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| 28th February 2025 | Redgrave CourtMerton Road BootleMerseyside L20 7HS  Contact@onr.gov.uk Unique ref: TBC |
| nuclear@environment-agency.gov.uk |

To whom it may concern,

**ONR’ Response – Environment Agency Consultation: GRA and Staged Regulation (GDF) guidance**

Thank you for the opportunity to comment as part of the Environment Agency (EA) consultation on: Disposal facilities for solid radioactive waste: Guidance on the Requirements for Authorisation (GRA); and Geological disposal facilities for solid radioactive waste: Staged Regulation guidance.

This letter, and the attached appendix, provide the Office for Nuclear Regulation's (ONR) response to this consultation**.** We note EA’s guidance to consultees which advises that there are that matters can, and cannot, be taken account of.

With that advice in mind, we have extended our commentary, or provided advice, only where necessary to confirm regulatory or technical matters which involve an interplay between the Environment Agencies and ONR’s regulatory responsibilities and requirements.

Thank you again for consulting us and we would be very pleased to discuss any of our responses with you in more detail as necessary.

Yours sincerely



**Sarah Brown**

**Head of Policy**

**Appendix**

| **Specific consultation questions** | **ONR’s views** |
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| **Questions - We welcome your views on:****Document 1: Disposal facilities for solid radioactive waste: guidance on the requirements for authorisation (GRA).** [[1]](#footnote-2) | 1. We propose that the text (page 16), advising that a neutron chain reaction ‘will not occur’ in practice (i.e. as in requirements 18/ 18a) is substituted for text to highlight that the legal requirement is that that the risk of criticality has been reduced so far as is reasonably practicable or achievable.
2. This would make the text in this section consistent with Requirement 7 (Optimisation) and avoid the applicant having to demonstrate that a criticality will not occur, under any reasonably conceivable situation, particularly post-closure, which, in our view, is contrary to the principle approach to optimisation and would be virtually impossible to achieve. As section 7 states:

*“….. The effort and resources you put into optimisation should be proportionate to the magnitude of the exposure or potential exposure / risk. There is no lower level of exposure below which optimisation is not required, but there are diminishing returns as the exposure is progressively driven lower…...”*1. The guidance may need to cover on-site disposals that become ‘relevant disposal sites’ after being removed from the nuclear site licensing regime (if not covered in the GRR guidance). We suggest that text at page 17, second para is amended as follows:

*‘This guidance applies to facilities dedicated for solid waste disposal. Typically therefore, it would not apply to solid waste disposals that take place on a nuclear licensed site in decommissioning, known as in-situ disposals or disposals for a purpose.’ However the guidance may need to be applied in circumstances where, following decommissioning, the site is delicensed*. Relationship with operational health and safety and nuclear safety  1. Page 59 of this section indicates the requirements for a nuclear safety case for a nuclear licensed site. We note that the compliance requirements are much wider than this and include compliance with all Licence Conditions and relevant health and safety laws and should be amended accordingly.
2. ONR’s regulatory oversight and expectations are wider than suggested in the text here and should be amended to reflect that the licensee is required to comply with all Licence Conditions and relevant laws at all times. We suggest the text be amended as follows:-

*If your site holds a nuclear site licence, protecting workers and avoiding and mitigating the immediate consequences of accidents during operations are regulated by the ONR. ONR will require you to demonstrate compliance with the law. This will include, but is not restricted to, preparing and maintaining a nuclear safety case demonstrating that your arrangements for protecting workers and avoiding and mitigating the immediate consequences of accidents meet legal requirements. How ONR regulates can be found at* [*How we regulate | Office for Nuclear Regulation*](https://www.onr.org.uk/our-work/how-we-regulate/)1. In relation to dose assessments (text at page 60) we recommend that the advice state that the assessment use the total planned inventory in the disposal facility to provide the worst case scenario. At present this is not explicitly stated.
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| **ONR responses to subsequent questions posed in this section of the consultation.**1. Is the document clear and easy to read?

*ONR. Yes.*1. Are there any inconsistencies in the guidance? If so, please give examples.

*ONR. See comments above.*1. Are the requirements set out in the guidance clear, and do they cover all the areas that should be addressed?

*ONR. See comments above.*1. Should a specific requirement be added about sustainability and how that should be considered in the development and operation of a radioactive waste disposal facility?

*ONR. On sustainability, we consider that the guidance should be consistent with HMG policy in respect of the operation of radioactive waste facilities now and those proposed for the future i.e. Geological Disposal Facility[[2]](#footnote-3). The guidance should also be mindful of independent advice provided to government on such matters[[3]](#footnote-4).* 1. Are the requirements and guidance on isolation and containment (requirements 8 and 9) clear and sufficient? If not, what improvements would you suggest?

*ONR. No comment.*1. Are the requirements and guidance on assessing natural disruptive processes (requirement 17 and 17a) clear?

*ONR. No comment.* 1. Is the guidance on groundwater protection (part 4) clear and sufficient and is it well enough integrated with the rest of the guidance? If not, what improvements would you suggest?

*ONR. No comment.*1. Does the section titled ‘Guidance on modelling’ (in part 3) contain useful information at a suitable level of detail?

*ONR. No comment.* |
| **Document 2: Geological disposal facilities for solid radioactive wastes: Staged regulation guidance**  | 1. Recognising that the guidance is only intended to cover aspects covered by environmental regulations, we suggest that it may still be appropriate to indicate the stage at which a nuclear site licence (NSL) will be required (i.e. before construction begins and not required for surface-based intrusive investigations) and provide a short description of what activities in a GDF the NSL covers and are regulated by ONR.
2. Doing so would give an appropriate overview of the full regulatory regime for a GDF and avoid potential confusion over Environment Agency and ONR vires where the guidance refers to aspects such as ‘operations’. It would also provide appropriate recognition of, and a pointer to, the safety aspects that will be regulated by ONR under a nuclear site licence.
3. Doing so would also ensure alignment in the use of terminology and/or phrasing. For example: “The operator will need to demonstrate the facility’s structures, systems, and components are adequate…’, ‘train personnel to safely operate a future GDF’ and ‘safe receipt, and emplacement of waste packages and record keeping’ which will (also) be regulated by ONR”.
4. The guidance covers the permit requirements for the underground component of a GDF (candidate premises). It may be appropriate to mention that an operational GDF will have an associated surface facility for receipt and management of waste packages prior to emplacement and how this will be permitted. It may also be helpful to explain that the surface facility and underground GDF may be offset, particularly in the case of an inshore GDF.
5. As most, if not all, of the current search areas in the GDF siting process are in the inshore region, it may be appropriate to give more explicit coverage of this aspect of siting, for instance to give clarity that ‘surface-based intrusive investigations’ means from the seabed for an inshore site and to highlight any other implications for the permitting process (e.g. is hydrogeology and potential impact groundwater treated differently?).
6. The guidance indicates the requirements for a ‘map, plan or other description of the site showing the geographical extent of the site of the regulated facility’ (-should this be ‘candidate premises’ rather than ‘regulated facility’?). The guidance could indicate that this will necessarily require some sort of 3D map.
7. In Part A, the guidance indicates that ‘The developer should describe its arrangements for and use of internal and external peer review in the development of an ISE and a PESE.’. Does this reflect an expectation that there is some degree of external peer review in the development of the ISE/ PESE?

Waste inventory for disposal1. This section could make some reference to any expectations that in general all waste packages for disposal should have a Letter of Compliance.

Management system and environmental safety culture1. This section acknowledges that there may be concurrent construction and disposal operations. When an area under construction is completed, is a permit variation required for disposal operations to start in that area? The same question might apply for when an area of the GDF is sealed.
2. The guidance indicates that the ISE is expected to cover ‘in some detail’ GRA requirements R4, R8, R9 and R10. As this stage is before detailed site characterisation information has been obtained from the intrusive investigations which will directly inform these aspects, it is not clear how much detail is expected. Wealso note that Part B indicates ‘initial views’ and the last paragraph on page 49 indicates the knowledge and understanding are still likely to be limited even at the later PESE stage.
3. We suggest that where there is reference to using experience from similar facilities in other countries, it may be helpful to be explicit that this must normally be from facilities sited in similar rock and geological conditions.
4. A further suggestion would be that a diagram showing the stages (and summary of requirements and what the resultant permit variation covers) would be helpful and show the stages in a concise form. It could show the progressive development of the ESC and permit through its variations It could also show where there could concurrently be a permit and licence in force.
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| **ONR responses to subsequent questions posed in this section of the consultation.**1. Is the document clear and easy to read?

*ONR. Yes.*1. Are there any inconsistencies in the guidance? If so, please give examples.
2. Are the stages set out in the guidance clear, and do they cover all the areas that should be addressed?

*ONR. Please see comments in the Overview at paragraphs 11. to 13. & 17. above.*1. Is the scope of our regulation of the surface-based intrusive investigation stage clear and does it cover all areas that should be addressed?

*ONR. Please see comments in the Overview at paragraphs 11. to 13. & 17. above.*1. Is our approach to permitting the sites for drilling boreholes during the surface-based intrusive investigations stage transparent?

*ONR. Please see comments in the Overview at paragraphs 8. to 10. above.*1. Is our approach to regulating the initial and subsequent borehole drilling activities during the surface-based intrusive investigations stage clear and fit for purpose?

*ONR. Please see comments in the Overview at paragraphs 8. to 10. above.*1. Is it clear which construction activities we would permit during the underground investigations stage?

*ONR. Please see comments in the Overview at paragraphs 8. to 10. above.*1. Is guidance on the supporting information required for permitting each stage clear and does it cover all the areas that should be addressed?

*ONR. Please see comments in the Overview at paragraphs 8. to 10. above.*1. Are permit surrender requirements for the investigatory and post-operational stages clear and relevant to each stage?

*ONR. Please see comments in the Overview at paragraphs 8. to 10. above.* |
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1. [Disposal-facilities-for-solid-radioactive-waste-guidance-on-requirements-for-authorisation-for-consultation.odt](https://gbr01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fconsult.environment-agency.gov.uk%2Fpsc%2Fradioactive-waste-disposal-facilities-guidance%2Fsupporting_documents%2FDisposalfacilitiesforsolidradioactivewasteguidanceonrequirementsforauthorisationforconsultation.odt&data=05%7C02%7CKobina.Lokko%40onr.gov.uk%7Ca036cde7e9e740eb700a08dd2fff9b6c%7C742775df807748d681d01e82a1f52cb8%7C0%7C0%7C638719497043363236%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIwLjAuMDAwMCIsIlAiOiJXaW4zMiIsIkFOIjoiTWFpbCIsIldUIjoyfQ%3D%3D%7C0%7C%7C%7C&sdata=D%2FycLXXicGMRCgniNcyJ9O78Ofug182R6CfBX9KU0iI%3D&reserved=0) [↑](#footnote-ref-2)
2. Paragraphs 1.6 – 1.9 [Managing Radioactive Substances and Nuclear Decommissioning: UK policy framework](https://assets.publishing.service.gov.uk/media/6632371769098ded31fca7c1/managing-radioactive-substances-and-nuclear-decommissioning-uk-policy-framework.pdf) [↑](#footnote-ref-3)
3. [CoRWM position papers and document archive - GOV.UK](https://www.gov.uk/government/collections/corwm-position-papers) [↑](#footnote-ref-4)