


Nuclear Regulatory Taskforce 2025

Interim Report

Cover image credits
1. Roof of Hinkley Point C reactor 1
2. Fuel storage ponds at Sellafield
3. Vanguard class submarine

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Executive Summary

The UK is an international leader in nuclear technology, with a strong track record in safety, delivered within a well-respected regulatory system. Over time, the regulation of civil and defence nuclear programmes has become increasingly complex and bureaucratic, leading to huge delays and ballooning costs, often for marginal benefit.

With the UK's ambitious civil and defence programmes set to expand to meet energy security, net zero, and deterrent demands, a reset is needed. Our regulatory system needs radical reform to enable speedy and cost-effective delivery of new civil and defence investment and existing operations. We are looking to recommend fundamental once-in-a-generation change in the regulatory system to enable the UK's nuclear sector to thrive and take full advantage of the global resurgence of nuclear technology.

Our work not only examines whether regulation can be streamlined to reduce cost and timescales, but also whether the UK State has the regulatory capacity and correct regulatory priorities to deliver this substantial and ambitious programme of civil and nuclear defence projects.

The Taskforce Interim Report is informed by a broad range of evidence. We received over 100 responses to our call for evidence, including from regulators, operators, industry experts, academia, developers, investors, and groups from wider civil society. We have met with a wide variety of experts and visited several nuclear sites.

The evidence shows that the UK's independent nuclear regulation system is generally effective in securing safety and considered world-leading in some areas. The UK's goal-based regulatory framework is praised for its adaptability and the sector's ability to innovate in nuclear safety is a potential strength. UK regulators are widely regarded as experts in their field with their transparency, proactive engagement with stakeholders, and active international collaboration highlighted as key strengths.

However, feedback reveals fundamental concerns about how regulation operates in practice, with the most prominent being that the system is perceived to be unnecessarily slow, inefficient, and costly. The Taskforce has identified six areas where we see the greatest opportunities for a radical reset. Given the scale of these areas, we believe that Government should immediately provide a strategic steer that will focus nuclear regulators and duty holders alike on effective delivery. We recognise that making changes to the regulatory landscape can have wide-reaching implications and so we are seeking feedback on our assessment of the problems, before we turn to proposing solutions.

We are also keen to retain and build on the many positive features of the UK regulatory system that we have noted above and ensure that no change is recommended that diminishes safety.

Risk Management and Proportionality

Many stakeholders believe a re-evaluation of the application of the ALARP (As Low As Reasonably Practicable) principle is necessary, particularly to resolve issues of interpretation around the words 'Reasonably Practicable' by both duty holders and regulators. Interpretation currently fosters a culture of risk aversion and reluctance to challenge and debate, impacting costs and time. Similar issues of proportionality, costly processes,

duplication, and inflexibility are concerns in the application of environmental assessments. The Taskforce will explore modifications to nuclear, environmental, planning, and permitting regimes to address these issues.

Complexity of the Regulatory and Planning Landscape

We have clear evidence that regulation in the nuclear sector has become unnecessarily complex and inconsistent. This creates problems for both established and new participants in the sector, ultimately limiting potential to deliver projects on time and within budget, or even deliver them at all. Increased complexity and duplication of processes has become commonplace, with multiple regulators across civil and defence. The overlap in processes increases the delay and costs to existing developers and operators, and to potential new market participants. Not only is there inconsistency between different regulators, but there also appear to be examples of inconsistency between different personnel within the same regulatory body. We are minded to make recommendations that reduce duplication of work between regulators, within regulators, and in regulatory processes to drive far more efficient and effective approaches.

Enabling Delivery in Planning Regime

The current nuclear planning regulatory framework in the UK presents unnecessary challenges, particularly for emerging technologies such as Small Modular Reactors (SMRs) and Advanced Modular Reactors (AMRs). Feedback raised concerns around the proportionality and effectiveness of the Nationally Significant Infrastructure Project (NSIP) regime, lack of fleet approach, and outdated policy concerning the methodology used in the semi-urban population density criteria. The Taskforce will look further at how the planning regime can be reformed to enable innovation and delivery of emerging technologies.

Capacity, Capability, Culture

The scarcity of nuclear expertise is a concern across both the defence and civil sectors, and more so in a period of substantial planned growth. This is not just the number of people but also the range and depth of experience and expertise, known in the industry as Suitably Qualified and Experienced Personnel (SQEP).

The availability of SQEP, an aging workforce, outsourcing to consultants, and salary, are all key issues that impair the nuclear sector's ability to deliver effective, consistent, on-budget, and on-time solutions within the current regulatory regime.

In addition, there is compelling evidence that organisational culture across the sector negatively impacts the effective and efficient delivery of nuclear programmes. These include a culture of risk aversion irrespective of cost, increasingly complex processes and procedures, and excessive bureaucracy.

The taskforce has identified areas for further exploration including a time-limited boost to ONR capacity to reduce the impact of the cliff-edge drop in capability due to retirement, increases to the capacity within DNSR which is under resourced, and a cultural transformation programme, both in the regulators and beyond.

International harmonisation

Nuclear technology is ideally placed to benefit from international collaboration through the harmonisation and standardisation of industry and regulatory approaches. This potential has not been achieved. Each regulatory system has its own approach, interpretation of international standards, and legal framework, which adds substantial complexity, costs, and delays when seeking approvals.

We will undertake further analysis to determine the similarities between the UK regulatory system and key partner jurisdictions to understand where international harmonisation could deliver most benefit and where the UK could benefit from accepting international approvals.

Insufficient understanding of the cost of delays

As with any large-scale infrastructure project, delays to nuclear projects have enormous financial, labour and material cost implications. These indirect costs are often not adequately considered by regulators in their analysis of what measures are proportionate to reduce the risk. The Taskforce believes taking greater account of the cost of project delays could improve regulator understanding of the proportionality of safety measures.

Next Steps

Areas of focus for the next stage of the Taskforce include:

- Development of a strategic steer from Government to duty holders and regulators to ensure the effective and efficient delivery of safe nuclear programmes so that the societal, environmental, and defence benefits of nuclear technology are realised at a measured pace, while maintaining independent regulatory decision-making.
- A series of engagement sessions and workshops will be conducted with industry, regulators, government, and other interested groups, ensuring that the issues raised and the proposed solutions accurately address the challenges within the sector.
- An in-depth analysis undertaken to determine the similarities between the UK regulatory system and key international partners to understand where harmonisation could deliver most benefit.
- An in-depth analysis to understand the costs and benefits which will underpin the economic case for change in the nuclear sector.

The Taskforce intends to build on the emerging thinking set out in this Interim Report and will work with stakeholders to continue fleshing out potential recommendations. These recommendations will be published in Autumn 2025. Any responses received to the questions raised in this report will inform this ongoing work.

Chapter 1: Introduction

Nuclear technology is critical to the UK's future, both for low carbon energy and for our national security. This includes new projects and existing missions, along with safe and sustainable management of the UK's nuclear legacy. As Government and industry embark upon the next generation of civil and defence nuclear programmes, it is opportune to examine whether our nuclear regulatory landscape, which has evolved to be increasingly complex and bureaucratic over time, is fit for purpose for the future.

The Taskforce has been set the challenge of reviewing the UK's nuclear regulatory landscape and providing clear, actionable recommendations that drive faster, better value for money delivery in both the civil and defence elements of the nuclear sector, without reducing standards of protection. The publication of these interim findings is intended as a checkpoint, to set out our current thinking and seek further input from stakeholders particularly on how to address issues through radical and/or incremental solutions.

Our focus areas are nuclear safety, environmental and planning regulation. Nuclear security and safeguards are not in scope for this review, except where they are closely interlinked with safety issues. Nuclear fusion is not part of our remit, nor may we make recommendations for devolved governments in devolved areas.

The UK nuclear sector has a strong safety record overseen by expert and independent regulators. Many of the organisations we have consulted have emphasised the high level of credibility and trust in UK regulators, not just nationally, but also internationally and how important this is to the nuclear sector's 'social licence' to operate. It is in no-one's interest for safety to be undermined or compromised.

Some of the challenges referenced in this report arise from the unique nature of nuclear technologies or the perception that nuclear activities pose a unique hazard that requires bespoke management. Other challenges are not specific to the nuclear sector but also affect other high-hazard sectors or major infrastructure projects. Our recommendations are specifically addressed to the nuclear sector but may also have relevance to other sectors and regulatory reviews. We have, in our work, drawn upon recent reports, including that by Dan Corry and Lord Banner KC.

Each of the challenges discussed includes questions for stakeholders, on which we would welcome concise and evidence-based responses to our mailbox: nuclearregulatorytaskforce@energysecurity.gov.uk.

The Taskforce will continue to gather evidence and views over the Summer and will publish final recommendations in Autumn 2025. Thank you to all those who have contributed their views and their time so far.

Chapter 2: Context and Significance

We are entering a new era for the nuclear sector in the UK, and there is potential for a global transformation of the industry as new technologies become available to a wider range of countries.

In the UK's civil nuclear sector, the construction of Hinkley Point C, progress on Sizewell C, and planned small modular reactor (SMR) deployment, will bring the next generation of nuclear power online in the coming decades to help deliver greater energy security and to address the Net Zero mission. The Government is also proposing to expand the availability of land for new nuclear projects, either through adopting a developer-led criteria-based approach for new site selection, or by reinvigorating older sites that have been in the process of decommissioning.

In the defence sector, there is a substantial additional programme of nuclear work as the Government has announced the delivery of new submarines, warheads and renewal of supporting infrastructure, as well as supporting our key alliance commitments under the AUKUS treaty.

Both civil and defence sectors need to continue to manage the UK's nuclear legacy as safely, efficiently and effectively as possible. We face some particularly complex decommissioning challenges in the UK, for which creative, innovative solutions are being researched and implemented.

The ambition for expanded programmes and innovative technologies offers huge opportunities for the nuclear sector and the UK, but also places new demands on the regulators and regulatory system.

A global resurgence of nuclear technology is currently underway, as many countries including the US revisit regulations to advance both civil and defence applications. Driven by energy security, decarbonisation and geopolitical shifts, nations are investing in next-generation reactors like SMRs and modernising nuclear defence systems. This renewed focus positions nuclear power as a key pillar of sustainable energy and national security strategies.

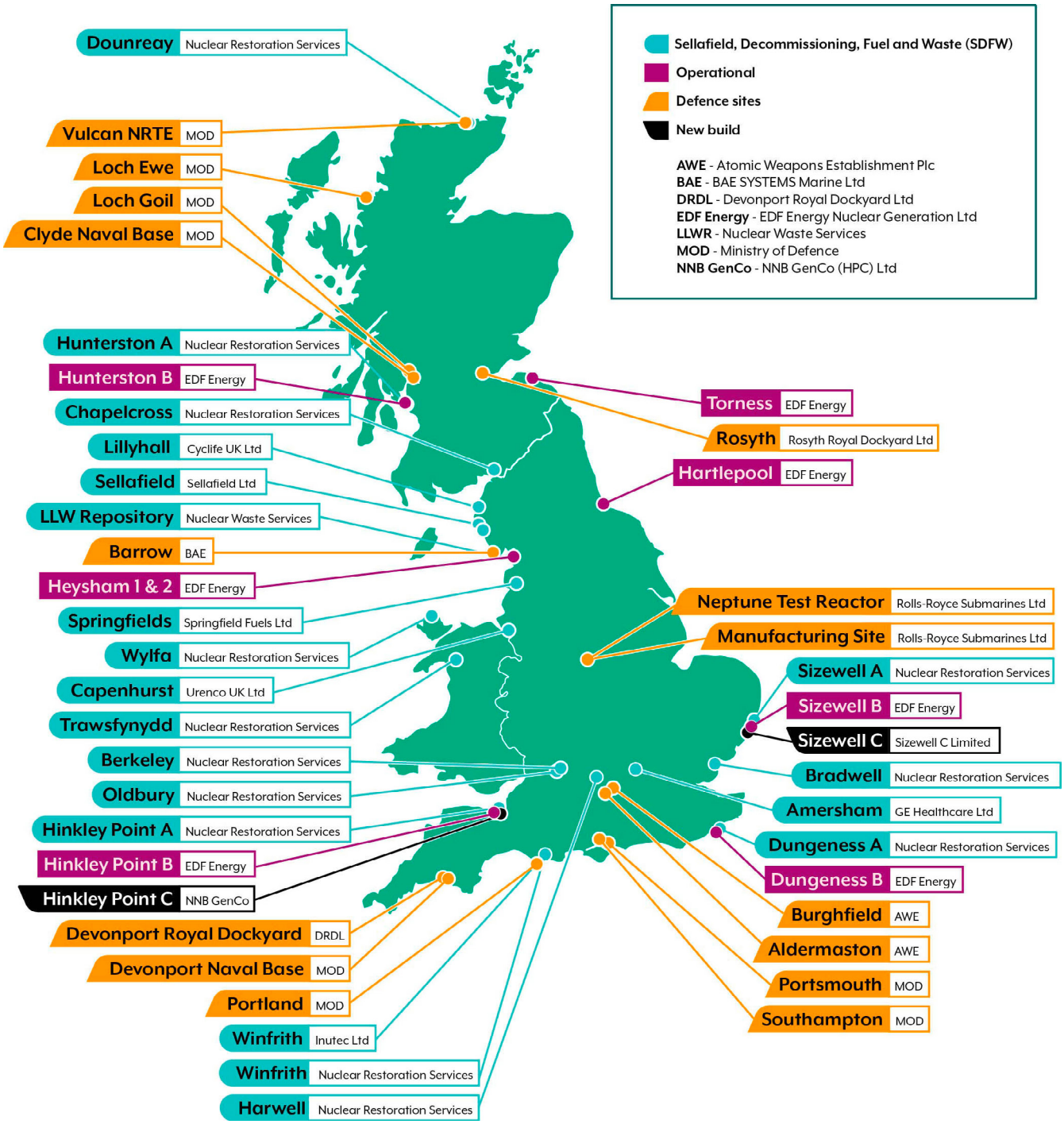
There is growing evidence that some countries deliver nuclear projects at roughly half the cost of those in the UK. While factors like stronger engineering capabilities, skilled labour and supply chain efficiency play a role, a substantial part of the cost difference may be explained by more effective or efficient regulatory frameworks.

Chapter 3: Nuclear in the UK

There are 36 licensed nuclear sites in the UK which include operating reactors, defence infrastructure, nuclear fuel production, research facilities, health companies and decommissioning stations. Some of these sites have carried out nuclear activities since the 1950s and are still operational, whilst others are progressing towards de-licensing and non-nuclear uses. In addition to the well-known uses of nuclear technologies for power and defence, nuclear applications are also used extensively in the UK for medical and industrial purposes. In medicine, radionuclides are being used in diagnostics, such as PET scans, and cancer treatment. In space programmes, radioisotopes from stored radioactive waste are being explored as alternatives to plutonium isotopes for long-duration batteries used for space missions.

Nuclear power accounts for roughly 15% (4 gigawatts) of the UK's electricity mix. At its peak in the mid 1990's, the UK's nuclear power stations delivered over 25% of the needs of the electricity grid. When Hinkley Point C is up and running it will generate 3.2 gigawatts, about 7% of UK energy needs. Sizewell C will generate a further 3.2 gigawatts with the build predicted to generate over 10,000 jobs, bringing key investment to the East of England.

The wider civil and defence nuclear workforce was estimated to support around 96,000 jobs in 2024, with the majority of these in the South West and North West. Modelling from industry forecasts suggest that the civil and defence nuclear sector could need around 120,000 employees by the early 2030s, with operations and engineering functions predicted to see biggest increase in demand from 2025 to 2029. These estimates are FTE direct and indirect jobs estimates and include a modelled component for the civil supply chain. The Nuclear Skills Plan, launched in May 2024, is a collaborative effort between government and industry to secure the future of the UK nuclear sector.


Sellafield, Decommissioning, Fuel and Waste (SDFW)
Operational
Defence sites
New build
AWE - Atomic Weapons Establishment Plc
BAE - BAE SYSTEMS Marine Ltd
DRDL - Devonport Royal Dockyard Ltd
EDF Energy - EDF Energy Nuclear Generation Ltd
LLWR - Nuclear Waste Services
MOD - Ministry of Defence
NNB GenCo - NNB GenCo (HPC) Ltd
Dounreay Nuclear Restoration Services
Vulcan NRTE MOD
Loch Ewe MOD
Loch Goil MOD
Clyde Naval Base MOD
Hunterston A Nuclear Restoration Services
Hunterston B EDF Energy
Chapelcross Nuclear Restoration Services
Lillyhall Cyclife UK Ltd
Sellafield Sellafield Ltd
LLW Repository Nuclear Waste Services
Barrow BAE
Heysham 1 & 2 EDF Energy
Springfields Springfield Fuels Ltd
Wylfa Nuclear Restoration Services
Capenhurst Urenco UK Ltd
Trawsfynydd Nuclear Restoration Services
Berkeley Nuclear Restoration Services
Oldbury Nuclear Restoration Services
Hinkley Point A Nuclear Restoration Services
Hinkley Point B EDF Energy
Hinkley Point C NNB GenCo
Devonport Royal Dockyard DRDL
Devonport Naval Base MOD
Portland MOD
Winfrith Inutec Ltd
Winfrith Nuclear Restoration Services
Harwell Nuclear Restoration Services
Torness EDF Energy
Rosyth Rosyth Royal Dockyard Ltd
Hartlepool EDF Energy
Neptune Test Reactor Rolls-Royce Submarines Ltd
Manufacturing Site Rolls-Royce Submarines Ltd
Sizewell A Nuclear Restoration Services
Sizewell B EDF Energy
Sizewell C Sizewell C Limited
Bradwell Nuclear Restoration Services
Amersham GE Healthcare Ltd
Dungeness A Nuclear Restoration Services
Dungeness B EDF Energy
Burghfield AWE
Aldermaston AWE
Portsmouth MOD
Southampton MOD

Chapter 4: How Regulation Works in Nuclear

The UK operates a 'goal-setting' approach to regulation, similar to Canada, whereby regulators set out an objective that operators (or duty holders) can meet in multiple ways as best suits their commercial and technological choices. This contrasts with a 'prescriptive' or 'rules-based' approach used in the US and France which requires a specific method to be used.

The Legal Framework

The UK's health and safety and environmental legislation is founded on the key principle that those who create risks are responsible for managing them.

The legal framework for safety in the nuclear industry is based on the Health and Safety at Work Act 1974 (HASAWA) and the Nuclear Installations Act 1965 (NIA65).

HASAWA places duties on all employers (often referred to as duty-holders) to reduce risks so far as is reasonably practicable (SFAIRP) for both employees and others. The legal requirement SFAIRP is called the '**As low as reasonably practicable**' (ALARP) principle. HASAWA also includes enforcement powers for the regulator. For some sites with substantial hazards, a permissioning regime is in place where, for example, the duty-holder requires consents to operate from the regulator and also prepare a safety assessment (often called a **safety case**).

Because of the particular hazards associated with the nuclear industry, the NIA65 establishes the UK nuclear licensing regime. Before a nuclear installation can be built and operated, a **Nuclear Site Licence** must be granted to a corporate body, known as the licensee, which is held responsible for nuclear safety. Under the standard nuclear site licence there are 36 licence conditions, most of which place requirements on the licensee to develop "adequate arrangements" to ensure safety and include further enforcement powers for the regulator.

Other important pieces of the safety legislative framework include the Ionising Radiation Regulations (IRR17), and Radiation (Emergency Preparedness and Public Information) Regulations (REPPIR19), both under HASAWA, and Justification of Practices Involving Ionising Radiation Regulations (JoPIIRR). These set out further protections for workers and the public for ionising radiations, as well as requiring the benefits of the use of ionising radiations to be 'justified' before it can be implemented.

The Environmental Permitting (England and Wales) Regulations (EPR, 2016) includes requirements for the keeping, use, accumulation and disposal of radioactive substances and waste. The regulations also include security requirements for high activity sources on non-nuclear sites. There are different regulations in Scotland.

There are also a wide range of environmental laws in the UK. These include laws related to pollution prevention and control, waste management, water resources and quality, and protection of habitats and biodiversity.

Other key relevant pieces of legislation and definitions can be found in Annex A.

Duty Holders and Regulators

The UK's nuclear regulatory framework is overseen by several key regulators, each with distinct responsibilities to ensure the safe, secure, and environmentally responsible use of nuclear technology.

Duty Holders: Duty holder is the collective term for persons / organisations legally responsible for the activities they undertake. In nuclear industry these are primarily nuclear site licensees (in both civil and defence), authorisees (in defence), and environmental permit holders. They are responsible for ensuring nuclear sites operate safely and securely. All employees have duties but the primary duty lies in the top management of the organisation. Most duty holders use the 'three lines of defence' model for risk management. The first line of defence is safety and environmental protection at the operational level, the second is internal but separate assurance reporting directly to top management, and the third is external assurance by independent experts appointed by the duty holder (such as a Nuclear Safety Committee). The regulator provides an additional independent and final assurance function.

Interactions Between Regulators and Duty Holders: Nuclear regulators and duty holders are expected to engage constructively through inspections, reporting and dialogue. The duty holder retains responsibility for making commercial and operational decisions, while ensuring they comply with the law. The regulator sets the safety, security and environmental standards, but it is the duty holder's role to determine the best approach to meet those requirements in practice. When the system works well, there is active, open debate and discussion between parties, fostering mutual understanding and ensuring that commercial choices do not compromise regulatory compliance. Crucially, regulators maintain their independence to challenge safety measures, operational practices and compliance at all levels.

Office for Nuclear Regulation: The Office for Nuclear Regulation (ONR) is the UK's regulator for safety, security, safeguards and transport. It was established as a statutory public corporation in 2014 under the Energy Act 2013. It is an independent arm's length body under the Department of Work and Pensions (DWP) and employs over 600 staff including many highly qualified and experienced inspectors.

ONR's main role is to regulate nuclear sites in the UK through the NIA65, HASAWA, and Energy Act 2013. It does this through a number of activities including conducting regular site inspections, assessing safety cases, and giving regulatory permissions. It also advises on duty holders' compliance with legal and regulatory requirements. ONR has legal powers of enforcement through the licence, HASAWA and the Energy Act 2013, generally using the licence powers for nuclear safety and HASAWA for conventional safety. These include for example the power to shut down operations that pose unacceptable risk.

ONR also regulates aspects of the RSA93 on licensed sites, except for radioactive discharge and disposal, which are regulated by the environmental regulator (see below).

ONR must ensure its actions are lawful and reasonable. Duty-holders can challenge decisions made by ONR inspectors through an internal review and appeals process which is open to those affected by a regulatory decision. This process cannot be used for appeals against decisions to prosecute or the serving of improvement or prohibition notices. Appeals in these matters must be taken by judicial review.

The ONR is mostly self-funded on a cost recovery model. Approximately 95% of its costs are recovered from its duty holders as fees linked to the provision of a regulatory service. In order to recover costs from duty holders, research activities, international engagements and staff training must be linked to technologies or activities, like reactor types or fuel fabrication, that ONR already regulates, unless funded by government.

Defence Nuclear Safety Regulator: The Defence Nuclear Safety Regulator (DNSR) operates within the Defence Safety Authority (DSA) of the Ministry of Defence (MOD) alongside other defence regulators, for example maritime, ordnance, aviation or land. As an internal regulatory body, DNSR is independent from the Defence Nuclear Organisation, which is in a different part of MOD. It oversees the nuclear safety and regulatory compliance of the UK's defence nuclear programmes, their environmental impact, and the transport of defence nuclear material. DNSR currently has 28 full-time employees out of a 34-person capacity, mostly civil servants, supported by members of the Royal Navy. It is funded by and sits within the MOD.

DNSR authorisation largely mirrors ONR licensing to ensure regulation to the same standard. However, it also includes Further Authorisation Conditions (FACs) and a Transport Condition (TC) to address issues unique to the delivery of military capability. These unique requirements and the national security imperative explain its separation from the ONR.

The defence sector applies Derogations, Exemptions, or Dis-applications (DEDs) from the UK legislation and regulation where full compliance is not possible. In such cases, the Secretary of State for Defence HSEP Policy Statement requires the Department to maintain arrangements that, so far as reasonably practicable, achieve outcomes at least as good as those required by legislation.

The DNSR does not have direct legal powers. Its authority is derived from MOD policy rather than statutory legislation. It can raise concerns, provide recommendations, and escalate issues to senior MOD leadership, but ultimately does not have the powers of enforcement that the ONR has.

Environment Agency: The Environment Agency (EA) is the regulator in England responsible for protecting and improving the environment and contributing to sustainable development, with Natural Resources Wales (NRW) and the Scottish Environment Protection Agency (SEPA) providing the similar regulatory activities in Wales and Scotland, respectively. Together these agencies' remit includes oversight of the UK nuclear industry's environmental impact. We will focus primarily on the EA as our scope relates to England only.

The EA ensures that duty holders comply with environmental standards, including for radioactive materials. It issues environmental permits for nuclear sites, monitors discharges, and enforces compliance with regulations to prevent pollution and safeguard natural resources.

The EA is primarily funded through a combination of government grants and fees and charges for services. The EA charging depends on the activity you are carrying out and regulations that apply.

The EA is subject to judicial review and any decisions they take can be appealed by third parties to a far greater extent than those of the ONR. The Office for Environmental Protection oversees the EA's decisions.

Other Relevant Regulators: There are several other relevant civil and defence regulators, including national and local planning and HSE. A more detailed list can be found in Annexe B.

- Health and Safety Executive (HSE)
- Office for Environmental Protection (OEP)
- Marine Management Organisation (MMO)
- Natural England (NE)
- The Planning Inspectorate
- Defence Maritime Regulator (DMR)
- Defence Ordnance, Munitions & Explosives Safety Regulator (DOSR)
- Defence Land Safety Regulator (DLSR)
- Defence Fire Safety Regulator (DFSR)
- Defence Environmental Protection Regulator (DEPR)

Regulatory Concepts

There are several key concepts underpinning the UK regulatory framework which relate to the issues discussed in this report. A full list can be found in Annexe C.

The goal-setting approach in the Health and Safety at Work etc Act, 1974, and legal requirement 'so far as is reasonably practicable' (known as the ALARP principle) are central to the UK's outcome-focused approach to regulation which allows for flexibility in how duty holders and those engaging with regulatory processes demonstrate compliance. The Tolerability of Risk Framework (first set out in 1988) is used to inform decision-making.

ONR's Safety Assessment Principles define Basic Safety Levels (BSL) and Basic Safety Objectives (BSO). BSL and BSO are presented as Targets rather than Principles and refer to established dose limits for individuals exposed to radiation, both on-site and off-site, during normal operation and potential accidents.

Similarly, to protect the environment, operators must demonstrate that radiation exposures are within limits and optimised, so that they are as low as reasonably achievable (ALARA) taking social, economic, and environmental factors into account. This is given effect using the concept of **best available techniques** (BAT).

The UK Health Security Agency estimates that on average in the UK, people are exposed to about 2.7 millisieverts (mSv) of radiation a year, 99% from natural sources and medical exposures. The UK regulated dose limits from ionising radiation activities is the same as the international standard; 20 mSv for radiation workers and 1 mSv for members of the public.

Regulatory Processes

Nuclear safety regulation in the UK mainly operates through licence compliance inspections and the assessment of safety cases.

The ONR conducts both planned and unannounced inspections primarily to ensure that UK nuclear sites comply with the 36 licence conditions. Inspection can include activities such as reviewing records, observing operations, discussions with management and staff, and examining safety systems, to confirm that safety case measures are effectively implemented in practice. Inspections are rated, documented in reports and may result in recommendation or enforcement actions. Summaries are publicly available on the ONR website.

Safety cases are formal documents produced by the licensee that show they understand the hazards and how they control them and demonstrates they have reduced risks to ALARP. Safety cases are developed before key stages of a nuclear facility's lifecycle, such as pre-construction, operation and decommissioning, to demonstrate that activities are carried out safely. The safety case must be maintained and updated whenever significant changes occur, such as modification to plant systems or changes in operating conditions. Periodic reviews, usually every ten years, ensure they remain current and compliant throughout the facility's life. Safety cases are also produced periodically for 'permissioning' activities (e.g. around a specific event, such as restarting a reactor after refuelling).

Inspectors assess safety cases to ensure risks are ALARP using ONR's Safety Assessment Principles (SAPs) which are guides for the inspectors, rather than the licensees, although in practice they are used as guidance by Developers and Duty holders in developing their safety arguments. The SAPs are supplemented by more detailed guidance documents, the Technical Inspection Guides (TIGs) and Technical Assessment Guidance (TAGs).

The DNSR similarly conducts risk-based inspections to oversee the safety of the MOD's nuclear activities. DNSR inspections, whether routine, thematic, follow-up or unannounced, assess compliance of MOD nuclear safety policies and the sites approved safety cases. DNSR inspectors inspect in the same way as ONR inspectors. Findings are formally reported, with DNSR able to require improvements or escalate issues to maintain stringent defence nuclear safety standards.

There are also a specific set of processes that need to be followed before an organisation can begin building or operating a nuclear site. These include:

1. **Justification:** The principle is that acceptance of certain levels of risk, such as the use of ionising radiation, should do more good than harm. Application of this principle is recognised as international good practice. Weighing up benefits against harms is implicit in all policy making and regulation; the justification principle means that this exercise is formalised in relation to ionising radiation, in recognition of the unique potential for benefit but also detriments of ionising radiation.

2. **Planning:** Depending on the location, and the megawatt-output of a reactor, there are different layers of national and local government responsible for planning decisions. In England, reactors over 50MW are classified as Nationally Significant Infrastructure Projects (NSIPs) and must obtain development consent. Local planning applications are used for enabling or ancillary development. In the decommissioning context, planning permission is also necessary.

3. **Site licensing:** There are 36 Licence Conditions set out by the ONR but not all compliance arrangements need to be in place at the point a nuclear site licence is granted. The situation with regards to Defence sites is very complex: activities are authorised by the DNSR but some sites and companies are also licensed by ONR.

4. **Permitting:** Statutory environmental bodies are separately responsible for receiving applications for the environmental permits that are required for planning, constructing and operating a new nuclear power plant. Relevant activities that require an environmental permit include discharges and disposals of radioactive waste, the operation of combustion plants providing construction and standby generation or for steam raising, and abstraction of water and waste operations.

5. **Generic Design Assessment (GDA):** This is a separate voluntary process outside of licensing whereby, at the request of nuclear reactor vendors and with the DESNZ Secretary of State's approval, the ONR and the environmental regulators assess new generic (i.e. site independent) nuclear power station designs. This is intended to de-risk later licensing and permitting by enabling potential operators or developers to gain early regulatory confidence before committing to site-specific plans and construction. The full GDA process is dependent on the readiness / maturity of the requesting party and a successful completion issues a Design Acceptance Confirmation (DAC) from the ONR and a Statement of Design Acceptability (SoDA) from the environmental regulator. The full process can take up to four years.

Overall System of Regulation

These regulatory obligations create a complex interlinked and overlapping system for duty holders to navigate and are interwoven with requirements to produce Environmental Impact Assessments, and Habitats Regulations Assessments. All nuclear sites need to manage elements of goal-based (e.g. nuclear safety) and more prescriptive regulation, necessitating different approaches, while some sites have multiple regulators present on different parts of the site – sometimes expecting the same risk to be managed in different ways.

The interaction between different regulatory organisations and approaches can also exacerbate the complexity of already challenging hazards. At some sites, individual arrangements have been made to improve coordination and handover between regulators, including informal 'lead regulator' arrangements. However, this is not formalised or standardised, and in many cases, there are numerous regulatory decision makers who need to be consulted.

In defence there are currently nine authorisees. There is no 'lead authorisee' with an overview of the Defence Nuclear Programme and therefore balancing safety decisions across the whole defence landscape is problematic.

Chapter 5: Consultation

Consultation Methodology

The Taskforce published a call for evidence in April inviting stakeholders to submit responses. The call for evidence invited views on:

- The strengths and weaknesses of the current nuclear regulatory system across the plant lifecycle, including licencing, safety, environment and planning;
- whether regulatory burdens are proportionate to risk; and,
- how well the regulatory framework supports innovative technologies like SMRs and AMRs;
- features of the system that causes regulatory delays;
- enablers of innovation;
- the effectiveness of industry-regulator interactions; and,
- relevant best practices from other sectors or countries.

Over 100 responses were received, including from regulators, operators, industry experts, academia, developers, investors and the wider civil society. A large proportion of the responses related to the civil nuclear sector (54% entirely and 36% mostly) with 30% of total responses coming from wider civil society and 30% from mostly civil industry stakeholders. Some responses were received from individuals in industry or regulators who wished to remain anonymous. Responses included a mixture of evidence, opinions and lived experiences, alongside case studies that offered practical insights and real-world examples from various stakeholders.

Summary of Consultation Returns

Feedback on what works

Feedback from the consultation and engagements carried out by the Taskforce suggest UK nuclear regulation is generally effective and considered world leading in some areas.

The UK is widely recognised for its commitment to nuclear safety, security, safeguards and environmental protection, ensuring that any adverse incidents are investigated in a thorough and transparent manner. This commitment is exemplified by the industry's safety performance record which is consistently better than other high-hazard industries and energy sectors.

The UK's goal-based regulatory framework was praised for its adaptability, requiring operators to reduce risks to the lowest practicable level rather than simply meeting fixed standards. This approach ensures that safety remains a top priority, adapting and evolving in step with advancements in technology and knowledge. In theory, this means that for example, that an inherently safer design might not need a particular safety measure or could receive less regulatory attention.

The sector's ability to adapt and innovate in nuclear safety is a potential strength. The goal-based framework empowers duty-holders to develop tailored solutions to complex challenges. Cutting-edge advances in robotics and automation are driving improvements in

operational safety, while breakthroughs in SMRs, advanced fuel cycles, and next-generation designs have the opportunity to shape a future of cleaner, more flexible, and cost-effective nuclear energy.

UK regulators are widely regarded as experts in their field, instilling confidence in their decisions, enhancing international credibility, and investor confidence. Approval by UK regulators is seen as a quality mark internationally, which enhances UK exports. Respondents emphasised the importance of regulators being independent from government and not unduly influenced by industry. Their transparency, proactive engagement with stakeholders, and active international collaboration were also highlighted as key strengths.

While the regulatory system is complex, its well-established and predictable nature is seen as a significant asset, offering stability and clarity to stakeholders across the sector and instilling public confidence.

Feedback on challenges

The feedback revealed several fundamental concerns about how regulation operates, the most prominent being the system is perceived to be unnecessarily slow, inefficient, and costly.

Current planning and environmental regulatory frameworks are seen as poorly equipped to support the deployment of new nuclear technologies and fail to account for the overall environmental benefits of nuclear as a low-carbon energy source. A lack of collaboration and excessive overlap between regulatory processes creates duplication of effort and wasted resources for duty-holders. Limited recognition of approvals from trusted international regulators further compounds inefficiency and duplication.

Any nuclear project involves hundreds, if not thousands, of individual regulated decisions and a delay in any one of these has the ability to hold up an entire project, with huge cost and time implications. It is not clear that the system requires the relevant decision makers, whether duty-holders or regulators, to weigh the wider costs against the benefits they seek to achieve by such delay.

These flaws are seen in the practical application of regulatory processes and frameworks. The goal-setting and ALARP approach is often applied too loosely, losing sight of proportionality and a clear end point for risk reduction. This can drive duty holders to adopt overly cautious approaches to secure regulatory approval on the first attempt and avoid rework. We have heard that duty holders rarely push-back on regulatory decisions and this, combined with ‘gold-plating’, can mean there is a lack of tension or debate between the duty holder and regulator.

Chapter 6: Emerging Thinking

The Taskforce has identified a range of regulatory challenges which warrant further exploration and discussion. We recognise that making changes to the regulatory landscape can have wide-reaching implications, including increasing costs in the short-term. This section is a statement of the main problems we have seen. We invite responses on proposed solutions.

We are keen, wherever possible, to retain and build on the many positive features of the UK regulatory system, and to ensure that our high safety and standards are maintained.

Risk Management & Proportionality

Effective and proportional management of risk is vital in the nuclear sector. With growing demands for the effective and timely delivery of nuclear projects, there is a need to re-examine whether the UK's approach to risk management is enabling delivery in a manner that is proportionate.

The Application of ALARP

There are several issues with the application of ALARP by both duty-holders and by regulators. These problems arise mainly from how the words 'Reasonably Practicable' are interpreted and used in practice. A re-evaluation seems necessary to resolve these issues.

Lack of Strategic Consideration: Duty-holders and individual nuclear inspectors sometimes adopt a predominantly 'local view' in risk reduction without considering broader strategic considerations, such as cost, programme delays, or national imperatives. This approach fosters a far more conservative outcome. Issues rarely get escalated and where they are, better may still be shy of best.

Risk Aversion: Numerous examples have been brought to the Taskforce's attention of costly, conservative, and risk-averse measures, often exceeding what is required by the ALARP principle. This may stem from a desire to achieve 'right first time' success with Safety Cases or other approvals. This may be exacerbated by weak incentives for some duty holders to control costs.

Regulatory Guidance: Regulatory guidance is intended to enable a proportionate approach to risk management. In practice much of it may act prescriptively. For instance, it appears that the interpretation of ALARP often drives risks to levels far lower than those associated with everyday risks. Similarly, concepts such as Relevant Good Practice (RGP) can encourage the implementation of changes that are not essential for risk management but are deemed desirable because they align with a recent practice.

Reluctance to Challenge: Duty-holders rarely challenge the regulator or its frameworks. Some duty holders have told us that they don't challenge because it may damage their reputation for safety in the eyes of the regulator or with the public. Challenge also causes delay, which can be incredibly costly. The system in practice lacks the necessary tension, where duty-holders pull in one direction and the regulators in the other. If both are incentivised to prioritise continual risk reduction, then risk may reduce far lower than is proportionate. If these higher standards then become guidance in the future, there is a ratchet effect over

time where standards constantly become higher without regard to the cost or proportionality. Nobody is actively making these decisions and accountability for the rising standards is unclear. This is a serious systemic problem.

Proportionality in Environmental Assessments

Nuclear projects are large-scale and complex, typically requiring assessment of environmental impact, public consultations, and compliance with a variety of regulatory systems. We have heard evidence of the following issues surrounding environmental assessments:

Lack of proportionality: The application of the Habitats Regulations Assessments (HRA) and Environmental Impact Assessments (EIA) appears to lack proportionality. This is driven by the underlying legislation, but may be driven by judicial review, as Lord Banner KC's review established. The Government has just published a Post-Implementation Review (PIR) of both the onshore and offshore Habitats Regulations to address some of these issues and to improve the effectiveness of the regulation's implementation.

Costly processes over environmental outcomes: The lack of proportionality results in high-cost mitigation measures being implemented, sometimes without improving overall environmental outcomes. Sometimes this is an inability or aversion to net off environmental losses in one area with environmental gains in another. This is highly relevant to nuclear sites which may damage habitats during their construction but, because of their remote locations and zero emissions, may enhance local habitats over the decades of operation. The Corry review noted that, as a result of the Habitats Regulations, the regulators take a prescriptive approach to protecting what we have now rather than focusing on nature recovery. The next steps of the PIR on the Habitats Regulations will consider the recommendations from the Corry review which we intend to build on.

The Taskforce is considering the effect of the amendments to the Infrastructure Planning Bill relating to Environmental Delivery Plans which have recently been accepted by the Government, but is concerned that more fundamental and meaningful changes may be required to Habitats Regulations in order to reduce risk aversion which arises from an excessively precautionary approach to identifying adverse impacts and not defining key terms (such as "alternative solutions") in line with national policy.

Lack of flexibility: Developers must carefully manage and request changes to permits as projects evolve on large scale construction projects. The current system offers limited flexibility to accommodate modest permit changes, with a new environmental protection measure potentially triggering a reassessment of a nuclear safety issue. Developers may be forced to stick with less optimal solutions to avoid triggering lengthy reapproval processes, ultimately undermining the ability to deliver better outcomes for communities and the environment.

Proportionality in Dose Targets

International safety standards relating to radiological protection are based on the recommendations of international bodies such as UNSCEAR and ICRP. These have been adopted into UK regulations such as IRR17 and form the basis for the system of radiological protection in the UK and regulatory guidance. The dose limits and targets that arise are based on the concept of the Linear No-Threshold model (LNT) which assumes stochastic risk increases linearly with dose and that no level of exposure is entirely risk-free. Some critics have stated that this model overestimates the risks at low doses and are challenging its use.

There is a wide-ranging international consensus that LNT is, based on long-term and detailed studies, the most appropriate compared to other, more complex models. Without moving away from LNT, there are questions about its application in the UK. In some areas, the dose constraints agreed internationally are already conservative in terms of harm, and some regulatory targets, such as in some of ONR's BSOs, are even lower.

Interim summary and questions for further consultation:

The preliminary view of the Taskforce is that problems with proportionate decision-making are interrelated and systemic. Various incentives drive more costly and time-consuming standards with no substantive safety or environmental benefits.

While this issue is not unique to the nuclear sector, it is exacerbated by the perception that nuclear technologies present uniquely high risks. Recommendations to address proportionality need to address the behaviours and incentives of both the regulators and duty holders.

The Taskforce would welcome further evidence and views on:

1. What changes to regulatory guidance or processes would encourage regulators or duty holders to take a more proportionate approach?
    a. In environmental regulation, how could EIA Regulations and Habitats Regulations, or their application on the nuclear estate, be amended to encourage proportionality? For example, could environmental cost during construction be compensated by longer term environmental gains once operation has begun, or by the wider environmental benefits of low carbon energy.
    b. What measures could prevent vexatious judicial reviews from driving disproportionate approaches that increase costs and delay?
2. How can we create an appropriate level of tension and debate between regulators and duty holders? How could constructive challenge be incentivised without increasing delay?
3. Are there examples where 'offsetting' harm can deliver more comprehensive and long-term benefits? For instance, in environmental regulation, what would be the impact of allowing organisations to pay for environmental conservation and enhancement efforts off-site?

The Complexity of the Regulatory and Planning Landscape

Excessive complexity or contradictory directives can create challenges for both established and new participants in the sector, ultimately limiting potential to deliver projects on time and within budget. We have clear evidence surrounding the following issues.

Multiple regulators and duplication of effort: The evolution of both the civil and defence regulatory frameworks has resulted in increased complexity as the sector has grown, with overlapping regulatory requirements and duplicative consultations. This leads to an inconsistent understanding of applicable standards, difficulty in setting clear compliance

expectations, and ultimately duplicative and nugatory work with increases in paperwork and processes. Excessive complexity may be counter-productive, making it more difficult to focus on the most important priorities in a simple, clear and cost-effective manner.

Overlap in processes: Approvals associated with the initial establishment of a nuclear project are susceptible to overlapping requirements and scope creep. Regulatory Justification has been singled out by many stakeholders as ineffective and duplicative. It requires significant design information, forcing developers to demonstrate the same safety and environmental benefits scrutinised under other processes at a very early stage, without the commensurate benefits of smoother approval later in the process.

Lack of coherence within and between regulators: Not only is there inconsistency between different regulators, there appear to be examples of inconsistency between different personnel within the same regulatory body. This differs horizontally, by differing expertise, and vertically, where more senior regulators may take a broader view. This results in poor decisions, or rework, delays, duplication of effort and strategic misalignment, undermining confidence in the regulatory process.

Some duty holder sites have established groups, such as the Sellafield 'G6' and Devonport 'D6', which bring together senior representatives from six key stakeholders to address particularly complex regulatory challenges and identify solutions. These groups have improved coherence and coordination among the multiple regulators, duty holders, and government bodies involved in site activities. The rationalisation of requirements and approaches achieved by these groups is needed across the regulatory landscape at a foundational level. This, in turn, would support the management of coherence and alignment issues in specific and complex cases.

Interim summary and questions for further consultation:

The Taskforce believes that the current system is difficult to navigate and duplicative, particularly for new entrants. We believe there are opportunities to reduce duplication of work between regulators, within regulators and in regulatory processes.

We are mindful that changing regulatory processes and boundaries (e.g. merging regulators) would be time consuming and may cause significant disruption, at a time when regulatory capacity is already stretched. While we welcome suggestions for radical change, we want to be certain that the impact of these changes will outweigh the cost.

We would welcome further evidence and views on:

4. Are there specific consents or regulations that could be consolidated into a single process to avoid duplication while ensuring clarity around procedural requirements? For instance, the Justification process (JOPPIR) is often cited as duplicative. What are the opportunities and challenges of streamlining this process by issuing immediate regulatory justification for classes of practice, such as (for example, Light Water Reactors)?

5. Are there compelling benefits to changing regulatory boundaries that would outweigh the disruption? If so, please provide evidence to support that.

Challenges with the Planning Regime

The current nuclear planning regulatory framework in the UK allows for some degree of innovation but presents significant challenges, particularly for emerging technologies such as Small Modular Reactors (SMRs) and Advanced Modular Reactors (AMRs). The UK planning system is not well suited for these technologies as they must meet existing safety standards designed for traditional, large-scale reactors. Innovations that make reactors fundamentally safer may not get due regulatory recognition, reducing incentives for such innovation in the first place. More generally, the complexity of the system may be a barrier to entry for newer and more innovative companies or approaches.

Our consultation raised the following concerns.

Proportionality in the NSIP regime: Despite the Nationally Significant Infrastructure Project (NSIP) regime aiming to avoid prolonged planning inquiries, many proposals have spent a substantial amount of time in the 'pre-application phase' and decision phase causing huge delays to projects. Whilst delays are preferable to refusals, there is a question about whether further measures are likely required to address the delays by incentivising quick and better decision-making.

Lack of fleet approach: The current approach to new nuclear build treats each project as a standalone effort, requiring separate regulatory approvals, design documentation, procurement processes and workforce planning. This constant re-invention of something replicable is inefficient and costly. The concept of standardisation, across planning and regulatory regimes, does not appear to be sufficiently recognised. We have been told that this is common across UK infrastructure and not unique to the nuclear sector.

Outdated policy: The methodology used in the semi-urban population density criteria, is based on older reactor types. It produces identical results for all reactor types if local demographics are the same and does not consider differences between different types of reactors or local conditions. We believe there has been a missed opportunity to update EN-7 and have heard compelling evidence that this is preventing suitable sites from coming forward, undermining the intention to unlock new sites. The default outline planning zone distances used in REPPIR19 are similarly outdated and do not account for new reactor types.

Interim summary and questions for further consultation:

The Taskforce will look further at how the planning regime can be reformed to enable innovation and delivery of advanced nuclear technologies.

6. What changes to NSIP guidance are needed to ensure that the regulatory process fully captures all relevant costs and benefits and balances them appropriately?
7. Could the National Policy Statement be adapted to enable a fleet approach of approvals for identical or largely similar design scheme?
8. Does the current semi-urban population density criteria prevent otherwise suitable sites coming forward, and if so how should they be changed?

Capacity, Capability, Culture

The availability of sufficient regulatory resource with the relevant technical knowledge, understanding and experience, are interdependent pillars of any successful regulatory regime. Even with well-crafted regulations, a lack of capacity, capability, or a strong organisational culture will make achieving effective, consistent, on-budget, and on-time solutions difficult.

The scarcity of nuclear expertise is a concern across both the defence and civil sectors. This is not just the number of people, but also the range and depth of experience and expertise, known in the industry as Suitably Qualified and Experienced Personnel (SQEP).

Capacity & Capability

Availability of SQEP: The system relies on good judgement by confident and experienced individuals both within duty holders and regulators to ensure that proportionate, consistent and informed decisions are applied. A lack of SQEP can lead to overly cautious thinking and unnecessarily conservative decision-making on safety issues. The current availability of SQEP appears insufficient to support the full breadth of current nuclear programmes in the UK, let alone any planned expansion of demand.

Ageing workforce: The Nuclear Skills Plan has already identified the current workforce is skewed towards latter-half career individuals. For the civil sector this presents a cliff edge in capability for regulators, as experienced personnel begin to retire. We are particularly concerned that a large number of retirements has happen before sufficient new people are recruited, trained, and given relevant experience; we consider that urgent action is required in this area.

Outsourcing: The UK nuclear industry is heavily reliant on a small number of highly specialised contracted entities to support the design, production, maintenance, and disposal of its platforms and facilities. This affects the delivery of programmes, especially in defence. The most extreme is DNSR which is significantly under-resourced considering the scale of its regulatory duties. DNSR also relies on external contracted support because of salary differentials between the civil service and the private sector. In addition to being a false economy, it raises concerns about adverse incentives for delivery of overall outcomes.

Salary: The inability of public bodies / regulators to offer sufficiently attractive salaries to enable recruitment and retention of experienced experts leads to a dependency on third party consultancy organisations or regulators losing talent to competitors.

Charging Model: The ONR's charging model has been described as opaque and inconsistent, with costs that are difficult to anticipate, meaning that duty holders struggle to budget over the financial year. The EA model, where an estimate is presented at the start of each year was viewed favourably as more predictable by comparison.

Cultural Issues

In addition to the skills issues outlined above, there is compelling evidence that organisational culture has a considerable impact on the effective and efficient delivery of nuclear programmes. Whilst *safety culture* across the sector has received considerable attention, evidence received by the Taskforce has highlighted other cultural attributes that do not enable the smooth delivery of nuclear programmes. These include a culture of risk aversion

irrespective of cost, compliance with increasingly complex processes and procedures, and bureaucracy. Whilst these attributes have been recognised, there appears to be little incentive to transform the culture or the committed leadership (or levers) to do so.

Improving the effective and safe delivery of an expanding nuclear programme requires that negative cultural behaviours are recognised and addressed. Regulators and duty holders should articulate clearly the cultural values and behaviours expected to deliver efficient nuclear programmes safely. This will require effective leadership, clear incentives, and inclusive transformation programmes to shift the culture to one that focuses on delivering outcomes which balance ALARP with societal benefits, that challenges complexity and drives simplicity, that prioritises real safety over 'paper safety' and enables responsible and streamlined decision-making over ineffective and protracted discussions through multiple committees.

Interim summary and questions for further consultation:

Addressing the cultural issues alongside streamlining management decision-making and simplifying approaches to safety is fundamentally important. We need to shift the workforce away from nugatory bureaucracy, protracted decision-making, and overly complex safety cases, to focus the existing skills on the safe delivery of programme outcomes in a far more effective and efficient manner. Whilst expansion is needed in capacity and capability, we believe that with the right leadership the existing workforce has the opportunity to deliver far more for less with no detriment to safety. One way to incentivise cultural and behavioural change could be for government to include the priority of delivery of benefits to time and cost without compromising safety standards in a strategic steer. We return to this in the final chapter.

The taskforce has identified a number of areas for further exploration including a time-limited boost to ONR capacity to reduce the impact of the cliff-edge drop in capability due to retirement, increases to capacity within DNSR, and development of operational experience in the regulatory community.

9. What measures would create more effective collaboration and common resourcing between regulators?
10. Are Strategic Workforce Plans sufficiently mature across all organisations to ensure that SQEP skills can be delivered in sufficient numbers and within the correct timescales?
11. What incentives and approaches might address the cultural issues identified to drive a reduction in complexity and bureaucracy?

International Harmonisation

The nature of nuclear projects offers opportunity for international collaboration through the harmonisation and standardisation of industry and regulatory approaches. Many developers and operators want to take advantage of a fleet-based approach to maximise economy of scale. This is particularly true when considering designs developed and deployed overseas where developers have had an expectation of a 'Global Fleet' thus ensuring common designs from one country to another.

There are some international initiatives in this area such as IAEA's Nuclear Harmonisation and Standardisation Initiative (NHSI) and others in NEA and WNA. However, each national regulator has its own approach, interpretation of international standards, and legal framework, which adds significant complexity, costs, and delays when seeking approvals in different countries. This is also true for individual, smaller components, which often need to be re-validated in each country of operation.

It is necessary for each regulator to reassure itself that a design is appropriately safe, based on national laws, regulations, codes, standards and policies. But it is clear that where a trusted, experienced international regulator has thoroughly assessed a component or design, there can be unnecessary duplication, especially if starting the regulatory process from scratch. A goal-based system should make it easier for a duty holder to rely on an existing accepted standard from a respectable jurisdiction. It is not clear that this benefit of a goal-based system is achieved in the UK.

Unclear alignment/deviation: Currently, it is not always clear to operators where national regulators are aligned and where they differ. The onus is on the requesting party to understand the different systems and tailor their approach accordingly. Even between systems that are based on different principles (e.g. goal-based and prescriptive regulation), there are areas where regulatory approaches are similar. Identifying and signposting these areas would allow duty-holders to reuse justifications and validation provided to other regulators, reducing duplication and allowing UK regulators to consider this as supporting evidence in their decision-making.

Lack of recognition of international regulatory decisions: UK regulators have limited mechanisms by which other countries' regulatory decisions can be taken into account, and it appears that longstanding practices in another country are rarely considered 'Relevant Good Practice', despite this being possible. Even where a component or design has been used safely in another country for many years, the assumption is that a new and separate regulatory decision will need to be made for the UK. For components, in-country testing or validation of design is typically required before permission for use can be granted. This effectively leads to 'double' regulation on components and designs already approved by trusted foreign regulators. There appear to be some particularly egregious examples on the defence side.

This issue is compounded when not everything can be shared due to the originator's intellectual property requirements, and there are different engineering design codes and standards in different countries. In safety cases, it can be difficult to substantiate claims about these components, requiring UK organisations to complete their own testing to ensure compliance with UK regulatory standards, despite significant evidence for their safe operational use elsewhere.

Interim summary and questions for further consultation:

The Taskforce notes recent positive progress made in this area, including civil nuclear agreements between the UK, US and Canada regarding parallel assessment of SMRs, and the access to the Rolls-Royce SMR Generic Design Assessment process given to a group of European regulators.

We are undertaking further analysis to determine the similarities between the UK regulatory system and key partners to understand where international harmonisation could deliver most benefit. The Taskforce also believes that international recognition of UK regulatory decisions could unlock export opportunities, and this should be explored further.

12. Where is there sufficient international agreement to enable mutual recognition?
13. Should duty holders have mechanisms to challenge regulators when they require significant new evidence of compliance, beyond what has been sufficient for international regulators?
14. What could we put in place to enable regulators to give faster approval, where such approval has already been granted in another country with similar regulatory standards?

Insufficient understanding of the cost of delays

As with any large scale infrastructure project, delays to nuclear projects have potentially enormous financial, labour and material costs. These indirect costs are often not taken into account by regulators in their analysis of what measures are proportionate to reduce the risk.

Cost Benefit Analysis: Accurately identifying and quantifying relevant costs and benefits is an essential part of proportionate decision making. It is not clear that costs – particularly indirect costs – are adequately taken into account by regulators in the current approach. Non-monetary factors, such as environmental or social impacts, are particularly challenging to quantify, and the responsibility falls on duty holders to demonstrate their value. There is no guarantee that regulators will agree with their assessment, adding uncertainty to the process. It is also not clear that national-level impacts, such as the energy security or defence benefits of a completed project, are sufficiently taken into account by the current regulatory process.

Export controls: Export controls are government-to-government non-proliferation agreements to assure that nuclear materials and technologies are not diverted from peaceful to weapons uses. There is frustration with how difficult it is to estimate timelines for receiving licenses, leading to uncertainty in project planning and potential delays.

Interim summary and questions for further consultation:

Indirect costs and uncertain timelines clearly impact upon regulator and duty holder decision making. Resolution of these factors is required to enable effective decision making at every level.

15. How could the application of ALARP and cost benefit analysis be adapted to ensure that the cost of proposed safety measures is proportionate, avoiding undue delays for measures that do not significantly reduce risks?

16. Would more clearly defining tolerability be sufficient to achieve an appropriate balance between the costs and benefits of regulatory intervention, or would additional measures be required? If so, what measures would you suggest?

Chapter 7: Key Findings and Next Steps

This report summarises the emerging thinking resultant from review of initial consultations. Overarching themes have been established which, whilst interconnected, provide firm foundations for the development of recommendations and actions which will affect the needed change.

Questions posed throughout this report demonstrate the intended next steps, and comments and considerations from industry stakeholders are therefore welcome to inform ongoing work. Equally, if there are fundamental disagreements on the cause of identified issues, feedback as such will be equally well-received. Please direct concise and evidence-based responses by the 8th of September to our mailbox: nuclearregulatorytaskforce@energysecurity.gov.uk

Key Findings

There are areas where consensus has been achieved, and the Taskforce are minded to outline anticipated recommendations. The most prominent of these is the need for a firm strategic steer from government to establish national policy and strategy for nuclear safety.

Whilst the current policy, as set out in the NIA 1965, establishes mechanisms for taking social and economic impacts into account, it does not address broader leadership and strategic direction on safety management. The Taskforce believes at this stage that a strategic steer from government would contribute to the effective and efficient delivery of safe nuclear programmes and could achieve considerable benefits in the short and medium term. Both the ONR and the EA have noted they would welcome such a measure.

A strategic steer would communicate a clear set of national priorities for the regulators. To be effective, the steer must outline the economic, environmental, and societal benefits of efficient large-scale nuclear delivery, drive the cultural changes needed to achieve it, and uphold independent regulatory decision-making. Duty Holders and Regulators would be expected to incorporate this steer into their broader strategies, re-aligning priorities to focus on achieving outcomes that are both safe and efficient.

We recommend that work on the strategic steer commence immediately, with the aim of enabling the Government to publish a draft for consultation alongside our final report. This approach would allow us to collaborate with the Government on the content of the steer, ensuring it aligns with our recommendations and achieves the greatest immediate positive impact. There is a clear need to introduce a number of modifications to the environmental planning and permitting regimes. These could include the substitution of protected areas, providing options for developers to pay for environmental protection in a substitute area, encouraging greater proportionality in the HRA, or eliminating duplication via repeated EIAs or HRAs where there has been no material change. Proposals such as these shall be tested in further engagements, with final recommendations being delivered in the full report.

Questions for further consultation:

17. What specific content do you believe should be included in a strategic steer to drive immediate positive change?
18. Do you agree with the need for modifications to the environmental planning and permitting regimes, and if so, what specifically should change?

Next Steps

To build on the thematic issues thus far identified, and to begin compiling discrete recommendations for government action, the Taskforce shall host a series of engagement sessions. These will test the contents of this report with industry stakeholders, ensuring that the issues raised accurately reflect perceived challenges, and look to canvass for solutions.

As with the first round of consultations, the Taskforce will be grateful for cooperation from interested parties such that we may progress, in cohesion, with resolving the challenges of the day and unlocking the UK's nuclear potential.

Annexes

Annexe A: Key Regulatory Legislation

Regulation	Definition
Ionising Radiation Regulations (IRR, 2017)	IRR17 applies to a large range of workplaces where radioactive substances and electrical equipment emitting ionising radiation are used. They also apply to work with natural radiation, including work in which people are exposed to naturally occurring radon gas and its decay products. IRR17 requires employers to keep exposure to ionising radiations as low as reasonably practicable. Exposures must not exceed specified dose limits. Restriction of exposure should be achieved first by means of engineering control and design features.
Radiation (Emergency Preparedness and Public Information) Regulations (REPPIR, 2019)	REPPIR19 came into force on the 22 May 2019, updating and replacing REPPIR 2001. The regulations establish a framework for emergency preparedness and response that is commensurate and proportionate to a full range of nuclear and radiological emergencies, including unforeseen events. REPPIR19 introduced several key changes including a standardised approach to the assessment of risks associated with a radiation emergency, outline planning zones and default distances for higher-risk facilities.
Justification of Practices Involving Ionising Radiation Regulations (JoPIIRR, 2004)	Our regulatory justification system derives from IAEA recommendations to which the UK is a signatory. Member states are required to establish an appropriate regime of regulatory control based on the principles of justification, optimisation, and dose limitation – that is justifying the technology, optimising it for use and limiting the radiological impacts. The regime aims to protect people and the environment from harmful levels of radiation. It applies across all sectors (not just nuclear) where activities give rise to exposure to ionising radiation.
Habitats Regulations Assessment (HRA) under the Conservation of Habitats and Species Regulations 2017	The environmental regulators are responsible for the Habitats Regulations Assessment (HRA) under the Conservation of Habitats and Species Regulations 2017. The process assesses whether the project/plans could trigger an adverse effect on the protected site itself or upon its qualifying features. The regulators ensure activities carried out under an environmental permit will not have a negative effect on vulnerable species and habitats/ contribute to their loss.

Regulation	Definition
Planning Act 2008	Established the Nationally Significant Infrastructure Projects (NSIP) regime, a specific process for consenting major infrastructure projects in England and Wales. This regime streamlines the planning process for large-scale developments bypassing local authority planning permission. Instead, developers apply for a Development Consent Order (DCO) from the relevant Secretary of State through the Planning Inspectorate (PINS). Local authorities have the ability to delay planning permission of a NSIP by refusing some pre-construction permissions.
Health and Safety at Work Act (HASAWA, 1974)	The main law governing health and safety at work in Great Britain. Within the general duties, duty holders must take measures to protect people from risks 'so far as is reasonably practicable' (SFAIRP).The Health and Safety Executive has the policy lead for the Act and associated secondary legislation including IRR17 although this is implemented by ONR for nuclear licensed sites.
Environmental Permitting Regulations 2016	This is to streamline the legislative system for industrial and waste installations into a single permitting structure for those activities which have the potential to cause harm to human health or the environment.
Aarhus Convention	A United Nations treaty focusing on public access to environmental information, public participation in environmental decision-making, and access to justice in environmental matters. It essentially grants rights to the public and imposes obligations on public authorities to ensure environmental transparency and accountability. The UK is one of the 47 Parties to this convention.

Annexe B: Other Relevant Regulators

Regulator	Role	Sits under
Health and Safety Executive (HSE)	Regulator for workplace safety (ONR performs this function on its behalf on nuclear licensed sites but may well partner/contract with HSE specialists for specific expertise in e.g. matters of construction regulation)	Executive non-departmental public body, sponsored by the Department for Work and Pensions (DWP)
Office for Environmental Protection (OEP)	Holds government (including MOD) accountable to environmental law	Executive non-departmental public body, sponsored by the Department for Food and Rural Affairs (DEFRA)
Marine Management Organisation (MMO)	Marine licencing and planning (civilian waters, including where MOD interacts with them)	Executive non-departmental public body sponsored by DEFRA
Natural England (NE)	Statutory advisor for the natural environment in England	Executive non-departmental public body sponsored by DEFRA
The Planning Inspectorate	Deals with planning appeals, nationally significant infrastructure planning (NSIP) applications, examinations of local plans and other planning-related and specialist casework in England	Executive agency of the Ministry of Housing, Communities and Local Government (MHCLG)
Defence Maritime Regulator (DMR)	Regulates safety and environmental protection of defence maritime platforms and activities	Sits within the Defence Safety Authority (DSA), internal independent regulator for the Ministry of Defence (MOD)
Defence Ordnance, Munitions & Explosives Safety Regulator (DOSR)	Regulates safety of ordinance, munitions and explosives used by defence	Part of DSA, MOD
Defence Land Safety Regulator (DLSR)	Regulates specified risks to life hazards across the defence land domain	Part of the DSA, MOD

Regulator	Role	Sits under
Defence Fire Safety Regulator (DFSR)	Regulates fire safety policy and compliance across the defence estate and activities	Part of the DSA, MOD
Defence Environmental Protection Regulator (DEPR)	Regulates defence compliance with environmental protection legislation and standards	Part of the DSA, MOD

Annexe C: Regulatory Concepts

Concept	Definition
As Low As Reasonably Practicable (ALARP)	Reducing risks ALARP was first raised as part of the Health & Safety at Work Act (HASAWA) 1974 and is a key principle in UK health and safety regulation. It requires that risks be reduced to the lowest level that is reasonably achievable, balancing the cost, time, and effort of further risk reduction against the benefit gained in terms of safety.
As Low As Reasonably Achievable (ALARA)	All exposures to ionising radiation of any member of the public and of the population as a whole resulting from the disposal of radioactive waste are kept as low as reasonably achievable, taking into account economic and social factors (EPR, 2016 Schedule 23, Part 4, Section 1, para 1(a)).
Best Available Techniques (BAT)	The term "best available techniques" means the latest stage of development (state of the art) of processes, of facilities or of methods of operation which indicate the practical suitability of a particular measure for limiting discharges, emissions and waste. In determining whether a set of processes, facilities and methods of operation constitute the best available techniques in general or individual cases, special consideration shall be given to: a. comparable processes, facilities or methods of operation which have recently been successfully tried out; b. technological advances and changes in scientific knowledge and understanding; c. the economic feasibility of such techniques; d. time limits for installation in both new and existing plants; e. the nature and volume of the discharges and emissions concerned. It therefore follows that what is "best available techniques" for a particular process will change with time in the light of technological advances, economic and social factors, as well as changes in scientific knowledge and understanding. If the reduction of discharges and emissions resulting from the use of best available techniques does not lead to environmentally acceptable results, additional measures have to be applied. "Techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated and dismantled.

Concept	Definition
Basic Safety Objective (BSO) and Levels(BSL)	Arising from Tolerability of Risk outlined in HSE's Reducing Risks, Protecting People, ONR's Safety Assessment Principles define a number of Basic Safety Levels (BSL) and Basic Safety Objectives (BSO). If a risk falls below the BSL, it is considered tolerable if reduced ALARP, if it exceeds the BSL, it is generally deemed intolerable except in exceptional circumstances, and if it is at or below the BSO, it is regarded as broadly acceptable.
Relevant Good Practice (RGP)	In UK regulation RGP refers to widely recognised and established standards or methods for managing risks within specific industries. It is indirectly embedded in the UK legal framework, particularly through the general duties outlined in the HASAWA 1974. Adhering to RGP helps duty holders demonstrate compliance and that risks are ALARP.
Permissive & Prescriptive Regulations	Regulatory styles can be split into two broad groupings; permissive and prescriptive regulations. Permissive regulations provide flexibility by setting broad objectives or outcomes that must be achieved, allowing duty holders to determine how best to meet these requirements based on their specific circumstances. In contrast, prescriptive regulations specify detailed rules, methods, or standards that must be followed, leaving little room for interpretation or alternative approaches but providing significant clarity with regards to what must be done.
Three Lines of Defence (3LOD)	The lines of defence model in regulations is a risk management framework widely used in high-hazard industries to ensure safety and prevent harm. It emphasises three key principles: implementing multiple independent layers of protection, following a hierarchy of controls, and ensuring functional independence to prevent common-mode failures.
Nuclear Site Licence Conditions (LCs) & Authorisation Conditions (ACs)	Nuclear Site LCs and ACs are managed by the ONR and DNSR respectively. They set safety and operational requirements for nuclear facilities and platforms, covering areas such as training, safety documentation, design change, and maintenance.

Concept	Definition
Regulatory Justification	The principle of regulatory justification is enshrined in the Justification of Practices Involving Ionising Radiation Regulations 2004 and requires that any practice involving ionising radiation must demonstrate that its benefits outweigh the potential risks to individuals and society. For example, the generation of low-carbon electricity from multiple specific nuclear reactor designs has been justified due to the contribution to energy security and climate change mitigation, despite the associated risks of radiation and waste management.
Radioactive Waste Management and Disposal	In the UK, radioactive waste management is strictly regulated to protect people and the environment, with oversight provided by the ONR and environmental agencies. Waste is categorised depending on its specific activity into High Level Waste (HLW), Intermediate Level Waste (ILW), and Low Level Waste(LLW), and managed in accordance with the health risks posed. The regulatory framework is underpinned by legislation such as the Environmental Permitting (England and Wales) Regulations 2016 (EPR16) in England and Wales, the Environmental Authorisations (Scotland) Regulations 2018 in Scotland, and international principles like those from the International Atomic Energy Agency (IAEA).
Dose Management	Dose management is governed mainly by the Ionising Radiations Regulations 2017 (IRR17), which ensure radiation exposure is maintained ALARP. It establishes that dose exposure must be for a justifiable purpose, it must be optimised to minimise uptake and limited below specific targets. Regulatory oversight for the exposure to ionising radiations is provided by the ONR, with employers required to conduct risk assessments, monitor doses, and implement controls to protect workers, the public, and the environment.
Dose Uptake Measurement	With the exception of severe accident conditions, all dose uptake in the UK nuclear sector will be chronic – repeated, low-level exposure over a long period. For effective doses of ionising radiations, a measure reflecting the potential biological effects of absorbed radiation in human tissue, the unit of sievert (Sv) is used. This risk of developing stochastic effects over a lifetime, such as cancer, is typically expressed as a probability per sievert, for which the International Commission on Radiological Protection (ICRP) provides an approximate value of 5% per sievert for the general population. Therefore for the millisievert (mSv), the more widely used sub-unit, there is a 0.005% risk increase per mSv absorbed.

Concept	Definition
Linear No Threshold (LNT) Model	To enable impact assessment of ionising radiation exposure, the LNT model assumes stochastic risk increases linearly with dose and that no level of exposure is entirely risk-free. The model can be controversial as some critics argue it may overestimate risks at low doses, underestimate biological repair mechanisms, and fail to account properly for beneficial effects of radiation. Despite these criticisms, the LNT model has been scientifically shown to be the best fit based on long-term and detailed studies and has been deemed most appropriate compared to other, more complex models. LNT is the model agreed on by the ICRP and has been adopted by the IAEA and national authorities including UKHSA, ONR and EA as the basis for the system of radiological protection.
Decommissioning and End-State Planning	The nuclear sector maintains a commitment to safely dismantle end-of-life facilities, manage radioactive materials from those facilities or reactor plants, and restore sites to an agreed-upon condition. This process is regulated by the ONR, DNSR, and environmental agencies. Delivery of civil decommissioning is under the strategic oversight of the Nuclear Decommissioning Authority.
Emergency Preparedness and Response	Operators of nuclear facilities are required to develop and maintain emergency plans that address potential accident scenarios, including measures to mitigate radiation exposure, protect the public, and manage environmental impacts. These plans must be regularly tested through exercises and reviewed by the ONR. This work is governed by the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPIR 2019) and the Nuclear Installations Act 1965, alongside guidance from the ONR and international standards from the IAEA.
Periodic Safety Reviews (PSRs)	Mandated by the ONR under Licence Condition LC 15, PSRs are comprehensive assessments conducted every 10 years to evaluate the safety of a facility against current standards, operational experience, and potential future challenges. They involve reviewing the plant's design, condition, and operational practices to identify any gaps or areas for improvement, and to ensure that risks remain ALARP.

Annexe D: Full list of questions the Taskforce is seeking further evidence on

1. What changes to regulatory guidance or processes would encourage regulators or duty holders to take a more proportionate approach?

    a. In environmental regulation, how could EIA Regulations and Habitats Regulations, or their application on the nuclear estate, be amended to encourage proportionality? For example, could environmental cost during construction be compensated by longer term environmental gains once operation has begun, or by the wider environmental benefits of low carbon energy.

    b. What measures could prevent vexatious judicial reviews from driving disproportionate approaches that increase costs and delay?

2. How can we create an appropriate level of tension and debate between regulators and duty holders? How could constructive challenge be incentivised without increasing delay?

3. Are there examples where 'offsetting' harm can deliver more comprehensive and long-term benefits? For instance, in environmental regulation, what would be the impact of allowing organisations to pay for environmental conservation and enhancement efforts off-site?

4. Are there specific consents or regulations that could be consolidated into a single process to avoid duplication while ensuring clarity around procedural requirements? For instance, the Justification process (JOPPIR) is often cited as duplicative. What are the opportunities and challenges of streamlining this process by issuing immediate regulatory justification for classes of practice, such as (for example, Light Water Reactors)?

5. Are there compelling benefits to changing regulatory boundaries that would outweigh the disruption? If so, please provide evidence to support that.

6. What changes to NSIP guidance are needed to ensure that the regulatory process fully captures all relevant costs and benefits and balances them appropriately?

7. Could the National Policy Statement be adapted to enable fleet approach of approvals for identical or largely similar design scheme?

8. Does the current semi-urban population density criteria prevent otherwise suitable sites coming forward, and if so how should they be changed?

9. What measures would create more effective collaboration and common resourcing between regulators?

10. Are Strategic Workforce Plans sufficiently mature across all organisations to ensure that SQEP skills can be delivered in sufficient numbers and within the correct timescales?

11. What incentives and approaches might address the cultural issues identified to drive a reduction in complexity and bureaucracy?

12. Where is there sufficient international agreement to enable mutual recognition?

13. Should duty holders have mechanisms to challenge regulators when they require significant new evidence of compliance, beyond what has been sufficient for international regulators?

14. What could we put in place to enable regulators to give faster approval, where such approval has already been granted in another country with similar regulatory standards?

15. How could the application of ALARP and cost benefit analysis be adapted to ensure that the cost of proposed safety measures is proportionate, avoiding undue delays for measures that do not significantly reduce risks?

16. Would more clearly defining tolerability be sufficient to achieve an appropriate balance between the costs and benefits of regulatory intervention, or would additional measures be required? If so, what measures would you suggest?

Annexe E: Terms of Reference

1. Nuclear regulation is part of a wider regulatory framework in the UK and is international in nature. Much work is already in hand to identify opportunities to refine the UK's regulatory framework and its application to support Growth, Net Zero and Defence. The Taskforce shall therefore build on past reviews, relevant legislative and other reforms that are underway, and previous actions taken by government and regulators. In particular, the Taskforce should work closely with the independent DEFRA Review and DBT's Regulatory Reforms. We will maintain our commitment to implementing relevant international agreements and standards and the Taskforce will enhance our understanding of how we compare against relevant international comparators by providing a comparison of the UK Nuclear Framework against those of other comparable nuclear nations, especially the US and France.

2. The Taskforce should be ambitious, and its aim is to provide clear, actionable recommendations for whole of government. It should include planning, environmental, nuclear and conventional safety, the relevant regulators, other delivery partners and industry. The objective is to drive faster, better value for money delivery in both civil and defence nuclear, whilst not compromising safety outcomes.

3. The Taskforce shall focus on the areas of:

    a. *Quick wins* – accelerating and delivering existing work on international harmonisation, Regulatory Justification, application of ALARP in practice and proportionality of emergency planning rules.

    b. *Suitability* – the Taskforce shall assess current practices to ensure that they remain fit for purpose and the most effective way to fulfil the regulatory requirement.

    c. *Legislation* – taking into account recent changes, and those that are currently in progress (e.g. in the Planning and Infrastructure Bill), the Taskforce shall identify whether further amendments to legislation would achieve significant benefits, ranking by predicted impact.

    d. *Regulator Scope and Resource Capacity* – the Taskforce shall explore opportunities to reduce the complexity of the regulatory interfaces in defence and civil nuclear sectors, and the degree to which the system's resource capacity constraints represent critical blockers to delivering nuclear ambitions.

    e. *Regulatory Outcomes* – the Taskforce shall refresh the outcomes that HMG, informed by the sector, expects from regulators and the regulated, considering where these (for example, timelines) should be set in statute.

    f. *Nuclear Sector Culture and Processes* – the Taskforce shall assess the proportionate application and response to regulation in the nuclear sector including both by regulators and the nuclear industry itself; the clarity and utility of guidance; behaviours and norms including in the relationships between regulators and the regulated.

    g. *Innovation & New Nuclear* – the Taskforce shall determine the degree to which current and proposed arrangements enable exploitation of new nuclear technologies and novel applications of nuclear technology.

h. *International harmonisation* – the Taskforce will explore options to enable simpler, quicker exchange of nuclear technologies and companies between the UK and advanced nuclear states with closely-aligned priorities (for example, France, Canada and the US), including mutual recognition.

4. The Taskforce shall be led by a suitable independent person, supported by a panel of experts and a small team of civil servants.

5. The Taskforce will respect the devolved nature of areas of responsibility within the nuclear landscape The Taskforce will not make recommendations for Devolved Governments in devolved areas.

6. The Taskforce will provide an interim report within 3 months of the lead being appointed. Final recommendations will be put to the Prime Minister, Energy Secretary, Defence Secretary and the Chief Secretary to the Treasury in summer 2025.

Annexe F: Nuclear Regulatory Taskforce Members

John Fingleton – Taskforce Lead

John is an Irish and British economist and former CEO of the Office of Fair Trading, he was a Senior Independent Member of the Council of Innovate UK until 2024, as well as a Member of Board for UK Research and Innovation (UKRI) from 2021 to 2024. John runs a company advising and supporting clients to successful resolution of complex and novel regulatory problems. He has a profile across a wide range of business sectors and is considered an expert in business, government and regulation, with a reputation for innovative thinking.

Professor Andrew Sherry

Andrew is Professor of Materials and Structures at the Henry Royce Institute for Advanced Materials at the University of Manchester. He has experience leading science and innovation, skills development, and infrastructure programmes across industry, national laboratories and academia. He was previously Chief Scientist and Special Advisor at the UK's National Nuclear Laboratory. He was also previously Chair of the Defence Nuclear Safety Committee, providing independent advice to the Secretary of State for Defence. In that role he was known for his ability to offer clear and pragmatic solutions to complex problems.

Mark Bassett

Mark is a member of the International Nuclear Safety Advisory Group (INSAG) and recently retired from the IAEA (International Atomic Energy Agency) after 8 years where he was a Director and the Special Assistant to the Director General (DG) for Nuclear Safety, Security and Safeguards. His role included dealing with, and providing advice to the DG on, a wide range of complex technical, diplomatic, and political matters in these areas. He has held senior leadership roles in the nuclear sector in the UK public and private sectors, as well as the international civil service, and was DCI (Deputy Chief Nuclear Inspector) at the Office for Nuclear Regulation (ONR) for a number of years with over two decades in ONR where he held a wide range of roles across all nuclear sectors, both civil and defence.

Dame Sue Ion

Sue is a British engineer and an expert advisor on the nuclear power industry with a career spanning 45 years. She was elected a member of the US National Academy of Engineering in 2012 for contributions to nuclear fuel development and is a Fellow of the UK's Royal Academy of Engineering and the Royal Society. She is a strong advocate for nuclear power and has a background advising government about nuclear reactors and countering the negativity caused by incidents such as at Three Mile Island and Chernobyl. She represented the UK at the IAEA as a member of the Standing Advisory Group on Nuclear Energy and Chaired the EU Euratom Science and Technology Committee. She Chaired the UK's Nuclear Innovation and Research Advisory Board, is a Member of the ONR Independent Advisory Panel and is the current Honorary President of the National Skills Academy for Nuclear.

Mustafa Latif-Aramesh

Mustafa is a leading infrastructure planning lawyer at TLT LLP, and Parliamentary Agent. He has advised on numerous small modular and advanced nuclear developments in the UK (including in relation to regulatory justification, siting and consenting), advised on over 25 nationally significant infrastructure projects (including the Lower Thames Crossing and the Hinkley Point C Connection) and has advised central government on infrastructure

planning and regulatory reforms, including on the recent Infrastructure Planning Bill. Mustafa's work spans working for developers, central government and regulators, particularly on Development Consent Orders. He is authorised by Parliament to draft and promote legislation, and is also a Visiting Fellow at King's College London.