

AMENDING THE FRAMEWORK FOR THE FINAL STAGES OF NUCLEAR DECOMMISSIONING AND CLEAN-UP

Government response to consultation

October 2018

GOVERNMENT RESPONSE

Consultation on amending the framework for the final stages of nuclear decommissioning and clean-up

Acknowledgements

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General information

Territorial extent:

UK-wide; however, there are no nuclear licensed sites in Northern Ireland.

Additional copies:

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 $\frac{https://www.gov.uk/government/consultations/the-regulation-of-nuclear-sites-in-the-final-stages-of-decommissioning-and-clean-up}{}.$

Executive Summary

This document summarises the responses to the consultation and sets out the Government's proposals.

The Consultation

Background

Government is committed to effective and proportionate regulation at each stage of the nuclear decommissioning process. Working with the regulators¹, the Devolved Administrations, other Government Departments and the Nuclear Decommissioning Authority (NDA), we have identified an opportunity to amend the regulatory framework that applies to the final stages of nuclear site decommissioning and clean-up in order to enable a more sustainable approach to waste management and land remediation.

The Nuclear Installations Act 1965 (NIA65) sets out a system of regulatory control based on a robust licensing process administered by the Office for Nuclear Regulation (ONR). Under this regime, a site operator is required to have a licence to use a site for specified activities such as the operation of nuclear power stations.

In addition to the nuclear site licensing regime, the NIA65 requires that financial provision is in place to meet claims in the event of a nuclear incident, as required under international law on nuclear third party liability. Under the current regulatory arrangements, nuclear third party liability continues for longer in the UK than required by international agreements. We propose to bring the UK into line with these international agreements by adopting the 2014 Paris Convention Decommissioning Exclusion (ref [A.1]) which applies to nuclear sites in the final stages of decommissioning and the 2016 Paris Convention Low Level Waste Exclusion (ref [A.2]) which applies to qualifying low level waste disposal sites. It is important to note that, when the nuclear liability regime ceases to apply, third party liability (under ordinary law) would then apply to the site, providing an alternative but still robust legal regime for third party damage or injury.

Throughout their lifecycle, nuclear sites are subject to regulation by ONR (for nuclear safety and security) and the relevant environment agency (for environmental protection). In the final stages of decommissioning and clean-up, hazards and risks fall to levels comparable to those on non-nuclear industrial sites and the focus is on waste management and land remediation. At this point, we consider that continued regulation by ONR is unnecessary. We therefore propose to allow ONR to end the nuclear licence once satisfied that nuclear safety and security matters have been resolved and to pass responsibility for regulation of work activities to the Health and

¹ The regulators are the Office for Nuclear Regulation (ONR), the environment agencies (the Environment Agency in England, Natural Resources Wales in Wales, and the Scottish Environment Protection Agency in Scotland) and the Health and Safety Executive. Northern Ireland has no nuclear sites but the environmental regulator is the Northern Ireland Environment Agency (NIEA).

Safety Executive (HSE). The sites will continue to be regulated by the relevant environment agency until they can be released for unrestricted use, which may be years or decades after the end of the nuclear licence (see ref [A.3]). Subject to planning permission and the conditions of the environmental permit, it may be possible to re-use the sites while they remain under environmental regulation. Thus we anticipate that these proposals will lead to earlier re-use of former nuclear sites.

Finally, we propose to address an issue relating to nuclear third party liability of radioactive waste disposal sites. Disposal facilities containing radioactive wastes are regulated by the relevant environment agency under Radioactive Substances Regulation regardless of whether the disposal facility is located on a nuclear site or not.

Certain disposal facilities for the disposal of nuclear matter fall within the scope of the international requirements for third party liability (the Paris Convention) as amended by the 2004 Protocol refs ([A.4,A.5]) and due to come into force in the near future. These disposal facilities are referred to as "relevant disposal sites" in the NIA65 and the third party liability regime will apply to them, although the nuclear licensing regime will not. In 2016 an Order (ref[A.6]) amending the NIA65 to make the necessary changes was put in place and will come into force when the 2004 Protocol is ratified. Under this 2016 Order, the relevant environment agency, as the regulator for radioactive waste disposals, will be responsible for determining the end of the period of responsibility for nuclear third party liability for these disposal facilities. However, the NIA65 (as amended by the 2016 Order) is worded such that it is not possible to have a "relevant disposal site" on a nuclear site. Therefore, when a disposal facility is located on a nuclear site, ONR is responsible for determining the end of the period of responsibility for nuclear third party liability, rather than the environment agencies.

We propose to allow ONR to exclude relevant disposal sites from the nuclear site licence boundary if content that nuclear safety and security matters have been resolved. As a result, the relevant environment agency will determine the end of the period of responsibility for nuclear third party liability for these disposal facilities. Responsibility for regulating health and safety of work activities at these disposal facilities will be transferred from ONR to HSE.

Government published a discussion paper on the principles of the proposals in November 2016 and published the detailed consultation on 8th May 2018. This consultation was open for eight weeks and closed on 3rd July 2018. To support the consultation, BEIS held three stakeholder workshops in Edinburgh (6th June), London (12th June) and Bangor, North Wales (14th June).

Written consultation responses

We received 50 written responses from a range of individuals, local authorities, site stakeholder groups, companies in the nuclear industry, academia, one Non-Governmental Organisation (NGO) and one trade union. A large majority of respondents supported the proposals, although often with qualifications. The principal concerns raised were:

• clarity is required on the exact processes for establishing whether a site meets the Paris Convention Decommissioning Exclusion criteria, whether ONR can accept an application

for surrender of the nuclear site licence and whether ONR can exclude a disposal facility from the nuclear licensed site boundary;

- the site operator should engage with local authority planners, economic development officers and councillors throughout the process, from delicensing to optimisation of cleanup. In particular, site operators should take account of the Local Plans when seeking planning permission for *in-situ*² disposal or disposal facilities;
- decisions on the process of land remediation should be open and transparent. Records should be archived and accessible to local authorities, the environment agencies and future developers;
- the environment agencies may need to review their charging arrangements.

Response to these concerns and next steps

Government intends to legislate on these matters when parliamentary time allows.

We have noted the concerns of respondents. In response to requests for clarity on the procedures for exiting the nuclear third party liability regime and for accepting applications for licence surrender, ONR proposes to draft and consult on revised guidance to support these decisions. ONR also proposes to develop guidance on its criteria for exclusion of waste disposal facilities from the nuclear site boundary. In drafting these guidance documents, ONR proposes to work closely with the environment agencies and HSE.

We recognise the importance of early engagement with local authorities and propose to extend ONR's powers to allow it to require site operators to notify the local authority when an application is made to end or vary a nuclear licence³. BEIS encourages site licence companies to engage with the local Waste Planning Authority and to take into account the Local Plans, including the waste and minerals plan, if appropriate, when developing proposals for radioactive waste management. We will continue to work with local authorities, NuLeAF and the Ministry for Housing, Communities and Local Government (MHCLG) to ensure that local authorities in England have the information they need to allow them to take decisions on applications for planning permission for *in-situ* disposal. Planning is a devolved matter and the Scottish and Welsh Governments are taking similar steps.

Many of the responses to the consultation were concerned with the processes of land remediation that takes place under the environmental regulatory framework (relevant devolved legislation under both the Environmental Permitting (England and Wales) Regulations and the Environmental Authorisations (Scotland) Regulations – hereafter collectively referred to as Radioactive Substances Regulation in this document [references [A.7,A.8,A.9]). This

² For the purposes of this document, the term "in-situ" disposal includes leaving existing structures or soils in place (if necessary, with additional barriers constructed to contain the material) and disposal for a purpose, for example, using lightly contaminated rubble to fill in voids on site.

³ See "Licensing Nuclear Installations", 4th edition: January 2015, ONR, sections 121-124.

consultation does not propose to make any amendments to Radioactive Substances Regulation although BEIS, Defra and the Devolved Adminstrations are working with the regulators to consider whether amendments are required to ensure that the environment agencies can deliver the required regulation of the sites. Any amendments identified will be the subject of separate consultations.

The environment agencies have recently published guidance that sets out the processes for taking decisions on waste management and clean-up for the release from Radioactive Substances Regulation (ref[A.3]) on nuclear sites. This guidance requires engagement with the local community and transparent record keeping for the duration of the permit, which may be years or decades. Sites will only be released from this regulation once monitoring has demonstrated that they are suitable for unrestricted use.

The environment agencies will also review their charging regimes to ensure that they are fit for purpose.

Finally, BEIS will discuss the impacts of these proposals with the Nuclear Liabilities Fund.

The consultation

This section summarises the current framework, the case for change and the consultation questions

The current regulatory framework

The Nuclear Installations Act 1965 (NIA65) provides the legal framework for nuclear safety and nuclear third party liability. The NIA65 sets out a system of regulatory control based on a robust licensing process administered in Great Britain by ONR. Under this regime, a site operator is required to have a licence to use a site for specified activities such as the operation of nuclear power stations.

In addition to the nuclear site licensing regime, the NIA65 requires that financial provision is in place to meet claims in the event of a nuclear incident, as required under international law on nuclear third party liability.

In the early stages of decommissioning of a nuclear reactor, the spent fuel and higher activity wastes are removed and stored securely elsewhere, resulting in radiological hazards on the site falling by over 99%. In the final stages of decommissioning and clean-up, hazards and risks fall to the point that regulation under the nuclear site licensing regime and application of the nuclear third party liability regime are no longer warranted.

Recognising this, the Steering Committee for Nuclear Energy of the Organisation for Economic Co-operation and Development (OECD) ("the OECD NEA Steering Committee") decided in 2014 that sites in the process of being decommissioned may be excluded from the international nuclear liability regime, when the main nuclear hazards have been removed and the risks to the public are small (see ref [A.1]). This decision is referred to as the "Paris Convention Decommissioning Exclusion" in the remainder of this document. In 2016, the OECD NEA Steering Committee made a similar decision to exclude qualifying low level waste disposal sites that meet strict radiological criteria from the requirement for nuclear third party liability (ref [A.2]). This decision is referred to as the "Paris Convention Low Level Waste Exclusion" in the remainder of this document. The UK has not yet implemented either of these decisions.

Nuclear sites in the final stages of decommissioning and clean-up are subject to regulation by ONR and the environment agencies. The environment agencies are responsible for regulating radioactive waste disposal and other aspects of environmental protection. The regulatory regimes applied by ONR and the environment agencies differ in their approach to site clean-up and re-use.

Certain disposal facilities for radioactive waste from nuclear sites do not require a nuclear licence and are regulated by the relevant environment agency. Once the 2004 Protocol to the Paris Convention has been brought into force (refs [A.4,A.5,A.6]) these facilities will be required to have nuclear third party liability for the first time. If these disposal sites are located on a nuclear site, then ONR will be responsible for determining the period of responsibility for nuclear third party liability. However, if they are located off a nuclear site, then the relevant environment agency will take this decision.

Case for change

In summary, the main reasons for change are:

- nuclear third party liability currently continues beyond the point at which it is required. The UK has not yet implemented the Paris Convention Decommissioning Exclusion or the Paris Convention Low Level Waste Exclusion;
- site operators wishing to exit the NIA65 licensing regime are required to clean-up the site
 in a way that does not allow them to balance the overall safety and environmental risks and
 this may result in unnecessary costs; and
- under current arrangements, certain disposal facilities for radioactive waste located on nuclear licensed sites remain subject to nuclear licensing even if ONR is satisfied that nuclear safety and security matters relating to these disposals have been resolved. Such sites are also regulated by the environment agencies. In this situation, we consider that continued regulation by ONR is not necessary.

Principles for the development of consultation proposals

In formulating the proposals, we have adhered to the following principles:

- there must be no relaxation in the standards for public protection the proposals align with UK radiological protection law, international standards and Public Health England guidance;
- the proposals must respect the statutory principles of good regulation;
- sites must remain under appropriate regulation; and
- a rigorous procedure must be used for assessing the wider benefits and risks of different clean-up options, so that the best overall solution can be found for each site and its surroundings.

Proposals

We propose to amend the NIA65 to allow licensees to exit the nuclear third party liability regime once the site has reached internationally agreed standards, and to exit the nuclear licensing regime once nuclear safety and nuclear security matters have been fully resolved to ONR's satisfaction.

After the licence has been surrendered, the site would be regulated by the relevant environment agency and HSE in the same way that non-nuclear industrial sites undergoing clean-up for radioactive or other contamination are regulated. Proposals for further clean-up would be assessed by the relevant environment agency under Radioactive Substances Regulation. This process would enable the site operator to work with the community to establish the most appropriate end state for the site and would result in improved waste management and other environmental benefits. Sites would remain under regulation by the relevant environment agency until they could be released for unrestricted use (see reference [A.3]).

To allow these changes to take place, we propose to implement two recent decisions by the OECD NEA Steering Committee concerning the exclusion of nuclear sites in the process of decommissioning and qualifying low level waste disposal facilities from the nuclear third party liability regime (see references [A.1,A.2]).

We also propose to tighten the licence surrender process to require a licensee to apply to ONR to surrender the licence. We also propose to strengthen the consultation process to require ONR to consult with HSE when the licence is surrendered or varied in line with these proposals, and to extend ONR's power of direction to require, at ONR's discretion, applicants for licence surrender or variation to notify public authorities specified by ONR.

Once the 2004 Protocol to the Paris Convention (ref[A.4, A.5, A.6]) comes into force, qualifying disposal facilities for radioactive waste from nuclear sites will be subject to the requirement for nuclear third party liability, even though they do not require a nuclear site licence. We propose to allow ONR to exclude such facilities from the nuclear licensed site, if it is content that nuclear safety and nuclear security matters have been fully resolved. The facilities would continue to be regulated by the relevant environment agency and the relevant environment agency would also become responsible for deciding when nuclear third party liability should end. Responsibility for the regulation of work activities (including during disposal) would be transferred from ONR to HSE.

This consultation does not propose to make any amendments to Radioactive Substances Regulation although BEIS, Defra and the Devolved Administrations are working with the regulators to consider whether amendments are required to ensure that the environment agencies can deliver the required regulation of the sites. Any amendments identified will be the subject of separate consultations.

Finally, BEIS will discuss the impacts of the proposals with the Nuclear Liabilities Fund.

Consultation questions

The consultation questions were as follows:

Consultation Questions

1.	Do you agree with the proposal to exclude nuclear sites in the process of decommissioning and clean-up from the continuing application of the third party liability regime, once conditions specified in the Paris Convention Decommissioning Exclusion are met? If not, why not?
2.	Do you agree that the licensee of a nuclear site should be required to apply to the Office for Nuclear Regulation (ONR) to surrender the license and should lose the ability to surrender the license unconditionally as at present?

- Do you agree that ONR should be able to exclude waste disposal facilities from the nuclear site licence if satisfied that nuclear safety and security matters for these facilities are fully resolved? If not, why not?
- 4. Do you have any further evidence that we should take into account in our impact assessment?
- 5. Do you have any other comments on these proposals?

The workshops

BEIS held three workshops to support the consultation process in Edinburgh, London and Bangor, North Wales

Events, Invitations and Attendance

Events

BEIS arranged three stakeholder workshops to accompany the consultation process. The workshops were intended for clarification only; attendees were encouraged to respond formally, but the workshops provided a forum for attendees to ask questions before preparing a written response. The workshops were held in Edinburgh, London and Bangor, North Wales on 06/06/2018, 12/06/2018 and 14/06/2018 respectively.

Technical experts from the Nuclear Decommissioning Authority (NDA), ONR and the relevant environment agency⁴ were available at each meeting to respond to questions. A technical expert from HSE was available to answer questions at the Edinburgh and Bangor meetings.

Events were facilitated by an independent facilitator and simultaneous Welsh/English translation was provided for the Bangor event. An aide-memoire of the key points was circulated to attendees after each event.

BEIS also gave a presentation at a NuLeAF⁵ members' meeting on 9th May; we had hoped to give a similar presentation to SCCORS⁶, but their meeting was held during the pre-election period⁷ and therefore Cabinet regulations meant that BEIS was unable to join this meeting.

Invitations

BEIS invited representatives from the NDA Site Stakeholder Groups, local authorities across GB, the Scottish and Welsh Governments, the BEIS NGO forum, NuLeAF, SCCORS, nuclear licence holders and other interested parties (such as Snowdonia National Park Authority).

Attendance

Table 1 shows the number of attendees at each event and the types of organisations represented.

⁴ The Environment Agency in England, the Scottish Environment Protection Agency (SEPA) in Scotland and Natural Resources Wales (NRW) in Wales.

⁵ NuLeAF – the Nuclear Legacy Advisory Forum

⁶ SCCORS – the Scottish Councils' Committee on Radioactive Substances

⁷ The pre-election period for local council elections in England – Scotland was not affected but nonetheless, BEIS staff were not given permission to attend during this period.

Table 1.

Event	Edinburgh (06-06-2018)	London (12-06-2018)	Bangor (14-06-2018)
Site stakeholders' groups	4	9	2
Local authorities and local authority associations ⁸	1	5	4
Non-Governmental Organisations (NGOs)		1	
Individuals, academia and trade unions			1
Nuclear licence holders, nuclear industry and radioactive waste facilities operators	1	13	2
Devolved Governments, government bodies and regulators	1	3	6
Total	7	31	15

⁸ Includes NuLeAF (the Nuclear Legacy Advisory Forum) and NLFA (UK and Ireland Nuclear Free Local Authorities).

The consultation responses

This section describes the written responses to the consultation questions

Format of responses

We received 50 written responses. About half of the respondents used the BEIS online system (citizenspace) and the remainder responded by email to the dedicated address. We received responses from a range of individuals and organisations, as summarised below.

Type of organisation	Number of written responses
Site Stakeholders' Groups	8
Local authorities ⁹	9
NGO's	1
Nuclear licence holders, nuclear industry and radioactive waste facilities	18
Government bodies and regulators	6
Others (including individuals, academia and trade unions)	8
Total	50

Annex B gives the list of those organisations/individuals who responded, where we have their permission to say so.

⁹ Includes NuLeAF (the Nuclear Legacy Advisory Forum), SCCORS (the Scottish Councils' Committee on Radioactive Substances) and NLFA (UK and Ireland Nuclear Free Local Authorities). In one case, a response was from an individual council officer with extensive planning experience, rather than from the council itself.

Questions

Question 1: "Do you agree with the proposal to exclude nuclear sites in the process of decommissioning and clean-up from the continuing application of the third party liability regime, once conditions specified in the Paris Convention Decommissioning Exclusion are met? If not, why not?"

We received 45 responses to this question. Of these responses, 42 agreed with the proposal and 3 disagreed.

Reasons given for supporting this proposal included "The case for change is acceptable and may lead to the earlier release of land for another development which would be an advantage" and "the inclusion of decommissioning sites (post-defuelling in the case of reactors) was always disproportionate to any conceivable accident during the decommissioning process."

Reasons given against included "I believe that to exclude sites would give a green flag to the cowboy element that look at profit before safety, to circumvent their moral and legal responsibilities to the public, work force and environment. The ONR is a key player in ensuring compliance and should continue to do so."

In many cases, the agreement was qualified. Some stakeholders asked for further clarification on how the Paris Convention Decommissioning Exclusion criteria would actually apply and for an assessment of when various UK sites would meet these criteria. Another noted that record keeping on some of the older sites was poor and that it can be difficult to establish the inventory of radioactive nuclides under buildings.

Site stakeholder groups and local authorities particularly emphasised the need for transparency and local engagement in taking this decision. One stated: "It is important that the local community is kept fully informed during the process and is reassured that all the safety criteria and protocols are being met", while another noted that the decision to exit the nuclear third party liability regime should apply "only in the areas (even part sites) where there is no continued risk to the general public health or wellbeing."

Finally, one respondent who disagreed with the proposal mentioned that spent fuel will be stored on some sites.

Government Response: we propose to introduce legislation when parliamentary time allows to adopt the Paris Convention Decomissioning Exclusion. ONR will work with HSE and the environment agencies to produce draft guidance to its inspectors to support decisions on determining whether a site operator has demonstrated compliance with the Paris Convention Decommissioning Exclusion criteria. We note the concern about poor record keeping on some of the older sites and in response, ONR has confirmed that it would require monitoring of radionuclides in order to take this decision, as it currently does for decisions on whether the existing "no danger" delicensing criterion has been met.

In response to the question about spent fuel, we confirm that the storage of fuel elements, irradiated nuclear fuel and bulk quantities of any other radioactive matter produced or irradiated in the course of the production or use of nuclear fuel will remain subject to nuclear third party liability and within the nuclear site licensing regime.

We will continue to work with the NDA and other nuclear site licence holders to ensure good engagement with local authorities and communities.

Finally, it is important to note that in 2012, the Government set out its intention to seek an OECD NEA Steering Committee Decision to exclude qualifying disposal facilities taking low level waste from the nuclear third party liability regime ([A.10]). In 2016, the OECD NEA Steering Committee published this decision ([A.2]), which we now propose to implement. Since Government had already set out its intention to adopt such a decision, we did not ask a question on this specific issue in the consultation, although the issue was discussed in sections 3.23-3.27.

Question 2: "Do you agree that the licensee of a nuclear site should be required to apply to the Office for Nuclear Regulation (ONR) to surrender the licence and should lose the ability to surrender the licence unconditionally as at present?"

We received 43 responses to this question, of which 40 agreed and 3 disagreed. Noting that the proposals would facilitate earlier de-licensing, several respondents welcomed the potential for earlier re-use of the sites.

The reasons given for agreeing with the proposal included: "The licensee should not be able to surrender the license unconditionally, and ONR should always have control of the process". Reasons given for disagreeing were three-fold: one respondent expressed the view that the nuclear site licence should never be ended, while one recommended that ONR should acquire responsibilities for environmental remediation at nuclear sites. A third expressed the view that a licensee should retain its right to surrender their licences unconditionally in the event that it is no longer able to discharge its duties under the licence "for example, due to financial difficulties, safety failings etc".

Respondents emphasised the importance of ensuring that there are clear records of the site at the point at which the nuclear licence is ended, in particular records of disposal facilities and *insitu* disposals, in a form that is accessible to local authorities and the environmental regulators. One nuclear licence holder stated that it would welcome "further details and consultation on how the interfaces with and between regulators would work in practice" and this view was echoed by local authorities. One local authority suggested that BEIS should consider whether there should be a statutory consultation process when a site is delicensed.

Two of the respondents stated that they thought that legislative change was not the best way to amend procedures for ending the licence and that they favoured a re-interpretation of the existing "no danger" criterion in NIA65.

Government Response:

We do not agree with the suggestion that ONR should continue regulating sites when nuclear safety and security matters have been resolved. The environment agencies have extensive expertise in regulating waste management and land remediation, while ONR has specialist skills in nuclear safety. We therefore consider that the environment agencies are the most appropriate regulators to oversee land remediation during the final stages of decommissioning.

Similarly, HSE has the skills and expertise to regulate health and safety in a wide range of industrial contexts. This includes the expertise to enforce the lonising Radiations Regulations, which ONR enforces on nuclear licensed sites. We therefore propose that when the licence ends, HSE should replace ONR as the regulator for health and safety on site.

We do not agree with the suggestion that operators facing financial difficulties should retain the right to surrender a nuclear site licence unconditionally. Moreover, we do not anticipate operators facing financial difficulties that would prevent them from decommissioning correctly; decommissioning of legacy sites (such as the Ministry of Defence (MOD) and NDA sites) is funded by Government; the Nuclear Liabilities Fund was established to cover the decommissioning of current generation Advanced Gas-cooled Reactors (AGR) and Pressurised Water Reactor (PWR) nuclear power plants and new nuclear operators are required to have a Funded Decommissioning Programme in place. There is a small number of nuclear sites which do not fit into any of these categories, but under the conditions of the licence (ref[A.11]), ONR requires each licensee to provide and maintain adequate financial and human resources to ensure the safe operation of the licensed site (including its decommissioning).

We wish to ensure that procedures for ending the nuclear licence are transparent. We therefore propose to introduce legislation when parliamentary time allows to require site licence holders to apply to ONR when they wish to surrender all or part of a nuclear licence.

We will also introduce legislation when parliamentary time allows to ensure that HSE is a statutory consultee in these decisions (in the same way that the environment agencies already are). ONR intends to draft guidance on the procedures for determining whether such applications are acceptable, working closely with HSE and the environment agencies.

ONR's decision to end a nuclear licence is a technical decision based on analysis of safety, security and environmental protection. We therefore do not propose to require public consultation at this stage. However, we propose to extend ONR's power of direction, to require, at ONR's discretion, applicants to notify public authorities specified by ONR when applications are made to surrender or vary a licence.

Records of decisions to end a nuclear licence are kept in the Nuclear Archives in Thurso, Caithness for NDA sites. We suggest that ONR's guidance sets out clearly the requirements for long term records for non-NDA sites.

Question 3: "Do you agree that ONR should be able to exclude waste disposal facilities from the nuclear site licence if satisfied that nuclear safety and security matters for these facilities are fully resolved? If not, why not?"

We received 46 responses to this question, of which 38 agreed and 8 disagreed.

Local authorities and NuLeAF emphasised that any decisions relating to the construction or operation of waste disposal facilities must be taken in accordance with the Local Plan and in consultation with the appropriate Waste Planning Authority. One local authority noted that "the exclusion of disposal facilities from the nuclear boundary should only come about once appropriate planning approval for any waste disposal activities has been secured. There needs to be early engagement with the wider community in formulating any site specific plans for repositories of waste", while another stated that "the construction and operation of waste disposal facilities should not be detrimental to any future use of the site".

Several respondents expressed concern that disposal facilities might blight a site, particularly where local residents were anticipating full remediation. Several respondents raised the proximity principle and asked for assurance that specific sites would not be turned into disposal facilities for waste from other sites.

Two respondents were concerned that the proposal would increase the complexity of the management and control of radioactive waste across nuclear sites and one asked whether it would be problematic in the event of an emergency.

One respondent asked for examples of disposal facilities which are currently regulated by the environment agencies.

Government Response:

Any disposal facility for radioactive waste is required to comply with land-use planning legislation, regardless of whether it is located on a nuclear site or elsewhere. The planning process is the vehicle for assessing the impacts on the local community and deciding whether the proposed development or change of use represents an acceptable use of the land. This process may include weighing up the relative merits of constructing a disposal facility or transporting waste to disposal facilities elsewhere. We agree with NuLeAF and the local authorities that decisions relating to the construction or operation of waste disposal facilities must be taken in accordance with the Local Plan and in consultation with the appropriate Waste Planning Authority. However, the proposals in this consultation refer only to disposal facilities which already exist on a nuclear site.

Once the 2004 Protocol to the Paris Convention (ref[A.4, A.5, A.6]) comes into effect, we propose to introduce legislation when parliamentary time allows to allow ONR to exclude qualifying disposal facilities from the nuclear site boundary if content that nuclear safety and security matters have been resolved. After this time, the relevant environment agency will determine the period of responsibility for nuclear third party liability and safety of work activities at the disposal sites will be regulated by HSE. ONR will consult with HSE and the relevant environment agency before taking this decision.

Radioactive waste disposals already take place safely at non-nuclear sites. Therefore, HSE and ONR do not anticipate that excluding disposal facilities from the nuclear site boundary would cause problems for the safe management or control of radioactive waste. The two organisations

have considerable experience of working together and there is an overarching Memorandum of Understanding in place to set out respective responsibilities.

Regarding emergency arrangements, REPPIR¹⁰ (ref[A.12]) will apply to the nuclear site so emergency arrangements will have to be considered and onsite and offsite plans developed. Arrangements for the disposal facilities will have to be considered as part of these plans.

The disposal facilities will continue to be regulated by the relevant environment agency until they can be released for unrestricted use (see ref [A.3]).

In response to the question on existing low and very low level waste facilities regulated by the environment agencies, there are six disposal sites that take high-volume low-level radioactive waste from nuclear sites, three in Cumbria, one in Northampton, one in Lancashire and one in Caithness. The sites in Cumbria, Northampton and Lancashire are regulated by the Environment Agency, while the site in Caithness is regulated by SEPA¹¹.

Question 4: "Do you have any further evidence that we should take into account in our impact assessment?"

We received 24 responses to this question. Only one (GE Healthcare) supplied the specific level of detail that could be used directly in the impact assessment.

Some respondents stated that we had under-estimated the savings, while others considered that the impact assessment should have been more focussed on environmental issues.

Comments included:

- Since the consultation impact assessment was based on savings from the NDA estate only, savings from other, smaller nuclear sites, such as healthcare or research sites were not taken into account. This respondent noted that since such sites are often located on more valuable land than the NDA estate "this can only strengthen the argument to apply these proposals".
- The consultation impact assessment did not include savings from reduced insurance costs once the sites exit the nuclear third party liability regime and therefore underestimates savings;
- The consultation impact assessment did not take into account the savings from not needing to purchase and transport rubble to fill voids and therefore under-estimates savings;
- The impact assessment did not consider whether the presence of waste stores or disposal facilities on site could have an adverse effect on redevelopment and therefore over-states the potential benefits;
- The environmental impacts of *in-situ* disposal and waste facilities were not described. One local authority stated "the impacts of *in-situ* disposal and waste facilities could last

¹⁰ Radiation (Emergency Preparedness and Public Information) Regulations 2001, currently being updated. The new regulations are expected to come into force in spring 2019.

¹¹ Note that there are other sites for the disposal of low and very low level naturally occurring radioactive material (NORM) waste from, for the example, the oil industry.

for generations and therefore that these impacts should be taken into account in the impact assessment, together with a description of appropriate mitigation proposals."

Government Response: we have amended the impact assessment to list all the UK's nuclear licensed sites, together with a description of whether they are included in the assessment, and if not, why not. We have included the estimated liability savings for the GE Healthcare Amersham site, but do not have estimates for other sites, as these figures are considered to be commercially sensitive, however, within the 17 year period selected for the impact assessment (2021-2037), the only other site to make liability savings will be Winfrith¹².

The impact assessment includes an estimate of the reduction in time to enable re-use of the sites but does not quantify its value, as this will depend on various factors such as the particular use and location of the site. The Winfrith site has confirmed that, subject to regulatory approval, sufficient rubble from the demolition of buildings will be available onsite to fill voids and that there is therefore no need to purchase or transport rubble at this site. We have assumed that the same situation could also apply to other sites.

It is not feasible to establish the extent to which the presence of waste stores or disposal facilities could adversely impact re-development of a site and so this impact has not been estimated.

On the issue of mitigation of environmental impacts from *in-situ* disposals and waste disposal facilities, the environment agencies reiterate that these facilities require environmental permits (authorisations in Scotland) until they are demonstrably safe to release for unrestricted use. This may occur many years or even decades after delicensing. During this period, the environment agencies will regulate the disposals to ensure that they do not pollute the environment. This will include a requirement to monitor, as described in ref[A.3].

Question 5: "Do you have any other comments on these proposals?"

There were 45 responses to this question, which we have divided into five sections:

- Engagement and planning guidance for in-situ disposals
- Environmental regulation
- Future use of the sites
- Delicensing of fuel processing sites
- Other comments.

Engagement and planning guidance for *in-situ* disposals

Local authorities emphasised that site operators should engage with planners, local economic development officers and elected representatives throughout the process. Local authority

Winfrith will be the first NDA site to reach the point at which liability savings can be made. The other sites will not reach this point until after the 17 year time frame selected for the impact assessment. See the impact assessment for more details.

respondents noted that all proposals related to waste management require engagement with the Waste Planning Authority and must take account of the Local Plan.

Good engagement also means timely engagement. NuLeAF stated that "Engagement by the NDA¹³ and regulators must be appropriate and aligned to planning cycles, with adequate time built in for local authorities to make an informed response".

Several local authorities noted that while the Site Stakeholder Groups have played an important role, it is helpful for site operators to engage with the wider community as well, particularly in any proposals for *in-situ* disposals or disposal facilities. One stakeholder suggested that engagement should "be carried out over an extended period ...in the form of drop in centres similar to the visitor centres that existed in the early 2000s."

Government Response: This consultation does not propose any changes to the existing planning regime; disposal facilities and *in-situ* disposals are required to comply with planning legislation and therefore, site operators should engage early with the local authority and the local Waste Planning Authority.

BEIS will continue to work with NuLeAF and MHCLG to investigate whether any amendments are required to planning guidance to ensure that it is suitable for proposals for *in-situ* disposals on former nuclear sites. Planning is a devolved issue; the Scottish Government has approached SCCORS on this matter and the Welsh Government intends to undertake similar engagement with NuLeAF.

We note the valuable input of the Site Stakeholder Groups and also encourage site operators to engage with other local residents. Experience has shown that it is difficult to attract members of the public to engage in consutations. Local authorities are asked for their support in this regard.

Environmental regulation

Several respondents noted that there are other non-radioactive hazards on site, for example, asbestos and asked how these would be regulated.

Many of the respondents supported the concept of optimisation of land remediation and recognised the benefits in terms of potential reduction in lorry traffic.

However, several respondents noted that the public would need reassurance that the proposals would not result in serious radioactive contamination remaining on site, and that any decision not to remove material would be based on a clear assessment of the optimal solution and not driven primarily by the need to reduce costs. NuLeAF stated "decisions on whether to remove or leave waste *in-situ* must be informed by ongoing and effective engagement with local government and communities and based on an effective decision-making process driven by the highest environmental, social and environmental aspirations".

¹³ The same would apply for other nuclear site operators.

One stakeholder group stated that high volume very low level waste pits should be marked as such. Several respondents mentioned the case for including long-term monitoring of radioactivity as part of the conditions for the environmental permit or authorisation. Respondents also mentioned the need to archive clear records to allow local authorities and potential future developers access to this information.

One local authority also stated that, in its view, *in-situ* disposal should require planning permission but the decommissioning process itself should not.

One respondent asked for clarity on how many years a site might remain under an environmental permit and asked whether the environmental regulators would have the resources to regulate the sites for extended periods of time (for example decades).

Two of the environmental regulators stated that the proposals might require revisions to their regulatory powers and charging arrangements.

Government Response:

Sites that have been released from nuclear regulation will remain regulated by the relevant environment agency (in line with Radioactive Substances Regulation and other relevant legislation for example relating to non-radioactive waste and the protection of groundwater) and by HSE.

The joint environment agencies' "Management of radioactive waste from decommissioning of nuclear sites: Guidance on Requirements for Release from Radioactive Substances Regulation" (ref [A.3]) sets out the requirement that operators should keep radiological exposures below statutory limits and constraints and should also ensure that the exposures below these limits are kept as low as reasonably achievable (ALARA), taking into account economic and social factors. This is the principle of optimisation.

The guidance also covers a range of other issues raised by respondents to this consultation, including:

- the requirement for engagement with the local authority, local waste planning authority and the local community in developing the site waste management plan;
- the requirement for sites to produce an environmental safety case that demonstrates the safety of the site, irrespective of whether any disposals of radioactive waste are made at the site;
- the requirement for radiological monitoring of the site and of any disposal facilities
- the need to apply controls as appropriate, for example, fences, signage etc.;
- the requirement for record keeping for the duration of the environmental permit, which may be years or decades;
- the requirement to archive records after the permit is surrendered.

This consultation does not propose to make any amendments to the principle of optimisation or to these key requirements. However, BEIS is engaging with the

environment agencies, ONR, Defra and the Welsh Government to establish whether amendments to secondary legislation (The Environmental Permitting (England and Wales) Regulations 2016) are required to support these proposals. The Scottish Government and SEPA are working to ensure that the equivalent Scottish legislation, the Environmental Authorisations (Scotland) Regulations 2018 (due to come into force on 1st September), is also fit for purpose in this context. Any amendments identified will be the subject of consultation.

On the issue of resource, environmental permit holders need to demonstrate that they have the resources to comply with the conditions of the permit. The "polluter pays" principle applies, and therefore the environment agencies will seek to recover their costs from the relevant operator to ensure that they remain able to regulate effectively. The environmental regulators have confirmed that they would expect to regulate for an extended period of time (years or decades). We understand that they will need to altertheir charging arrangements to do so.

Future use of sites

One local authority mentioned that the future use of a site might change over time; for example, a site could initially be released for open access but might be considered for housing or commercial use at a later date.

Government Response: We recognise that the use of a site may vary with time. The environmental permit will remain in place until the site is suitable for unrestricted use, as set out in [ref A.3]. However, *having an environmental permit does not prevent restricted reuse earlier*. Any operator wishing to change the use of the site whilst a permit is in place would need to demonstrate to the relevant environment agency the continued safety of the site for that revised use, which might require additional clean-up or further controls being implemented and a variation to the environmental permit being sought. Similarly, if planning permission for a new use is required while the site remains under this regulation, then the local authority could place further planning conditions on any relevant developments.

Delicensing of fuel manufacture and fuel reprocessing sites

Two respondents asked if the proposals would apply for former fuel manufacture and fuel reprocessing sites. One noted that contamination on such sites is more extensive than on typical nuclear power plants and that the radionuclides are generally longer lived.

Government Response:

The proposals apply to all nuclear sites, including power plants, reactor sites, fuel manufacture and fuel reprocessing sites. However, some of these sites are unlikely to be able to meet the Paris Decommissioning Exclusion criteria in the near future. Operators therefore have a choice; either to clean up the site so that it meets these criteria, or the current criterion, or to remain under ONR's regulation.

Other points

One respondent asked for clarity from BEIS on the potential link between the proposed 'Paris Convention Decommissioning Exclusion' and the proposed revision to the REPPIR¹⁴ regulations (ref[A.12]).

Several respondents asked what would happen if the environmental permit holder went out of business.

One respondent asked for an explanation of the effects of EU Exit on these proposals.

Government Response:

REPPIR applies to operators of premises where radioactive substances are present (in quantities exceeding specified thresholds, for example, nuclear sites, hospitals, universities, transit sheds etc. There is no conflict between the REPPIR regulations and our proposals to adopt the Paris Convention Decommissioning Exclusion; regardless of whether the site meets the Paris Convention Decommissioning Exclusion criteria, duty holders of decommissioned nuclear sites would have to establish whether their site meets the criteria that would trigger REPPIR and plan accordingly. The same applies to low level waste disposal facilities that meet the Paris Convention Low Level Waste Exclusion criteria.

One of the requirements of permits issued under the Environmental Permitting (England and Wales) Regulations 2016 and the Regulatory Reform (Scotland) Act 2014 is that the permit holder must have sufficient resources to comply with the permit. As noted earlier, decommissioning of legacy sites (such as the MOD and NDA sites) is funded by Government; the Nuclear Liabilities Fund was established to cover the decommissioning of current generation AGR/PWR nuclear power plants and operators of new nuclear plants are required to have a Funded Decommissioning Programme (FDP) in place. At present, these decommissioning requirements make reference to the nuclear licence. BEIS will discuss the impact of these proposals with the NLF.

We confirm that the proposals to amend NIA65 are not directly affected by EU Exit. The environment agencies and HSE will continue to apply the relevant requirements of UK legislation after EU Exit.

Proposals

This section sets out the Government's proposed approach to amending the regulatory framework for nuclear decommissioning.

Proposed legislative changes

Government proposes to introduce legislation when parliamentary time allows amending the NIA65 as follows:

Adopt the 2014 Paris Convention Decommissioning Exclusion (ref[A.1]), thereby allowing ONR to end the period of responsibility for nuclear third party liability, if content that the criteria in this decision have been met. We refer to this new route as the Decommissioning Exclusion route and it would be an option that could apply instead of the current approach for ending the licensee's period of responsibility based on the existing interpretation of the "no danger" criterion. The "no danger" route would remain as an option, for example, for sites which are not covered by the scope of the Paris Convention Decommissioning Exclusion or for sites for which are not regulated by the relevant environment agency. For example, sites which contain spent or unused fuel which is not classified as waste may not have an environmental permit under Radioactive Substances Regulation and therefore it would be inappropriate to release these from all regulation once the Paris Convention Decommissioning Exclusion criteria were met. In these cases, we propose to retain the existing "no danger" route to ending the period of responsibility for nuclear third party liability. We also propose to adopt the 2016 Paris Convention Low Level Waste Exclusion (ref[A.2]), thereby allowing Low Level Waste disposal facilities that meet this criterion to exit the nuclear third party liability regime.

Introduce a new surrender mechanism in the NIA65 whereby the licensee must apply to ONR if it wishes to surrender its licence. Once nuclear safety and security matters have been resolved, a licensee would be able to submit an application for licence surrender concurrently with, or subsequent to, the ending of the period of responsibility for third party nuclear liability. This proposal would remove the licensee's right to surrender its licence without prior approval from ONR. When the period of responsibility for third party nuclear liability has ended and ONR has accepted the surrender of the nuclear licence, HSE and the relevant environment agency would then become the primary regulators for the remaining stages of decommissioning and clean-up.

Amend the NIA65 to require ONR to also consult with the HSE as well as the relevant environment agency when making the decision to accept surrender of a nuclear licence or a licence variation to exclude part of the site.

Once the 2004 Protocol to the Paris Convention (ref[A.4, A.5, A.6]) is brought into force, amend the NIA65 so that the licensee can apply to ONR to exclude qualifying disposal facilities for radioactive waste from the site boundary if there are no licensable activities being carried out on that part of the site. The relevant environment agency would continue to regulate these facilities under Radioactive Substances Regulation ([references [A.7, A.8, A.9]) and would also be responsible for determining the period of responsibility for these disposal facilities as it is for disposal facilities located elsewhere. Under this proposal, a licensee would be able to apply for a variation to, or the surrender of, a nuclear site licence to exclude a disposal facility from the nuclear site licensed area. ONR would not be required to apply the "no danger" criterion before accepting any such application, but would wish to be satisfied that the need for nuclear safety and security regulation of the disposal facility had ceased.

Next steps

Government intends to legislate on these measures when parliamentary time allows. In advance of that:

- BEIS, the Welsh Government, Defra, ONR and the environment agencies will consider whether amendments to secondary legislation (the Environmental Permitting (England and Wales) Regulations 2016) are required to ensure that the legislation is suitable for all aspects of waste management and land remediation on former nuclear sites. The Scottish Government and SEPA are working to ensure that the equivalent Scottish legislation, the Environmental Authorisation (Scotland) Regulations 2018 (due to come into force on 1st September), is also fit for purpose in this context. Any amendments will be the subject of separate consultations.
- ONR will draft guidance to set out its criteria for establishing whether a nuclear site has met the Paris Convention Decommissioning Exclusion and whether the nuclear licence can be surrendered.
- ONR will also draft guidance setting out its criteria for excluding waste disposal facilities from the nuclear licenced site.
- ONR, the Environment Agency, SEPA, NRW and HSE will formulate handover procedures that will apply at the point of licence surrender. We recommend that they engage closely with local authorities, NuLeAF and SCCORS.
- The environment agencies will draft guidance for establishing whether low level waste disposal facilities meet the Paris Convention Low Level Waste Exclusion criteria.
- BEIS, MHCLG¹⁵ and NuLeAF will investigate whether any amendments are required to planning guidance in England to ensure that it is suitable for all aspects of land remediation

¹⁵ The Ministry for Housing, Communities and Local Government.

on former nuclear sites. Planning is a devolved issue; the Scottish Government has approached SCCORS on this matter and the Welsh Government intends to undertake similar engagement with NuLeAF.

• BEIS will discuss the arrangements for the decommissioning funds with the fund operators to ensure that they reflect the new requirements.

Completion of these tasks is contingent on primary legislation being obtained. Any revised regime will only take effect once all necessary amendments to legislation have been established to ensure that the appropriate level of regulatory control is maintained.

Annex A: References

- A.1 "Decision and Recommendation of the Steering Committee Concerning the Application of the Paris Convention to Nuclear Installations in the Process of Being Decommissioned", OECD Nuclear Energy Agency, 30 November 2014. https://www.oecd-nea.org/law/decommissioning-exclusion.html
- A.2"Decision and Recommendation concerning the Application of the Paris Convention on Third Party Liability in the Field of Nuclear Energy to Nuclear Installations for the Disposal of Certain Types of Low Level Radioactive Waste", OECD Nuclear Energy Agency Steering Committee, 3-4 December 2016 https://www.oecd-nea.org/cen/docs/2016/ne2016-7-final.pdf
- A.3 "Management of radioactive waste from the decommissioning of nuclear sites: guidance on the requirements for release from radioactive substances regulation", Scottish Environment Protection Agency, Environment Agency and Natural Resources Wales, July 2018 https://www.sepa.org.uk/regulations/radioactive-substances/guidance-and-reports/ (joint guidance section)
- A.4 The Paris Convention 2004 Protocols: "Protocol to amend the Convention on third party liability in the field of nuclear energy of 29 July 1960 as amended by the additional protocol of 28 January 1964 and by the protocol of 16 November 1982" 12/02/2004 https://www.oecd-nea.org/law/paris_convention_protocol.pdf
- A.5 "Protocol to amend the Convention of 31 January 1963 supplementary to the Paris Convention of 29 July 1960 on third party liability in the field of nuclear energy, as amended by the additional protocol of 28 January 1964 and by the protocol of 16 November 1982" 12/02/2004. https://www.oecd-nea.org/law/brussels-supplementary-convention.pdf
- A.6 The Nuclear Installations (Liability for Damage) Order 2016 https://www.legislation.gov.uk/uksi/2016/562/contents/made
- A.7 The Environmental Permitting (England and Wales) Regulations 2016
- A.8 The Regulatory Reform (Scotland) Act 2014
- A.9 The Environmental Authorisations (Scotland) Regulations 2018 (due to come into force on 1st September 2018)
- A.10 "Implementation of changes to the Paris and Brussels Conventions on Nuclear Third Party Liability Government Response", (former) Department of Energy & Climate Change, March 2012, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42757/4874-parisbrussels-government-response-to-consultation.pdf
- A.11 Licence Condition 36 (http://www.onr.org.uk/documents/licence-condition-handbook.pdf)
- A.12 "Revised requirements for radiological protection: emergency preparedness and response", BEIS consultation, October 2017.

 https://www.gov.uk/government/consultations/revised-requirements-for-radiological-protection-emergency-preparedness-and-response

Annex B: Respondents to the consultation

Type of organisation	Respondents	Number of written responses
Site Stakeholders' Groups	Berkeley SSG Chapelcross SSG Dounreay SSG Hunterston SSG Hunterston SSG (2nd response) Oldbury SSG Chair Sizewell SSG Winfrith SSG	8
Local authorities ¹⁶	Copeland Borough Council Officer response from Essex County Council; Gloucestershire County Council Gwynedd Council Co-convenor of SCCORS Isle of Anglesey County Council Purbeck District Council Nuclear Free Local Authorities NuLeAF	9
NGOs	Parents concerned about Hinkley	1
Nuclear licence holders, nuclear industry and radioactive waste facilities	AWE Corporate Risk Associates Ltd. (CRA) Cyclife Dounreay Site Restoration Ltd. EdF Energy GE Healthcare Hydrock NMC Limited LLW Repository Ltd Nuclear Industry Association	18

¹⁶ Includes NuLeAF (the Nuclear Legacy Advisory Forum), SCCORS (the Scottish Councils' Committee on Radioactive Substances) and NLFA (UK and Ireland Nuclear Free Local Authorities). Note that the Essex County Council response is a response from an individual council officer.

Type of organisation	Respondents	Number of written responses
	Nuclear Industry Group on Land Quality Nuclear Liabilities Fund The Nuclear Institute Wood PLC Westinghouse UK Plus 5 companies who have not given permission to publish their names	
Government bodies and regulators	Food Standards Scotland North Wales Councils Regional Emergency Planning Service NRW ONR SEPA Snowdonia Enterprise Zone Advisory Board	6
Others (including individuals, academia and trade unions)	Prospect Professor Gregg Butler, Head of Strategic Assessment, Dalton Nuclear Institute, University of Manchester Adam Fisher, University of Sheffield Plus 5 other individuals.	8
Total		50



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