Office for Nuclear Regulation

Seeking views on ONR's input to the Department of Energy and Climate Innovation Plan

About this document

Executive Summary

The Chancellor has asked all Government Departments and Regulatory Bodies to consider how well they and their associated regulatory regimes are prepared for innovation. The process requires us to seek business views to ensure that plans take account of their needs. **This is your opportunity to contribute to ONR's part of the innovation plan**. Business' views will be used by ONR to inform DECC's response to the development of a Government Innovation Plan for publication in spring 2016.

ONR is responsive to innovation and we have reviewed how we currently regulate existing and emerging nuclear technologies in order to provide assurance on the effectiveness of our regulatory approach, which is explored in more detail at the end of the document. In particular, we seek to ensure that our regulatory approach:

- allows us to remain ahead of developments, whether from emerging technology or changes to the policy and industrial environment affecting the nuclear sector and that we are not placing undue burdens or restrictive practices on those that we regulate;
- supports existing businesses utilising innovation to enhance their productivity and effectiveness and address ageing issues;
- includes a stance on innovative technologies e.g. reactor designs or radioactive waste management, and
- utilises innovation to improve our own efficiency and effectiveness as a regulator.

We are interested to hear responses from businesses by **31 January 2016** to the following three questions:

1 Do you agree that ONR's legislation and enforcement framework is adapted to new technologies to encourage growth?

2 Do you think that ONR has assessed what new technology is likely to shape nuclear regulation?

3 Do you agree that ONR utilises new technologies to generate efficiency savings and reduce burdens on business?

How to Respond

A separate response sheet is included alongside this document. Please state in your response whether you are responding as a private individual or on behalf of an organisation/company (including details of any stakeholders your organisation represents).

Thank you on behalf of ONR for sharing your views.

Issued: 07 January 2016

Responses by: 31 January 2016

Enquiries/Responses should be sent to:

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Territorial Extent

England, Wales, Scotland and Northern Ireland

Further information

Within three months of the deadline for comments, we aim to publish a summary of responses received.

Confidentiality and Data Protection

In accordance with the provisions of the FOI Act 2000/EIR Regulations 2004, all information contained in your responses may be subject to publication or disclosure. If you consider that some of the information provided in your response should not be disclosed, you should indicate the information concerned, request that it is not disclosed and explain what harm you would consider would result from the disclosure. The final decision on whether the information should be withheld rests with ONR. However, we will take into account your views when making the decision.

Additional Copies

Please contact us if you require this document in an alternative format such as Braille or large print.

Introduction

1 ONR aims to be an enabling regulator, adopting a collaborative approach with duty holders and other relevant stakeholders to seek effective delivery against clear and prioritised safety and security outcomes, whilst holding industry to account through enforcement and maintaining regulatory independence.

2 Stakeholder views are important towards ONR developing our input to the DECC innovation plan and our future regulatory approaches. In particular, views from those organisations with expertise within the nuclear sector and with an eye on new developments will help us to develop our regulatory thinking further to ensure that we continue to be agile and focus on priority areas. External feedback is also necessary to evaluate our own performance in this area and ensure our approach is responsive to our stakeholders' needs.

3 We recognise that information on industry innovations (such as emerging technology and other research and development) may be regarded as commercially sensitive. Where disclosed, ONR will maintain confidentiality to the fullest extent compatible with the law and public duties.

ONR's approach to innovation and emerging technology

4 The nuclear new build portfolio is expected to expand in the next few years and ONR, an enabling and independent regulator of nuclear safety and security, is responding to this. One of the key themes of the ONR strategy 2015-2020 is our focus on influencing improvements in nuclear safety and security through a collaborative and enabling approach. This includes taking into account the modern nuclear environment to adopt a regulatory approach which integrates regulatory functions, leads international best practice and incorporates good practice from others.

5 Further, to support the policy of dealing with the UK's civil nuclear legacy waste, ONR has been working extensively with the Government and the Environmental Regulators to determine its approach to regulation of a geological disposal facility (GDF) and its policy on future licensing.

How ONR's current legislative and enforcement regulatory framework is adaptive to new technologies and disruptive business models and encourages growth

6 Nuclear safety and security regulation in the UK (including conventional health & safety) is generally non-prescriptive and goal-setting. Nuclear security regulation is currently undergoing a journey of change from a prescriptive to a goal setting approach. This is key to enabling innovation in that it allows for the adoption of emerging science, engineering and novel options, without recourse to changes in legislation.

7 ONR's regulatory approaches are technology neutral; all nuclear technology proposed for application in Great Britain is subject to the same regime. This allows for innovation in that the regulatory regime is not restricted to particular technologies, fixed targets or benchmarks. Furthermore our enforcement principles require our regulatory effort to be targeted, consistent and proportionate, which provides for agility and flexibility in our approach.

8 With regard to technologies at the forefront of new developments, there may be issues in understanding and establishing what is relevant good practice. However we have experience with this and are able to develop regulatory tools and decision making frameworks by commissioning independent research to inform our regulation, using world expert groups and institutions.

Example Case Studies:

9 ONR has provided early engagement and regulatory input to industry through the Generic Design Assessment (GDA) process. This is evidenced by our work on proposed technology solutions for plutonium disposition, and small modular reactor technologies. ONR has refined and issued guidance on its expectations of organisations seeking a nuclear site licence to construct and operate a nuclear power station. However, we recognise that business models may be proposed by potential Site Licence Companies (SLCs) that are novel and do not align with existing ONR guidance. As a collaborative and enabling regulator, ONR will continue to actively engage with prospective SLCs to anticipate and respond to new business models, and we expect to adapt our guidance where we are satisfied that these alternative models are appropriate and improve nuclear safety.

10 ONR already engages with companies seeking to build and operate new nuclear power stations before they apply for a nuclear site licence. We currently fund this type of engagement under limit of liability agreements. This approach enables us to provide constructive advice and challenge to new companies, helping them to develop 'right first time' licence applications.

11 As part of ONR's continuous innovation, the National Objectives, Requirements and Model Standards for security (NORMs, launched in 2012) is undergoing a review. This review will build on lessons learned to date to influence the future way in which dutyholders plan and implement their site, personnel, information and transport security. The review is aligning the regulation of nuclear security and safety by moving the regulation of civil nuclear security towards a more goal setting, outcome based approach, with far greater onus on dutyholders to propose and justify security arrangements that meet ONR's defined security objectives.

12 The NORMs redesign will encourage behavioural change and allow innovative security solutions to develop that work in harmony with dutyholder business processes rather than meeting prescriptive model standards. The redesign will place an emphasis on the dutyholder responsible for delivery of demonstrable nuclear security and aims to reduce the regulatory burden on the industry and ONR is engaging with stakeholders to make it more user friendly.

13 The Health and Safety Executive retains the lead for conventional health and safety regulatory policy. ONR, as the regulator of conventional health and safety on GB nuclear licensed sites, will continue to maintain and strengthen its links with HSE to ensure a consistent approach to regulation that reflects the goal-setting approach in the light of emerging technologies and we will take account of the HSE's regulatory innovation plan.

14 ONR's strategic approach to regulating the decommissioning sector has been proactive in developing guidance for sites at key transition points of hazard/risk. These include guidance on regulatory expectation for the site' entry to a quiescent phase (Care and Maintenance) prior to final site clearance.

ONR's response to new technology and the future shape of the nuclear sector

15 The ONR Board and Executive have recently completed a 'Horizon Scanning' review of the future UK nuclear sector. The outcome of this work will inform the ONR Strategic Plan (2016-2020) to be published early this year. In particular, the plan will provide a clear basis for defining regulatory priorities and future resourcing arrangements.

16 In respect of future technological development the wide range of small modular reactor (SMR) technologies in development is possibly the next relevant major step in nuclear reactor design. ONR's non-prescriptive regime, technology neutral stance, and enabling approach to regulation, allows us to respond to this technology, and we are engaging early, some two years ahead of the potential entry of this technology to the Generic Design Assessment (GDA) process.

17 As an observer to the Nuclear Industry Advisory Research Board (NIRAB), ONR maintains on overview of technological developments which may have an impact on the industry.

Example Case Studies:

18 SMR entry to the UK is not yet known. However, one potential scenario is the development may lead to a number of relatively small companies seeking to build and/or operate this technology. This may create issues relating to how they secure and sustain access to adequate organisational capability. A range of new organisational models, involving sharing of resource between companies, may be proposed. These have potential implications for commercial and funding models as well as meeting regulatory expectations but ONR will assess each on individual merit in an enabling and objective way.

19 As new reactor designs increasingly favour modular construction, there may be proposals for fabricating components with nuclear matter at facilities off the licensed site where the reactor is being constructed. This may present new challenges in terms of nuclear site licensing, the approval of security plans and oversight of activities by ONR.

20 If a small reactor design was proposed for deployment in more than one country, then ONR would work with its international counterparts to share knowledge and experience of design assessments for example via the current Multi-National Design Evaluation Programme (MDEP).

21 ONR also enables innovation through collaborative working and the regulation of upgrade and/or replacement of ageing systems and components on existing nuclear facilities to ensure there are no blockers to emerging technologies in, for instance; treatment, conditioning and storage of radioactive waste or in the control and instrumentation arena.

22 ONR has made significant contribution to support innovation in the UK's higher activity waste policy and strategy, in particular in relation to providing clarity of the regulation of a future geological disposal facility (GDF) to deal with higher activity radioactive waste.

23 The design and construction of GDF will require the application of cutting edge technology to ensure long-term safety and security of the public and the environment. ONR's current and future work to support this area includes development of design assessment guidance and safety criteria. This builds upon good practices adopted internationally to-date to maintain UK's leading role in nuclear safety and to build public confidence in the robustness of the framework for regulating a future GDF.

Questions

We would welcome views on ONR's approach to innovation and our input to the Government's Innovation plans. In particular, answers to the following questions will help shape our contributions:

1 **Do you agree that ONR's legislation and enforcement framework is adapted to new technologies to encourage growth?**

2 **Do you think that ONR has assessed what new technology is likely to shape nuclear regulation?**

3 **Do you agree that ONR utilises new technologies to generate efficiency savings and reduce burdens on business?**

Please complete the separate response sheet. When responding, please include real examples where possible, and/or provide explanations so that we can fully understand points made. Where relevant, please also include links to information or other evidence that we should take into consideration.

Next steps

ONR will consider all stakeholder comments and produce a report for amalgamation into a single DECC Innovation Plan to be published in March 2016.

Office for Nuclear Regulation

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Published January 2016

Further information about ONR is available at www.onr.org.uk