testing the appropriateness of journal entries and identifying any significant transactions that were unusual or outside the normal course of business. We assessed whether judgements made in making

accounting estimates gave rise to a possible indication of management bias. At the completion stage of the audit, the engagement partner's review included ensuring that the team had approached their work with appropriate professional scepticism and thus the capacity to identify non-compliance with laws and regulations and fraud.

There are inherent limitations in the audit procedures described above and the further removed non-compliance with laws and regulations is from the events and transactions reflected in the financial statements, the less likely we would become aware of it. Also, the risk of not detecting a material misstatement due to fraud is higher than the risk of not detecting one resulting from error, as fraud may involve deliberate concealment by, for example, forgery or intentional misrepresentations, or through collusion.

A further description of our responsibilities is available on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Use of our report

This report is made solely to the company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the company and the company's members as a body, for our audit work, for this report, or for the opinions we have formed.

**Diane Petit-Laurent FCA
(Senior Statutory Auditor)**

for and on behalf of
Saffery LLP
Chartered Accountants
Statutory Auditors,
Trinity,
16 John Dalton Street,
Manchester M2 6HY
13 August 2024

6.0 Financial Statements

For the year ended
31 March 2024

6.0 Financial Statements

Statement of Comprehensive Income

	Note	2024 £'000	2023 £'000
Revenue	2	148,964	128,627
Cost of sales		(111,898)	(100,891)
Gross profit		37,066	27,736
Other income	2	381	-
Administrative expenses		(53,071)	(43,601)
Loss from operations		(15,624)	(15,865)
Finance income	6	419	2,550
Finance expense	6	(1,386)	(120)
Loss before tax		(16,591)	(13,435)
Taxation	7	10,578	9,964
Loss for the year		(6,013)	(3,471)
Other comprehensive income/(expense)			
Items that will not subsequently be reclassified to profit or loss:			
Actuarial losses in defined benefit pension schemes, net of tax		(1,325)	(157)
Total other comprehensive expense, net of tax		(1,325)	(157)
Total comprehensive expense		(7,338)	(3,628)

The notes on pages 96 to 127 form part of these financial statements

Statement of Financial Position

	Note	2024 £'000	2024 £'000	2023 £'000	2023 £'000
Assets					
Non-current assets					
Property, plant and equipment	9	125,077		110,766	
Right of use assets	10	11,991		13,361	
Intangible assets	11	9,934		11,561	
Trade and other receivables	12	171		401	
Deferred tax	16	48		-	
Total non-current assets			147,221		136,089
Current assets					
Trade and other receivables	12	67,101		56,088	
Cash and cash equivalents	13	22,079		29,785	
Total current assets			89,180		85,873
Total assets			236,401		221,962
Equity and liabilities					
Equity					
Share capital	18	25		25	
Retained earnings	19	75,182		82,520	
Total equity			75,207		82,545
Non-current liabilities					
Trade and other payables	14	81,607		66,896	
Lease liabilities	10	10,720		11,815	
Provisions	15	10,119		11,241	
Deferred tax	16	-		19	
Total non-current liabilities			102,446		89,971
Current liabilities					
Trade and other payables	14	55,692		46,491	
Lease liabilities	10	1,472		1,524	
Provisions	15	1,584		1,431	
Total current liabilities			58,748		49,446
Total liabilities			161,194		139,417
Total equity and liabilities			236,401		221,962

The financial statements on pages 92 to 127 were approved and authorised for issue by the board of directors on 22 July 2024 and signed on its behalf on 13 August 2024 by:



Clare Barlow, Chief Human Resources Officer

Company registration number 03857752

The notes on pages 96 to 127 form part of these financial statements.

6.0 Financial Statements

Statement of Cash Flows

	Note	2024 £'000	2024 £'000	2023 £'000	2023 £'000
Cash flows from operating activities					
Loss before tax		(16,591)		(13,435)	
Adjustments for:					
Depreciation	3	9,917		8,225	
Amortisation	3	1,532		1,152	
Asset impairment	9	645		-	
Loss on disposal of assets	3	14,762		-	
Non-cash movements relating to share of defined benefit pension scheme obligations		(1,325)		(211)	
Non-cash movements in provisions		(1,342)		(1,402)	
Interest receivable	6	419		(162)	
Interest payable	6	(1,386)		120	
Cash flows from operating profit before changes in working capital and provisions			6,631		(5,713)
Increase in trade and other receivables		(1,933)		(10,334)	
Increase in trade and other payables		23,937		30,663	
Utilisation of provisions		3,177		(852)	
Total changes in working capital and provisions			25,181		19,477
Cash generated from operations			31,812		13,764
Tax received			-		7,028
Net cash flows generated from operations			31,812		20,792
Cash flows from Investing activities					
Purchases of property, plant and equipment		(35,000)		(26,805)	
Purchases of intangible assets		(2,912)		(4,867)	
Cash flows used in investing activities			(37,912)		(31,672)
Cash flows from Financing activities					
Interest received	6	(419)		153	
Interest paid	6	218		(120)	
Principal elements of lease payments		(1,405)		(1,512)	
Cash used in financing activities			(1,606)		(1,479)
Net (decrease)/increase in cash and cash equivalents			(7,706)		(12,359)
Cash and cash equivalents at beginning of the year	13		29,785		42,144
Cash and cash equivalents at end of the year	13		22,079		29,785

The notes on pages 96 to 127 form part of these financial statements.

Statement of Changes in Equity

	Note	Share Capital £'000	Retained Earnings £'000	Total equity £'000
At 1 April 2022		25	86,148	86,173
Loss for the year	19	-	(3,471)	(3,471)
Actuarial losses in defined benefit pension schemes	19	-	(157)	(157)
Total comprehensive expense		-	(3,628)	(3,628)
At 31 March 2023 and 1 April 2023		25	82,520	82,545
Loss for the year	19	-	(6,013)	(6,013)
Actuarial losses in defined benefit pension schemes	19	-	(1,325)	(1,325)
Total comprehensive expense	19	-	(7,338)	(7,338)
At 31 March 2024		25	75,182	75,207

No amounts recognised as other comprehensive (expenses)/income will subsequently be reclassified through Profit & Loss

The notes on pages 96 to 127 form part of these financial statements

Notes forming part of the financial statements

For the year ended
31 March 2024

1. Accounting Policies

1.1 Summary of principal accounting policies

The following principal accounting policies have been applied consistently in the preparation of these financial statements in accordance with the Companies Act 2006. The policies have been consistently applied to all the years presented, unless otherwise stated.

1.1.1 Basis of preparation

The directors believe that there is a reasonable expectation that the Company has adequate resources to continue to adopt the going concern basis in preparing these financial statements. Further detail on the steps taken to reach this conclusion can be found in section 1.9 of the Strategic report. These financial statements have been prepared on a going concern basis, and in accordance with international accounting standards in conformity with the requirements of the Companies Act 2006.

The financial statements have been prepared on a historical cost basis, except, as stated in the accounting policies, in accordance with UK-adopted International Financial Reporting Standards

(IFRSs). The preparation of financial statements in compliance with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise judgement in the most appropriate application in applying NNL's accounting policies. The areas where significant judgements and estimates have been made in preparing the financial statements and their effect are disclosed below.

NNL has a non-trading subsidiary – Nexia Solutions Limited, company number 06729401. Nexia Solutions Limited is registered and domiciled in England and Wales and its registered address is Chadwick House, Warrington Road, Birchwood Park, Warrington WA3 6AE.

NNL is exempt from preparing consolidated financial statements on the grounds that it qualifies under S400 of the Companies Act 2006 as a wholly owned subsidiary of a company registered in England and Wales for which consolidated financial statements are prepared. These financial statements therefore present information about NNL as an individual undertaking and not about its group.

The directors have considered the requirements of HM Treasury's Financial Reporting Manual (FRoM)

and have reported beyond the requirements of the Companies Act 2006 as deemed appropriate for a Public Corporation.

All amounts are presented in Sterling and, unless otherwise stated, rounded to the nearest £1,000.

1.1.2 Revenue

Revenue represents income derived from contracts with customers for the provision of goods and services in exchange for consideration in the ordinary course of the Company's activities.

At the start of each contract the transaction price is estimated as the amount of consideration the Company expects to be entitled to in exchange for transferring the promised goods or services to the customer, excluding VAT. Variable consideration, such as price escalation, is included based on the expected value or most likely amount only to the extent that it is highly probable that there will not be a reversal of the cumulative amount of revenue recognised. The transaction price does not include estimates of consideration resulting from contract variations, such as change orders, unless they have been approved by both parties to the contract. The total transaction price is allocated to the

performance obligations identified in the contract in proportion to their stand-alone selling prices. Given the bespoke nature of many of the Company's products and services there are typically no observable selling prices, instead stand-alone selling prices are typically estimated based on expected costs plus contract margin.

For each performance obligation under a contract the Company determines whether it is satisfied over time or at a point in time. Performance obligations are satisfied over time if one of the following criteria is satisfied:

the customer simultaneously receives and consumes the benefits provided by the Company's performance as it performs;

the Company's performance creates or enhances an asset that the customer controls as the asset is created or enhanced; or

the Company's performance does not create an asset with an alternative use to the Company and it has an enforceable right to receive payment for performance satisfied to date.

The Company has determined that all of its contracts satisfy the over time criteria.

For each performance obligation to be recognised over time the Company recognises revenue based on an input method based on costs incurred in the year. Revenue and attributable margin are calculated by reference to reliable estimates of transaction price and total expected costs, after making suitable allowance for technical and other risks. Revenue and associated margin are therefore recognised progressively as costs are incurred and risks have been mitigated or retired.

The company applies the practical expedient included in paragraph 121 of IFRS 15 and does not disclose information about its remaining performance obligations for contracts as the company recognises revenue in line with the value of the services received by the customer to date.

Where it is probable that total contract costs will exceed total contract revenue the expected loss is recognised immediately as an expense.

Interest income is accrued on a time basis, by reference to the principal outstanding at the effective interest rate applicable.

1.1.3 Foreign currency

Transactions entered into by NNL in a currency other than sterling are recorded at the spot rate when the transactions occur. Foreign currency monetary assets and liabilities are translated at the closing rates ruling at the reporting date. Exchange differences arising on the retranslation of unsettled monetary assets and liabilities are recognised immediately in the profit and loss for the year.

When a gain or loss on a non-monetary item is recognised in other comprehensive income, any exchange component of that gain or loss shall be recognised in other comprehensive income. Conversely, when a gain or loss on a non-monetary item is recognised in the profit or loss, any exchange component of that gain or loss shall be recognised in the profit or loss.

NNL's policy is to hedge against significant foreign exchange exposures, however, at the Statement of Financial Position date NNL did not hold nor had issued any derivative instruments, intended to hedge the company's exposures.

1.1.4 Leased assets

NNL leases its trading locations from third parties. In all cases a significant proportion of the risks and rewards of ownership are not transferred to NNL.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following payments:

Fixed payments less any lease incentives receivable; and

Variable payments that are based on an index or rate, initially measured using the index or rate as at the commencement date.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot readily be determined, which is usually the case for the Company's leases, then a discount rate based on HM Treasury's Public Expenditure System (PES) rates is used as an approximation of the company's incremental cost of borrowing.

The Company is exposed to potential future increases in variable lease payments based on an index or rate which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right of use asset.

Lease payments are allocated between principal and finance cost. The finance cost is charged to profit and loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

6.0 Financial Statements

Right of Use Assets are measured at cost comprising the following:

The amount of the initial measurement of the lease liability.

Any lease payments made at or before the commencement date less any incentives received; and

Any initial direct costs.

Right of use assets are generally depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis.

Payments associated with short-term leases of vehicles are recognised on a straight-line basis as an expense in the Statement of Comprehensive Income. Short-term leases are leases with a lease term of 12 months or less.

Information about the critical accounting estimates and judgements in the application of lease accounting is disclosed in note 1.2.3.

1.1.5 Retirement benefits: Defined benefit schemes

A defined benefit scheme is a pension plan that defines an amount of pension benefit that an employee will receive on retirement.

In respect of a defined benefit scheme, the pension scheme surplus or deficit represents the difference between:

the fair value of scheme assets at the Statement of Financial Position date; less

scheme liabilities calculated using the projected unit credit method discounted to its present value using yields available on high quality corporate bonds that have maturity dates approximating to the terms of the liabilities.

plus, adjustments for unrecognised past service costs.

The Statement of Comprehensive Income charge is split between an operating service cost and a financing charge, which is the net of the interest cost on pension scheme liabilities and expected return on plan assets.

Actuarial gains and losses are recognised in full during the year, in the Statement of Comprehensive Income. If NNL cannot benefit from a scheme surplus in the form of refunds from the plan or reductions in future contributions, any asset resulting from the above policy is restricted accordingly.

Any difference between the expected return on assets and that actually achieved, and any changes in the liabilities over the year due to changes in assumptions or experience within the scheme, are recognised in other comprehensive income in the year in which they arise.

Past service costs are recognised directly in income, unless the changes to the pension plan are conditional on the employees remaining in service for a specified period of time. In this case, the past service costs are amortised on a straight-line basis over the vesting period.

Where improvements are made to benefits payable under a defined benefit scheme, the effect on the plan liability is recognised in the Statement of Comprehensive Income on a straight-line basis over the average period until the employees become entitled to the improved benefits. Where the benefits vest immediately, the effect of the change is recognised immediately.

The net defined benefit liability or asset represents the present value of the defined benefit obligation as reduced by the fair value of plan

assets, and as adjusted for any limit on the net defined benefit asset. Any asset resulting from this calculation is limited to the lower of the surplus in the defined benefit scheme and the present value of available refunds, and any reductions in future contributions to the scheme, including the adverse effect of any minimum funding requirements in accordance with IFRIC 14. The asset is expected to be reduced in full and as such a surplus will not be recognised in the statement of financial position.

Where the present value of future scheme liabilities exceeds the fair value of pension scheme assets the excess is recognised in the statement of financial position as a liability in accordance with IAS19 and IFRIC 14.

1.1.6 Retirement benefits: Defined contribution schemes

A defined contribution scheme is a pension plan under which the Company pays fixed contributions to a separate entity. Contributions to defined contribution pension schemes are charged to the Statement of Comprehensive Income in the year to which they relate. The Group has two defined contribution pension schemes.

The CPS is a multi-employer scheme which provides defined benefits to its members. In common with other unfunded public sector schemes the CPS does not have the attributes of typical defined benefit schemes. Any surplus of contributions made in excess of benefits paid out in any year is surrendered to the Consolidated Fund and any liabilities are met from the Consolidated Fund via an annual Parliamentary vote. His Majesty's Government does not maintain a separate fund. In common with defined benefit pension schemes NNL does however bear the risk that it will have to increase its contributions in accordance with the Government Actuaries Department's

assessment of the funding required to provide benefits under the scheme.

A further defined contribution scheme is operated for employees. The Company pays fixed contributions to Royal London and once contributions have been paid, the Company has no further payment obligations. The contributions are recognised in the Statement of Comprehensive Income in the year in which they become payable in accordance with the rules of the scheme. The assets of the plans are held separately from the Company in independently administered funds.

1.1.7 Property, Plant and Equipment

Property, Plant and Equipment (other than assets in the course of construction) are stated in the Statement of Financial Position at cost less accumulated depreciation. Assets in the course of construction are stated at cost and are not depreciated until commissioned. The cost of assets will include directly attributable staff costs associated with bringing the asset into the location and condition for it to be capable of operating in the manner intended by management. This includes the cost of testing whether the asset is functioning properly.

The carrying values of Property, Plant and Equipment are reviewed for impairment if events or changes in circumstances indicate that a provision for impairment is required. Accumulated depreciation includes any additional charges made where necessary to reflect impairments in value. IAS 36 also requires management, on an annual basis, to determine the recoverable amount of assets and the estimated useful life to determine if this is still reasonable.

Depreciation is calculated to write off historical costs less residual value of assets, by equal annual instalments over their estimated useful economic lives as follows:

Land and Buildings –
Over the lease term

Plant and machinery –
2 to 21 years

Fixtures and fittings –
3 to 22 years

1.1.9 Intangible assets

Intangible assets are measured initially at cost and are amortised, as an administrative expense, on a straight-line basis over their estimated useful lives. The carrying amount is reduced by any provision for impairment where necessary.

Internal expenditure is capitalised as internally generated intangibles only if it meets the definition and recognition criteria of IAS 38 'Intangible Assets'.

Criteria of IAS 38 – the asset is separable, i.e., it is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset, or liability, regardless of whether the entity intends to do so, or arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

The cost of the intangible asset must be able to be measured reliably.

The service concession arrangement on Phase 2 works at the Company's Central Laboratory consists of future revenue, some of which is guaranteed. An intangible asset is recognised for the non-guaranteed future revenue where it is probable that the revenue will be generated.

Intangible assets are amortised on a straight-line basis over their estimated useful lives:

Computer software –
1 to 10 years

Service concessions –
1 to 20 years

1.1.10 Trade and other receivables

Trade and other receivables arise principally through the provision of goods and services to customers (trade debtors), but also incorporate other types of contractual monetary asset.

NNL applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables and contract assets. Trade and other receivables are stated net of expected credit losses.

Expected credit losses are recognised when there is objective evidence (such as significant financial difficulties on the part of the counterparty or default or significant delay in payment) that NNL will be unable to collect all the amounts due. The expected credit loss being the difference between the net carrying amount and the future expected cash flows associated with the receivable.

For trade receivables, which are carried at cost less any expected credit loss; such losses are recorded in a separate allowance account with the loss being recognised within administrative expenses in the Statement of Comprehensive Income.

6.0 Financial Statements

On confirmation that the trade receivable will not be collectable, the gross carrying value of the asset is written off against the expected loss.

1.1.11 Deferred taxation

Deferred tax assets and liabilities are recognised where the carrying amount of an asset or liability in the Statement of Financial Position differs to its tax base, except for differences arising on the initial recognition of an asset or liability in a transaction which is not a business combination and at the time of the transaction affects neither accounting nor taxable profit.

Recognition of deferred tax assets and unused tax losses is restricted to those instances where it is probable that taxable profit will be available against which the difference can be utilised.

The amount of the asset or liability is determined using tax rates that have been enacted or substantially enacted by the Statement of Financial Position date and are expected to apply when the deferred tax liabilities are settled. Deferred tax balances are not discounted.

1.1.12 Cash and cash equivalents

These include cash in hand and deposits held at call with banks.

1.1.13 Trade and other payables

Trade payables and other short-term monetary liabilities are recognised at fair value and subsequently held at amortised cost.

1.1.14 Government grants

Grants relating to expenditure on property, plant and equipment are recognised in the Statement of Comprehensive Income at the same rate as the depreciation on the assets to which the grant relates.

The deferred element of grants is included in liabilities as other payables. Grants relating to revenue expenditure are recognised in the Statement of Comprehensive Income in the same year in which the revenue expenditure arises. Where applicable NNL has opted to record revenue grants by way of a reduction in expenditure as disclosed in note 2.

1.1.15 Provisions

Provisions are recognised, at current price levels, for liabilities of uncertain timing or amount that have arisen because of past transactions and are discounted at a pre-tax rate reflecting current market assessments of the time value of money and the risks specific to the liability.

1.1.16 Pension assumptions

The Group's share of costs, assets and liabilities of the defined benefit scheme are determined using methods relying on actuarial estimates and assumptions. Details of the key assumptions are set out in note 20.

The Group takes advice from independent actuaries relating to the appropriateness of the assumptions. Changes in the assumptions used may have a significant effect on the Statement of Comprehensive Income and the Statement of Financial Position. Sensitivity to key assumptions is disclosed in note 20.

1.1.17 Revalorisation

Revalorisation arises because provisions are stated in the Statement of Financial Position at current price levels and discounted from the eventual payment dates. The revalorisation charge is the adjustment that results from restating these liabilities to consider the effect of inflation in the year and to remove the effect of one year's discount as the eventual dates of payment become one year closer. The inflation rate used is specific to

the expected cost increase in the underlying liability. Each year the finance charges in the Statement of Comprehensive Income include revalorisation required to discharge one year's inflation and discount from the liability.

1.1.18 Changes in accounting policies

There have been no changes to accounting policies during the year under review.

1.1.19 Financial instruments

Financial assets and financial liabilities are recognised in the Statement of Financial Position when the Group becomes a party to the contractual provisions of the instrument. The carrying values of the Group's financial instruments at the reporting date are disclosed in note 17.

Financial assets

Trade and other receivables, accrued income and cash and cash equivalents, that have fixed or determinable payments and are not quoted in an active market, are measured at transaction price. Interest income is recognised by applying the effective interest rate, except for when the recognition of interest would be immaterial. Other investments as appropriate are measured at fair value through profit or loss.

Financial assets are impaired where there is evidence that the estimated future cash flows of the asset have been impacted and are assessed for indicators of impairment at each reporting date. The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets except for trade receivables, where the carrying amount is reduced through an expected credit loss provision. The Group's approach to measuring

expected credit losses is disclosed in note 12.

If, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related to an event occurring after the impairment was recognised, the previously recognised impairment loss is reversed through the statement of comprehensive income to the extent that the carrying amount of the financial asset at the date the impairment is reversed does not exceed what the amortised cost would have been had the impairment not been recognised.

Financial assets are derecognised only when the rights to receive cash flows from the assets have expired or have been transferred and the Group has transferred substantially all risks and rewards of ownership.

Financial liabilities

Financial instruments held by the Group are financial liabilities where there is an obligation to repay. Trade and other payables, accruals and lease liabilities are recorded as financial liabilities and accounted for at amortised cost. Financial liabilities classified as amortised cost are initially measured at fair value minus any transaction costs with the liability's effective rate of interest being charged as a finance cost to the statement of profit or loss. Financial liabilities are derecognised when, and only when, the Group's obligations are discharged, cancelled or they expire.

1.2 Critical accounting estimates and judgements

NNL makes estimates and assumptions regarding the future. Estimates and judgements are continually evaluated based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. In the future, actual experience may differ from these estimates and assumptions. The areas where the estimates and assumptions used could have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

1.2.1 Provisions

The provisions recorded in the financial statements represent the directors' best estimates of the costs expected to be incurred as at the Statement of Financial Position date.

Further details of the types of provisions, together with details of relevant estimates and, where appropriate sensitivities, are included in note 15.

1.2.2 Revenue Recognition

Revenue is recognised to the extent that work has been completed and an agreed purchase order from a customer covering the work is held. As a result, at 31 March 2024 £16.3m (2023 – £14.6m) of accrued income was recognised as NNL had completed work before the balance sheet date and held agreed purchase orders. Key to the recognition of revenue is the directors' estimate of the stage of completion of each contract. The estimate is based on the ratio of actual costs incurred to date to estimated total costs.

NNL carries out work for a number of customers under discrete purchase orders which are placed under larger framework agreements. The directors believe that the separate purchase orders constitute separate performance obligations and have treated them as such in determining the amount of revenue to be recognised.

1.2.3 Leases

The lease liability disclosed in the statement of financial position represents the directors' best estimate of the present value of future leasing cash outflows. In arriving at this estimate the directors have assessed the incremental cost of borrowing to be used in the calculation. The rates used and sensitivities of both the lease liability and the right of use asset values to the rate are shown in note 10. Any lease modifications are first assessed to establish whether or not they cause a separate lease. Where a separate lease is caused then the modification is accounted for as a new lease, where no new lease is caused then the lease liability is remeasured to reflect the modified terms.

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated). Right of use assets are evaluated for indicators of impairments on an annual basis.

6.0 Financial Statements

1.2.4 Pensions

During the year under review, the directors have considered the impact of IAS 19 and IFRIC 14, and whether the Company has an unconditional right to a surplus of the defined benefit schemes.

IFRIC 14 considers the general requirements concerning the limit on a defined benefit asset, and states that if the right to a refund of a surplus depends on the occurrence or non-occurrence of one or more uncertain future events not wholly within an entity's control, the entity does not have an unconditional right and should not recognise an asset.

Based on the terms of the trust deeds, director's judgement is that the Company does not have an unconditional right to a surplus. As a result, the pension surplus has been derecognised as disclosed in note 20.

1.3 New standards and interpretations

The accounting policies adopted are consistent with those of the previous year.

New standards, amendments, and interpretations to published standards effective 2023/24

IFRS 17 Insurance contracts.

IAS 8 Amendment to the definition of accounting estimates.

IAS 1 Amendment to the disclosure of accounting policies.

IAS 12 Amendment to deferred tax related to assets and liabilities arising from a single transaction.

These amendments have been considered alongside existing accounting policies and do not have a material impact on the entity in the current period nor are they expected to have a material impact on future reporting periods and on foreseeable future transactions.

New standards not yet effective 2023/24

The following new accounting standards and interpretations have been published which are not mandatory for 2023/24 and which have not been adopted early by the Company.

IFRS 16 Amendment to lease liability in a sale and leaseback.

IAS 1 Non-current liabilities with covenant

IAS 1 Amendment to classification of liabilities as current or non-current.

IAS 7/IFRS 7 Amendment to supplier finance arrangements

These standards are not expected to have a material impact on the entity in the current or future reporting periods and on foreseeable future transactions.

2 Revenue

NNL's principal activity is the provision of technology services across the nuclear fuel cycle.

The directors are of the opinion that NNL's activities fall within one operating segment – being the provision of technology services across the nuclear fuel cycle. Accordingly, all revenue recognised from contracts with customers have the same economic factors affecting the nature, amount, timing and uncertainty of revenues and cash flows. There are three key areas of this cycle: waste management and decommissioning, fuel cycle solutions and reactor operations support.

As far as practicable customer contracts are constructed to match revenue recognition profiles with payment application.

Revenue arises entirely from the sale of services principally in the UK. Sales to overseas customers make up a small proportion of total revenue at £3,706,678 (2023 – £2,361,895). Other income represents notional funds received via the apprentice levy of £381k (2023-£nil).

During the year under review NNL has opted to present grants related to income as a reduction in expenditure. Total grants relating to income of £12,529k (2023-£3,818k) have been offset against related expenditure as follows.

	2024 £'000	2023 £'000
Cost of sales	214	522
Administrative expenses	12,315	3,296

3 Loss from operations

	2024 £'000	2023 £'000
This has been arrived at after charging		
Staff costs, permanently employed (see note 4)	105,841	93,347
Staff costs, agency/ other (see note 4)	10,190	8,848
Loss on disposal of assets	14,762	-
Depreciation (see note 9)	8,289	6,627
Depreciation charge on right of use assets – buildings (see note 10)	1,628	1,598
Amortisation (see note 11)	1,532	1,152
Asset Impairment (see note 9)	645	-
Auditors' remuneration – audit services	127	110
Training and education (notional via apprentice levy)	381	373

4 Staff costs

Staff costs (including executive and non-executive directors) comprise:

	Permanently employed	Agency/other	2024 £'000	2023 £'000
Wages and salaries	89,757	12,811	102,568	90,175
Social security costs	9,499		9,499	8,591
Pension costs	13,770		13,770	12,325
Defined benefit pension cost (see note 22)	54		54	165
Apprentice levy	391		391	347
	113,471	12,811	126,282	111,603
Capitalised staff costs	(7,630)	(2,621)	(10,251)	(9,408)
	105,841	10,190	116,031	102,195

During the year under review NNL spent £2,314k (2023-£1,069k) on consultancy services. Expenditure on consultancy represents advice relating to strategy, structure, management, or operations of NNL.

6.0 Financial Statements

5 Directors' remuneration

	2024 £'000	2023 £'000
Directors' remuneration for both executive and non-executive directors consists of:		
Aggregate emoluments	925	1,185
Company contributions to money purchase schemes	53	47
	978	1,232

Disclosures in relation to average staff numbers and fair pay multiples are contained in section 4.3 of the directors' report.

During the year under review NNL spent £2,314k (2023-£1,069k) on consultancy services. Expenditure on consultancy represents advice relating to strategy, structure, management, or operations of NNL.

There were three directors in NNL's defined benefit scheme over the course of the year. There are two directors to whom retirements benefits are accruing under a money purchase pension scheme in respect of qualifying service.

	2024 £'000	2023 £'000
The remuneration amounts above includes the following in respect of the highest paid director:		
Emoluments (excluding pension contributions)	268	264
Pension Contributions	49	38
	317	302

At the end of the year the highest paid director has accrued an entitlement to a pension of £30k (2023 £24k) and lump sum of £89k (2023 £73k) which is excluded from the figures above. The amounts above include emoluments accrued, not yet paid at the end of the year of £63k (2023 £48k)

6 Finance income and expense

	2024 £'000	2023 £'000
<i>Finance income:</i>		
Bank interest receivable	419	153
Revalorisation on provisions	-	2,388
Foreign exchange gain	-	9
	419	2,550
<i>Finance expense:</i>		
Bank charges	6	12
Foreign exchange loss	25	-
Interest on leases	212	108
Revalorisation on provisions	1,143	-
	1,386	120

7 Taxation

	2024 £'000	2023 £'000
<i>United Kingdom corporation tax credit</i>		
Current year	(1,914)	-
Adjustments in respect of prior years	(249)	(103)
Tax reclaimed on research and development	11,013	7,051
Total current tax credit	8,850	6,948
<i>Deferred tax</i>		
Origination and reversal of temporary differences	1,728	3,016
Total deferred tax charge	1,728	3,016
Total tax credit on profit before tax on ordinary activities	10,578	9,964

The reasons for the difference between the actual tax credit for the year and the standard rate of corporation tax in the United Kingdom applied to loss before tax for the year are as follows:

	2024 £'000	2023 £'000
Loss before tax	(16,591)	(13,435)
Expected tax charge based on the standard rate of corporation tax in the UK of 25% (2023 - 19%)	4,013	3,134
Items not deductible for tax purposes and other items	(3,194)	(446)
Other timing differences	-	779
Movement in deferred tax not recognised	1,744	1,203
Tax credits on research and development	(3,671)	(1,653)
Tax reclaimed on research and development	12,926	7,051
Adjustments in respect of prior years	(1,240)	(104)
Total taxation credit for the year	10,578	9,964

NNL's tax reclaim for 2023/2024 is £11,013k (2023 £7,051k). This is due to tax credits receivable from HMRC for research and development activities.

Future tax liabilities arising from operations are expected to be offset by tax credits on research and development. In the Spring Budget 2021 the Government announced that the corporation tax rate would remain at 19% until 31 March 2023 and that effective from 1 April 2023 the rate would, increase to 25%. The deferred tax liability as at both 31 March 2024 and 31 March 2023 has been calculated using a Corporation Tax rate of 25% (2023 25%)

6.0 Financial Statements

8 Dividends

No dividends have been declared or paid during the current or previous year.

9 Property, plant and equipment

	Land and Buildings £'000	Plant and Machinery £'000	Fixtures and fittings £'000	Assets in the course of construction £'000	Total £'000
<i>Cost</i>					
At 1 April 2023	1,044	26,523	57,628	64,276	149,471
Additions	-	-	-	35,398	35,398
Reclassification	-	-	-	(719)	(719)
Transfers from assets in course of construction	845	8,065	1,138	(9,726)	322
Disposals	-	(295)	(14)	(11,756)	(12,065)
At 31 March 2024	1,889	34,293	58,752	77,473	172,407
<i>Accumulated depreciation and impairment</i>					
At 1 April 2023	337	14,925	23,443	-	38,705
Depreciation charge for the year	220	3,699	4,370	-	8,289
Reclassification	-	-	-	-	-
Impairment	-	498	147	-	645
Disposals	-	(295)	(14)	-	(309)
At 31 March 2024	557	18,827	27,946	-	47,330

9 Property, plant and equipment (continued)

	Land and Buildings £'000	Plant and Machinery £'000	Fixtures and fittings £'000	Assets in the course of construction £'000	Total £'000
<i>Cost</i>					
At 1 April 2022	538	22,985	55,386	48,348	127,257
Additions	-	-	-	24,442	24,442
Reclassification	-	-	-	(2,084)	(2,084)
Transfers from assets in course of construction	506	3,682	2,242	(6,430)	-
Disposals	-	(144)	-	-	(144)
At 31 March 2023	1,044	26,523	57,628	64,276	149,471
<i>Accumulated depreciation and impairment</i>					
At 1 April 2022	225	12,701	19,296	-	32,222
Depreciation charge for the year	81	2,399	4,147	-	6,627
Reclassification	31	(31)	-	-	-
Disposals	-	(144)	-	-	(144)
At 31 March 2023	337	14,925	23,443	-	38,705
<i>Net book value</i>					
At 31 March 2023	707	11,598	34,185	64,276	110,766
At 31 March 2024	1,332	15,466	30,806	77,473	125,077

Assets in the course of construction refers to a number of ongoing major projects to enhance our critical infrastructure. Additions include £2,108k of accrued costs not yet invoiced (2023 – £2,468k). At the end of the reporting period there is capital expenditure contracted for but not recognised as a liability of £2,620k (2023 – £28,800k).

The directors believe that the characteristics of certain items previously classified as tangible assets more closely resemble intangible assets. As a result, there have been reclassifications during the year of £719k (2023 – £2,084k).

6.0 Financial Statements

10 Leases

This note provides information for leases where NNL is the lessee. NNL has no leases where it is the lessor. The balance sheet includes the following amounts relating to leases:

Right of use Assets, categorised as Land and Buildings	2024 £'000	2023 £'000
Opening balance	13,361	12,569
Additions	-	363
Remeasurement	258	2,027
Depreciation charged in the year	(1,628)	(1,598)
Closing balance	11,991	13,361

Lease Liability	2024 £'000	2023 £'000
Opening balance	13,339	12,352
Additions	-	363
Remeasurement	258	2,027
Interest charged in the year	212	108
Cash payments	(1,617)	(1,511)
Closing balance	12,192	13,339

The ageing of lease liabilities are as follows:	2024 £'000	2023 £'000
Current due less than 1 year	1,472	1,524
1-2 years	1,472	1,524
2-5 years	4,381	4,298
Over 5 years	4,867	5,993
Non-current due more than 1 year	10,720	11,815
	12,192	13,339

All right of use assets relate to property leases. Right of use asset and lease liability values are calculated using a discount rate which is based on HM Treasury Public Expenditure System (PES) rates published December 2023. If the discount rates used in the calculation of the individual asset and liability values were 0.5% higher the right of use asset values at the balance sheet date would be £0.9m lower than stated, the lease liability values would be £0.8m lower than stated and the loss for the year would be £0.08m higher than stated.

11 Intangible assets

	Computer software £'000	Service concession £'000	Assets in the course of construction £'000	Total £'000
<i>Cost</i>				
At 1 April 2023	6,837	3,782	5,604	16,223
Additions	-	-	2,517	2,517
Reclassification	-	-	719	719
Transfers from assets in course of construction	1,470	-	(1,792)	(322)
Disposal	-	-	(3,009)	(3,009)
At 31 March 2024	8,307	3,782	4,039	16,128

<i>Accumulated amortisation</i>				
At 1 April 2023	3,384	1,278	-	4,662
Amortisation charge for the year	1,319	213	-	1,532
Reclassification	-	-	-	-
Disposal	-	-	-	-
At 31 March 2024	4,703	1,491	-	6,194

	Computer software £'000	Service concession £'000	Assets in the course of construction £'000	Total £'000
<i>Cost</i>				
At 1 April 2022	5,140	3,782	867	9,789
Additions	-	-	4,867	4,867
Reclassification	-	-	2,084	2,084
Transfers from assets in course of construction	2,214	-	(2,214)	-
Disposal	(517)	-	-	(517)
At 31 March 2023	6,837	3,782	5,604	16,223

<i>Accumulated amortisation</i>				
At 1 April 2022	3,069	958	-	4,027
Amortisation charge for the year	939	213	-	1,152
Reclassification	(107)	107	-	-
Disposal	(517)	-	-	(517)
At 31 March 2023	3,384	1,278	-	4,662
<i>Net book value</i>				
At 31 March 2023	3,453	2,504	5,604	11,561
At 31 March 2024	3,604	2,291	4,039	9,934

6.0 Financial Statements

11 Intangible assets (continued)

Assets in the course of construction refer to IT software and the software implementation costs additions in the year include no accrued costs (2023 – £Nil). At the end of the reporting period there is capital expenditure contracted for but not recognised as a liability of £30k (2023 – £800k).

The directors believe that the characteristics of certain items previously classified as tangible assets more closely resemble intangible assets. As a result, there have been reclassifications during the year of £719k (2023 – £2,084k).

Amortisation of £1,532k (2023 – £1,152k) is included in administrative expenses in the Statement of Comprehensive Income.

12 Trade and other receivables

	2024 £'000	2023 £'000
Trade receivables	20,334	14,005
Amounts due from group undertakings	205	205
Prepayments and accrued income	20,972	19,656
Corporation tax	18,004	7,051
Grants receivable	6,635	14,691
Other receivables	1,122	881
Total trade and other receivables	67,272	56,489
Less: non-current trade and other receivables	(171)	(401)
Current trade and other receivables	67,101	56,088

NNL operates standard payment terms of 30 days.

Prepayments and accrued income include £16,341,528 of accrued income (2023 £14,627,209). Invoicing schedules for a number of contracts are based on milestones rather than on value of work done or time elapsed – variability in the value of accrued income at the year-end is therefore to be expected. All accrued income is receivable within less than one year.

Grants receivable relates to government grants for specific (ring fenced) purposes. Grants from the government are recognised at their fair value where there is a reasonable assurance that the grant will be received and NNL will comply with all attached conditions. NNL does not have uncommitted grant funds in hand.

The ageing of non-current trade and other receivables are as follows:

	2024 Other £'000	2024 Total £'000	2023 Other £'000	2023 Total £'000
Less than 1 year	125	125	229	229
1-2 years	46	46	125	125
2-5 years	-	-	47	47
	171	171	401	401

12 Trade and other receivables (continued)

The fair value of trade and other receivables approximates to their carrying value as at 31 March 2024 and 31 March 2023.

The carrying value of NNL's trade and other receivables, and amounts due from group undertakings are denominated in the following currencies:

	2024 £'000	2023 £'000
Pound sterling	67,072	56,488
US Dollar	200	1
Euro	-	-
Other	-	-
	67,272	56,489

At 31 March 2024 no trade receivables were impaired (2023 – £Nil). At 31 March 2024 trade receivables of £4,803,000 (2023 – £3,321,000) were past due but had no expected credit loss provision. At the date of approval of the financial statements £88,647 of the overdue debt from the year end remains unpaid (2023 – £Nil).

The ageing of trade receivables are as follows:

	2024 Related parties £'000	2024 Third parties £'000	2024 Total £'000	2023 Related parties £'000	2023 Third parties £'000	2023 Total £'000
Not yet due	8,257	7,274	15,531	4,121	6,563	10,684
1-30 days	6,955	(1,221)	5,734	3,219	99	3,318
31-60 days	-	89	89	3	-	3
Over 91 days	(1,020)	-	(1,020)	-	-	-
	14,192	6,142	20,334	7,343	6,662	14,005

NNL has applied the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables, accrued income and intercompany balances.

NNL considers that all its customers have shared risk characteristics and has therefore considered the expected loss allowance for all its customers as one group. The expected loss rates are based on the payment profile of sales over a period of 24 months before 31 March 2024 and 31 March 2023 respectively and the corresponding historical credit losses experienced within this period.

NNL has considered the forward looking macro-economic factors and does not believe any adjustment is required to historical loss rates to ensure they reflect relevant future economic conditions.

On this basis the loss rate is 0% and the loss allowance as at 31 March 2024 is £Nil (2023 – £Nil).

6.0 Financial Statements

13 Cash and cash equivalents

The cash and cash equivalent balances are broken down as follows:

	2024 £'000	2023 £'000
Cash available on demand	22,079	29,785

Book values equal fair values as at 31 March 2024 and 31 March 2023. All day-to-day banking matters are dealt with by the NatWest Bank.

14 Trade and other payables

	2024 £'000	2023 £'000
Payments received on account	20,164	9,532
Trade payables	6,800	6,834
Taxation and social security	3,966	4,621
Accruals	106,369	92,400
	137,299	113,387
Less: non-current trade and other payables	(81,607)	(66,896)
Current trade and other payables	55,692	46,491

Non-current other payables which represent capital grants are aged as follows:

	2024 £'000	2023 £'000
1-2 years	2,993	2,304
2-5 years	6,823	5,362
Over 5 years	71,791	59,230
	81,607	66,896

The carrying value of the Company's trade and other payables are denominated in the following currencies:

	2024 £'000	2023 £'000
Pound sterling	137,270	113,342
Euro	14	26
US Dollar	15	7
Other	-	12
	137,299	113,387

Book values equal fair values at 31 March 2024 and 31 March 2023.

14 Trade and other payables (continued)

The ageing of the trade payables are as follows:

	2024 Related parties £'000	2024 Third Parties £'000	2024 Total £'000	2023 Related parties £'000	2023 Third Parties £'000	2023 Total £'000
Not yet due	593	5,564	6,157	938	2,551	3,489
1-30 days	46	585	631	-	3,345	3,345
61 to 90 days	-	5	5	-	-	-
Over 91 days	7	-	7	-	-	-
	646	6,154	6,800	938	5,896	6,834

15 Provisions

	Severance £'000	Loss making contracts £'000	Other £'000	Total £'000
At 1 April 2024	3,953	1,079	7,640	12,672
Reclassification	-	-	-	-
New in year	31	208	638	877
Utilised in year	(414)	-	(358)	(772)
Revalorisation/(devalorisation)	584	(10)	569	1,143
Released in the year	(14)	(504)	(1,699)	(2,217)
At 31 March 2024	4,140	773	6,790	11,703
At 31 March 2023				
Due within one year	391	441	599	1,431
Due after more than one year	3,562	638	7,041	11,241
	3,953	1,079	7,640	12,672
At 31 March 2024				
Due within one year	409	555	620	1,584
Due after more than one year	3,731	218	6,170	10,119
	4,140	773	6,790	11,703

6.0 Financial Statements

15 Provisions (continued)

Details of each category of provision are shown below.

Severance

The severance provision relates to severance obligations payable as pensions to employees who left NNL through redundancy. The amounts provided are based on best estimates of the pension payments and will be utilised over the next 31 years. The provision value uses a discount rate of 4.7% and a life expectancy of 89 years. A decrease of 0.25% in the discount rate would increase the provision value by £0.07m, similarly an increase of 0.25% in the inflation rate would also increase the provision value by £0.07m. An increase of 1 year in life expectancy would increase the provision by £0.2m.

Loss making contracts

These are onerous contract provisions and have been calculated based on

the latest technical evaluation of the processes and methods likely to be used and reflect current knowledge. The provision relates to fixed-price, loss-making contracts. The loss has been calculated based on current costs and performance in line with the agreed schedule of work for the remaining duration of the contracts.

POCO

These provisions are based on such commercial agreements that are currently in place and reflect the directors' understanding of the current Company policy and regulatory framework. NNL is responsible for Post Operational Clean Out (POCO) costs or removing and disposing of the plant, equipment and consumables which have become radiologically contaminated during operations within the facilities.

Of the total other provision £6.73m relates to POCO (2023 - £7.04m). The provision has been estimated

based on the weight, packing density and levels of contamination of the plant, equipment and consumables contaminated, multiplied by the agreed cost of disposal with the appropriate supplier. The provision represents the best estimate of the future cashflows required to meet these obligations. Due to the nature of the provision the future utilisation of the provision is uncertain.

The POCO provision value above is based on disposal in 8 years' time, inflation of 3.6% year 1, 1.8% year 2, 2% into perpetuity and a discount rate of 4.26% based on HM Treasury Public Expenditure System (PES) rates. A delay of 1 year in the disposal date would decrease the provision value by £0.1m, an increase of 0.25% in the inflation rate would increase the provision value by £0.1m and separately an increase of 0.25% in the discount rate would decrease the provision by £0.1m.

16 Deferred tax

At 31 March 2024 a deferred tax asset is recognised as disclosed below.

	2024 £'000	2023 £'000
Provision at start of year	19	3,088
Deferred tax (credited)/charged to Profit or Loss in the year	(1,728)	(3,016)
Deferred tax credited to Other Comprehensive Income in the year	1,661	(53)
(Asset)/Provision at end of year	(48)	19

16 Deferred tax (continued)

At 31 March 2024 the deferred tax asset consists of:

	2024 £'000	2023 £'000
Depreciation in excess of capital allowances	5,460	5,261
Other timing differences - provisions	(1,035)	(1,121)
Tax credit and loss carry forward	(4,473)	(4,121)
(Asset)/Provision at end of year	(48)	19

The asset in the balance sheet is not expected to be utilised in the next year.

17 Financial instruments - Risk Management

Principal financial instruments

The principal financial instruments used by NNL, from which financial instrument risk arises, are as follows:

Trade and other receivables

Cash at bank

Trade and other payables

NNL is exposed to risks that arise from its use of financial instruments. This note describes NNL's policies and processes for managing those risks and the methods used to measure them including quantitative information in respect of these risks.

NNL is exposed through its operations to the following financial risks:

Foreign exchange risk - transactional risk from receipts/purchases in a foreign currency

Credit risk - suppliers not able to fulfil contractual obligation due to financial difficulty and customer inability to pay

Liquidity risk - managing the cash flows of NNL effectively

There have been no substantive changes in NNL's exposure to financial instrument risks or its objectives, policies, and processes for managing those risks from the previous year.

All trade receivables and payables recognised by the NNL Group at the reporting date are measured at their transaction price and not fair value as they do not contain a financing component. The carrying amounts of these financial instruments are stated after considering provisions for credit losses and are disclosed below.

Financial risk management objectives

NNL's treasury policy is structured to ensure that adequate financial resources are available for the development of its business whilst managing its currency, interest rate and counterparty credit risks. NNL's treasury policy is approved by the board of directors.

The overall objective of the board is to set policies that seek to reduce risk as far as possible without unduly affecting NNL's competitiveness and flexibility. Further details regarding these policies are set out below:

6.0 Financial Statements

17 Financial instruments – Risk Management (continued)

Foreign exchange risk management

Foreign currency exposures are limited as NNL's functional currency is Sterling, although a minor proportion of revenue and expenditure is denominated in Euros and U.S Dollars.

The carrying value of NNL's cash and cash equivalents are denominated in the following currencies:

	2024 £'000	2023 £'000
Pound Sterling	22,064	29,522
US Dollar	14	7
Euro	1	256
	22,079	29,785

Foreign exchange risk is not considered to be material in either the current or the preceding year.

Credit risk management

At the statement of financial position date NNL's maximum exposure to credit risk at the end of the reporting period is the carrying amount of each class of financial assets mentioned below.

Financial assets	Note	2024 Carrying value £'000	2024 Maximum exposure £'000	2023 Carrying value £'000	2023 Maximum exposure £'000
Cash and cash equivalents	13	22,079	22,079	29,785	29,785
Trade and other receivables*					
Trade receivables	12	20,334	20,334	14,005	14,005
Amounts due from group undertakings	12	205	205	205	205
Accrued income		16,341	16,341	14,277	14,277
Grants receivable	12	6,635	6,635	14,691	14,691
Other receivables	12	1,122	1,122	880	880
Total financial assets		66,716	66,716	73,843	73,843

*Excluding non-financial assets

17 Financial instruments – Risk Management (continued)

Financial liabilities

The table below analyses NNL's financial liabilities into relevant maturity groups based on contractual maturities:

At 31 March 2024	Trade payables* £'000	Accruals £'000	Lease Liabilities £'000	Total £'000
Less than 1 year	6,800	25,462	1,472	33,734
1-2 years	-	2,293	1,472	3,765
2-5 years	-	6,823	4,381	11,204
Over 5 years	-	71,791	4,867	76,658
	6,800	106,369	12,192	125,361

At 31 March 2023	Trade payables* £'000	Accruals £'000	Lease Liabilities £'000	Total £'000
Less than 1 year	6,834	25,504	1,524	33,862
1-2 years	-	2,304	-	2,304
2-5 years	-	5,362	5,822	11,184
Over 5 years	-	59,230	5,993	65,223
	6,834	92,400	13,339	112,573

*Excluding non-financial liabilities

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. NNL is exposed to credit risk from its trade receivables due from customers and cash deposits with financial institutions.

Trade receivables balances are not covered by credit insurance, but customers are deemed to be of sufficient credit worthiness in order that NNL will continue to conduct trade with them. **The following internal procedures are undertaken to assess whether NNL will grant a credit facility to them:**

obtaining status reports and reference reports for new companies; and

reviewing their trading history and payments records.

Additional safeguards include the following:

internal credit limits being set on all accounts which are only increased by credit controllers.

stop-lists produced on overdue accounts; and

vigorous collection strategy in place.

Credit risk also arises from cash and cash equivalents and deposits with banks and financial institutions. NNL maximises the use of publicly procured banking services and shall only hold money outside Government Banking Service accounts with consent from HM Treasury. Only commercial banks which are members of relevant UK clearing bodies may be considered for this purpose.

At the end of the current year and preceding year there were no significant concentrations of credit risk.

Liquidity risk management

NNL's policy is to ensure that it will always have sufficient resources to allow it to meet its liabilities as they become due.

Budgets are set and agreed by the board of directors in advance, to enable NNL's cash requirements to be anticipated.

Capital management

NNL manages its capital to ensure that it will be able to continue as a going concern. There have been no changes to NNL's objectives, policies, and processes for managing capital from the previous year.

6.0 Financial Statements

NNL's capital consists of cash and cash equivalents (note 13) and equity attributable to equity holders of the parent. Such equity comprises share capital (note 18) and retained earnings (note 19). There have been

no changes in what NNL manages as capital from the previous year.

The board of directors reviews NNL's capital requirements on a regular basis. Based on this review, NNL will balance its overall

capital requirements through new share issues and requests for capital contributions from the parent Company when considered necessary. Capital is monitored alongside liquidity risk management.

18 Share capital

	Authorised, issued, and fully paid			
	2024 Number	2023 Number	2024 £'000	2023 £'000
Ordinary shares of £1 each	25,000	25,000	25	25

No dividends were paid or payable during the year (2023 - £Nil)

19 Retained earnings

	2024 £'000	2023 £'000
Reserves at beginning of the year	82,520	86,148
Loss for the year	(6,013)	(3,471)
Other comprehensive expense	(1,325)	(157)
Total comprehensive expense	(7,338)	(3,628)
Reserves at end of the year	75,182	82,520

20 Retirement benefit obligations

Schemes accounted for as defined contribution

Combined Pension Scheme (CPS)

The CPS is a multi-employer scheme which provides defined benefits to its members. In common with other unfunded public sector schemes the CPS does not have the attributes of typical defined benefit pension schemes. Any surplus of contributions made in excess of benefits paid out in any year is surrendered to the Consolidated Fund and any liabilities are met from the Consolidated Fund via the annual Parliamentary vote. His Majesty's Government does not maintain a separate fund.

The CPS is accounted for as a defined contribution scheme. The pension charge for the year represents contributions payable by NNL to the scheme and amounts to £6,168,551 (2023 - £7,290,504).

Schemes accounted for as defined benefit

Combined Nuclear Pension Plan (CNPP)

The CNPP is a funded scheme (previously named GPS). The Company's contribution rate is 49.5%. The CNPP is accounted for as a defined benefit scheme. A full actuarial valuation was carried out for the Trustees at 31 March 2019. This has been updated to 31 March 2024 by a qualified independent actuary. The actuarial assumption for salary increases was 3.1%

Electricity Supply Pension Scheme (ESPS)

The ESPS is a funded scheme. The Company's contribution rate is 50.4%. The ESPS is accounted for as a defined benefit scheme. A full actuarial valuation was carried out for the Trustees at 31 March 2019. This has been updated to 31 March 2024 by a qualified independent actuary. The actuarial assumption for salary increases was 3.1%

20 Retirement benefit obligations (continued)

Details of NNL's defined benefit schemes are as follows:

	2024 CNPP £'000	2024 ESPS £'000	2024 Total £'000	2023 CNPP £'000	2023 ESPS £'000	2023 Total £'000
Fair value of scheme assets	4,869	8,719	13,588	5,003	9,295	14,298
Present value of scheme liabilities	(4,630)	(8,321)	(12,951)	(4,263)	(7,817)	(12,080)
Surplus in the scheme	239	398	637	740	1,478	2,218

Principal actuarial assumptions

Assumptions regarding future mortality experience are set based on advice in accordance with published statistics and experience.

The average life expectancy in years of a pensioner retiring at 65 on the Statement of Financial Position date is as follows:

	2024 CNPP years	2023 CNPP years	2024 ESPS years	2023 ESPS years
Male	22	22	24	24
Female	24	24	25	25

The average life expectancy in years of a pensioner retiring at 65, twenty years after the Statement of Financial Position date is as follows:

	2024 CNPP years	2023 CNPP years	2024 ESPS years	2023 ESPS years
Male	23	23	25	25
Female	26	26	27	27

Expected increases in pensions in payment, discount rates, and inflation are as follows:

	2024 CNPP	2023 CNPP	2024 ESPS	2023 ESPS
Expected increase in pensions-in-payment	3.1%	3.1%	3.1%	3.1%
Discount rate pensioner liabilities	4.7%	4.6%	4.7%	4.6%
Discount rate deferred and active liabilities	4.7%	4.6%	4.7%	4.6%
Inflation rate	3.1%	3.1%	3.1%	3.1%

Expected discount rates are based on market yields on AA rated corporate bonds. Different discount rates have been applied to each group of members to recognise the cash flow timings attributable to each group.

6.0 Financial Statements

20 Retirement benefit obligations (continued)

Reconciliation of scheme assets

	CNPP £'000	ESPS £'000	Total £'000
At 1 April 2022	6,349	13,275	19,624
Expected return on plan assets	165	346	511
Employer contributions	84	292	376
Benefits paid	(61)	(274)	(335)
Contributions by scheme participants	9	18	27
Actual return less expected return on pension scheme assets	(1,543)	(4,362)	(5,905)
At 31 March 2023	5,003	9,295	14,298

	CNPP £'000	ESPS £'000	Total £'000
At 1 April 2023	5,003	9,295	14,298
Expected return on plan assets	231	425	656
Employer contributions	83	157	240
Benefits paid	(64)	(294)	(358)
Contributions by scheme participants	10	19	29
Actual return less expected return on pension scheme assets	(394)	(883)	(1,277)
At 31 March 2024	4,869	8,719	13,588

Reconciliation of scheme assets

The expected return on scheme assets is equal to the weighted average return appropriate to each class of asset within the schemes. The return attributed to each class has been reached following discussions with the external actuaries.

The fair value of the scheme assets at 31 March 2024 and at 31 March 2023 were as follows:

CNPP	2024 Fair value £'000	2023 Fair value £'000
Growth Assets	2,486	2,659
Index-linked gilts	1,763	1,667
Corporate bonds	568	592
Cash	52	85
	4,869	5,003

At both 31 March 2024 and 31 March 2023 all the growth assets, index linked bonds and corporate bonds were held in unquoted pooled investment vehicles.

20 Retirement benefit obligations (continued)

ESPS	2024 Fair value Quoted £'000	2024 Fair value Unquoted £'000	2024 Fair value Total £'000	2023 Fair value Quoted £'000	2023 Fair value Unquoted £'000	2023 Fair value Total £'000
Target Return / Diversified Growth Fund	2,546	-	2,546	1,711	1,611	3,322
Index linked gilts	-	1,097	1,097	-	3,683	3,683
Cash	-	2,425	2,425	-	2,290	2,290
Liability driven investments	-	2,651	2,651	-	-	-
Defined benefit pension cost	2,546	6,173	8,719	1,711	7,584	9,295

Reconciliation of plan liabilities

	CNPP £'000	ESPS £'000	Total £'000
At 1 April 2022	5,834	11,192	17,026
Interest cost	152	290	442
Current service cost	80	154	234
Benefits paid	(61)	(274)	(335)
Changes in financial assumptions	(1,751)	(3,563)	(5,314)
Contributions by scheme participants	9	18	27
At 31 March 2023	4,263	7,817	12,080

	CNPP £'000	ESPS £'000	Total £'000
At 1 April 2023	4,263	7,817	12,080
Interest cost	196	356	552
Current service cost	57	101	158
Benefits paid	(64)	(294)	(358)
Changes in financial assumptions	168	322	490
Contributions by scheme participants	10	19	29
At 31 March 2024	4,630	8,321	12,951

6.0 Financial Statements

20 Retirement benefit obligations (continued)

Defined benefit obligation trends of scheme as a whole as at 31 March 2023

	CNPP £'000	ESPS £'000	Total £'000
Scheme assets	5,003	9,295	14,298
Scheme liabilities	(4,263)	(7,817)	(12,080)
Scheme surplus	740	1,478	2,218

	£'000	£'000	£'000
Experience adjustments on assets	(1,543)	(4,362)	(5,905)
As a % of scheme assets	-30.8%	-46.9%	-41.3%

Defined benefit obligation reconciliation of scheme as a whole as at 31 March 2024

	CNPP £'000	ESPS £'000	Total £'000
Scheme assets	4,869	8,719	13,588
Scheme liabilities	(4,630)	(8,321)	(12,951)
Scheme surplus	239	398	637

	£'000	£'000	£'000
Experience adjustments on assets	(394)	(883)	(1,277)
As a % of scheme assets	-8.09%	-10.13%	-9.40%

Movement in overall scheme asset from 1 April 2022 to 31 March 2023

	CNPP £'000	ESPS £'000	Total £'000
(Deficit)/surplus as at 1 April 2022	515	2,083	2,598
Operating costs	(80)	(154)	(234)
Expected return on pension scheme assets	165	346	511
Interest on pension scheme liabilities	(152)	(290)	(442)
Actuarial losses	208	(799)	(591)
Contributions paid	84	292	376
Surplus as at 31 March 2023	740	1,478	2,218

20 Retirement benefit obligations (continued)

Movement in overall scheme asset from 1 April 2023 to 31 March 2024

	CNPP £'000	ESPS £'000	Total £'000
Surplus as at 1 April 2023	740	1,478	2,218
Operating costs	(57)	(101)	(158)
Expected return on pension scheme assets	231	425	656
Interest on pension scheme liabilities	(196)	(356)	(552)
Actuarial gains	(562)	(1,205)	(1,767)
Contributions paid	83	157	240
Surplus as at 31 March 2024	239	398	637

Amounts recognised in the financial statements

Analysis of amounts recognised in the statement of financial position

CNPP	2024 £'000	2023 £'000	2022 £'000	2021 £'000
Fair value of scheme assets	4,869	5,003	6,349	5,934
Present value of scheme liabilities	(4,630)	(4,263)	(5,834)	(6,259)
Net pension surplus/(deficit)	239	740	515	(325)
Reduced to the extent the right to surplus is contingent	(239)	(740)	(515)	-
Surplus/(deficit) recognised in the statement of financial position	-	-	-	(325)

ESPS	2024 £'000	2023 £'000	2022 £'000	2021 £'000
Fair value of scheme assets	8,719	9,295	13,275	12,386
Present value of scheme liabilities	(8,321)	(7,817)	(11,192)	(12,112)
Net pension surplus / (deficit)	398	1,478	2,083	274
Reduced to the extent the right to surplus is contingent	(398)	(1,478)	(2,083)	-
Surplus/(deficit) recognised in the statement of financial position	-	-	-	274

6.0 Financial Statements

20 Retirement benefit obligations (continued)

Total	2024 £'000	2023 £'000	2022 £'000	2021 £'000
Fair value of scheme assets	13,588	14,298	19,624	18,320
Present value of scheme liabilities	(12,951)	(12,080)	(17,026)	(18,371)
Net pension surplus / (deficit)	637	2,218	2,598	(51)
Reduced to the extent the right to surplus is contingent	(637)	(2,218)	(2,598)	-
Surplus/(deficit) recognised in the statement of financial position	-	-	-	(51)

Included in administrative expenses

	2024 CNPP £'000	2024 ESPS £'000	2024 Total £'000	2023 CNPP £'000	2023 ESPS £'000	2023 Total £'000
Current service cost	57	101	158	80	154	234
Expected return on plan	(231)	(425)	(656)	(165)	(346)	(511)
Interest cost	196	356	552	152	290	442
Defined benefit pension cost	22	32	54	67	98	165

The sensitivity of the defined benefit obligations to the principal actuarial assumptions is as follows:

	2024 CNPP £'000	2024 ESPS £'000	2024 Total £'000	2023 CNPP £'000	2023 ESPS £'000	2023 Total £'000
0.25% reduction in discount rate	200	350	550	175	325	500
0.25% increase in rate of inflation	200	350	550	175	325	500
Life expectancy increased by 1 year	125	225	350	125	200	325

The table above shows the increase in liabilities in each scheme which would result from the stated change in assumption.

The above sensitivity analyses are based on a change in assumption while holding all other assumptions constant. In practice this is unlikely to occur and changes in some of the assumptions might be correlated. When calculating the sensitivity of the defined benefit obligation to the principal actuarial assumptions the same method (that is the projected Unit Credit method) has been applied as when calculating the defined benefit liability recognised in the balance sheet.

20 Retirement benefit obligations (continued)

Contributions to defined benefit plans in the year to March 2024 are:

	2024 CNPP £'000	2024 ESPS £'000	2024 Total £'000	2023 CNPP £'000	2023 ESPS £'000	2023 Total £'000
Employer contributions	83	157	240	84	292	376
Employee contributions	10	19	29	9	18	27
Total	93	176	269	93	310	403

6.0 Financial Statements

21 Related party transactions

Trading transactions

During the year NNL entered into the following transactions with related parties as follows:

	2024	2023	2024	2023	2024	2023	2024	2023
	Sales of goods/services		Amounts owed by related parties		Purchases of goods/services		Amounts owed to related parties	
	£'000	£'000	£'000	£'000	£'000	£'000	£'000	£'000
DESNZ	12,265	10,421	10,770	4,948	85	57	-	-
MOD	22	1,329	-	274	-	-	-	-
NDA	7,319	8,280	103	164	1,807	784	7	-
SL	47,952	44,222	2,240	1,284	4,169	4,229	-	319
RWM	145	629	-	40	-	-	491	-
Dounreay	-	117	-	-	22	-	-	-
Magnox	128	114	-	-	-	44	-	-
UKAEA	188	59	-	-	269	-	-	-
HSE	-	10	-	-	-	-	-	-
EE	-	53	-	-	52	81	-	-
UKRI	200	13	-	-	-	-	-	-
Home Office	109	150	-	-	-	-	-	-
AWE Plc	4,919	637	332	245	442	344	44	31
Cabinet Office	-	-	-	-	50	-	-	-
UK HSA	-	-	-	-	2	-	-	-
Springfield	2,710	2,268	383	269	2,585	3,149	-	524
ONR	-	-	31	31	667	763	104	64
UKSA	-	-	333	-	-	-	-	-
NPSA	257	-	-	82	-	-	-	-
LLW Repository Ltd	-	4	-	-	-	-	-	-
Calder Ind. Materials	-	-	-	-	36	19	-	-
SEPA	-	7	-	-	-	-	-	-
DS&T Laboratory	14	23	-	6	-	-	-	-
Total	76,228	68,336	14,192	7,343	10,186	9,470	646	938

Undertakings under common control of the Government are the Department for Energy Security and Net Zero (DESNZ), Ministry of Defence (MOD), Nuclear Decommissioning Authority (NDA), Sellafield Limited (SL), Radioactive Waste Management Limited (RWM), Dounreay Site Restoration Limited (Dounreay), Magnox Limited (Magnox), UK Atomic Energy Authority (UKAEA), Health & Safety Executive (HSE), Environment Agency (EE), UK Research & Innovation (UKRI), The Home Office, AWE Plc, Springfield Fuels Limited (Springfield), Office for Nuclear Regulation (ONR), National Protective Security Agency (NPSA), LLW Repository Ltd, Waste Defence Science & Technology Laboratory (DS&T Laboratory) and the Scottish Environment Protection Agency (SEPA), UK Space Agency (UKSA), UK Health Services Authority (UKHSA), Cabinet Office.

Since the financial year ended 31 March 2024 all the amounts owed by related parties have been settled by cash and a balance of £Nil remains (2023 - £Nil).

22 Controlling party

All the share capital of NNL is owned by its parent, NNL Holdings Limited. NNL Holdings Limited's country of incorporation is the United Kingdom, and its registered address is Chadwick House, Warrington Road, Birchwood Park, Birchwood, Warrington WA3 6AE. The results of NNL are consolidated in the group financial statements of NNL Holdings Limited which are publicly available.

The entire issued share capital of NNL Holdings Limited is owned by the Secretary of State for Energy Security and Net Zero. In the directors' opinion, NNL's ultimate controlling party is His Majesty's Government.

23 Subsidiary Company

NNL owns all the share capital of Nexia Solutions Limited, a non-trading company with issued share capital of £1.

National Nuclear Laboratory
5th Floor, Chadwick House
Warrington Road, Birchwood Park
Warrington WA3 6AE
T. +44 (0) 1925 933 744
E. customers@uknnl.com
W. nnl.co.uk