



Office for
Nuclear Regulation

ONR Report

Proof of Evidence

Emergency Preparedness and Response

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Appeal Details	
Application Reference No.	22/00244/FULEXT
Appeal Reference No.	APP/W0340/W/22/3312261
Local Planning Authority	West Berkshire Council
Location	Land to the rear of the Hollies, Burghfield
Proposal	The erection of 32 dwellings including affordable housing, parking and landscaping. Access via Regis Manor Road.

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1. Background

1.1. Qualifications

1. I am a Chartered Radiation Protection Professional and hold a certificate of competence as a Radiation Protection Adviser.
2. I have 22 years' experience in the field of emergency preparedness and response ("EP&R") for radiological emergencies covering participation in on- and off-site emergency exercises, preparation of emergency plans, and regulation of emergency arrangements across most of the UK's nuclear sites.
3. I represent the UK and ONR at the pre-eminent domestic and international meetings in the field of EP&R for nuclear and radiological emergencies. I am the UK's representative at the International Atomic Energy Agency ("IAEA") Emergency Preparedness and Response Standards Committee ("EPRReSC") which develops the international standards that the UK has committed to adopt. I represent ONR and the UK at the Nuclear Energy Agency's Committee on Radiological Protection and Public Health and its Working Party on Nuclear Emergency Matters. Domestically, I represent ONR to promote regulatory compliance at key stakeholder forums including:
 - The Local Authorities Nuclear Working Group – which shares and promotes good practice in emergency preparedness between local authorities ("LA") that have nuclear sites within their jurisdiction;
 - The Nuclear Emergency Arrangements Forum, a nuclear operator forum that also promotes good practice;
 - The Lessons Learned Working Group, chaired by the Department for Energy Security and Net Zero, which sets a programme of work to improve the UK's nuclear-related emergency arrangements; and
 - The Blue Lights Working Group, a group that brings together the emergency services to share good practice and improve joint working with respect to preparedness for nuclear and radiological emergencies.
4. I currently work as a Principal Inspector within ONR's EP&R team as the Policy and International Lead and Deputy Delivery Lead. The EP&R team primarily focuses on the regulation of off-site emergency arrangements, and in particular compliance with the Radiation (Emergency Preparedness and Public Information) Regulations 2019 ("REPPPIR19").

1.2. Scope of Evidence

5. My evidence will consider the application of REPPIR19 as it applies to ONR's regulation of the off-site EP&R arrangements for AWE Burghfield ("AWE(B)").
6. I have not been directly involved in the regulation of REPPIR19 for the AWE(B) site (other than being a member of the assessment team for the ALDEX 23 test referred to in Section 2.4 below), nor am I a specialist in land use planning matters. These activities are undertaken by my colleagues in the EP&R team. However, in order to undertake my role as Policy Lead I am kept informed of regulatory activities by the wider team.

2. ONR's Regulatory Oversight of the Off-Site Emergency Plan ("OSEP")

2.1. The Detailed Emergency Planning Zone ("DEPZ")

7. REPP19 requires the relevant LA to designate a DEPZ. The DEPZ is the geographical zone in which it is proportionate to plan for protective action in the event of a radiation emergency.
8. As set out in Sections 1.3.1 of ONR's SoC, the geographical extent of the AWE(B) DEPZ is determined using a risk-informed methodology that is prescribed in, and so came into force with, REPP19. This methodology differed from that required under the previous version of the regulations (REPP 2001) and necessitated the determination of a new, much larger DEPZ for AWE(B) in 2020. This process was subject to a high level of regulatory scrutiny (as outlined in the Proof of Evidence submitted by the ONR Nominated Site Inspector, Ian Rogers) and ONR is satisfied that the extent of the DEPZ is suitable and sufficient.
9. Arguments on the likelihood and severity of the impacts of a radiation emergency affecting the proposed development can be complex, but the overarching requirement of REPP19 is straightforward (and is outlined in Section 3.3 of ONR's SoC). Protection for all people living or working in the DEPZ must be afforded by an OSEP in order to mitigate the serious consequences of a radiation emergency. The proposed development would be located within the DEPZ and so future residents must be afforded the same level of protection as the existing population.
10. The UK Government recognises the far-reaching consequences of a radiation emergency as a unique situation potentially resulting in widespread exposure to ionising radiation, which is why it has legislated specifically for this hazard. This is in alignment with international standards which bind the UK.
11. In coming to a judgement on whether the development can be accommodated in the DEPZ, the question is not "what is the likelihood or severity of the radiation emergency?". Rather, the question is "will the OSEP continue to be effective in the event of an emergency?".

2.2. Purpose of the OSEP

12. The OSEP should set out detailed planning arrangements to provide prompt protection of members of the public in the DEPZ in the event of a radiation emergency. The principles and purposes of OSEPs are set out in Schedule 7 of REPP19.
13. I note that the Appellant's SoC is largely focussed on the risks and protective actions associated with exposure to ionising radiations during an emergency.

However, REPP19 requires the consideration of broader impacts arising from the response in detailed planning including: wider health risks (including psychological impact); consequential injuries; economic consequences; social and environmental factors. Para 61 of ONR's SoC refers to these impacts, which may exceed the health effects of exposure to radiation and need special consideration by the LA and responders when preparing the OSEP.

14. REPP19 makes specific reference to the protection of vulnerable groups (as described in Para 239 of REPP19 guidance), as protection of these groups can be particularly challenging in a radiation emergency. However, the OSEP, and its implementation, must work for all residents. Any new development in a DEPZ could introduce new vulnerable groups which would be an increased burden on responders to support, and are not presently identified or catered for in the extant OSEP.

2.3. Development of the OSEP

15. ONR has a multi-layered approach to regulating REPP19, with frequent interactions with duty holders as OSEPs are developed, tested and reviewed. Some of the key engagements with the LA relating to the OSEP are referred to in Paras 41 and 43 of ONR's SoC.
16. The OSEP is not a static document, or set of documents, but a set of arrangements that are constantly evolving and adapting. The planning process required by REPP19 can be envisaged as a cycle involving the preparation, testing and review of the OSEP, all taking place over at least a three-year period.
17. REPP19 requires that, whilst preparing and reviewing the OSEP, the LA must consult with organisations with a role in delivering the plan (Regulation 11(5)) in order to maximise its effectiveness. Consultation ensures that wider specialist knowledge, responsibilities and national guidance are taken into account in developing and resourcing the OSEP.
18. ONR places great emphasis on ensuring an effective dialogue between the LA and responding organisations and has assured itself that local planning groups are working effectively. The content of the OSEP reflects carefully considered advice that draws on a wide range of highly specialist expertise and the judgement of the LA reflects the agreed position of the responding organisations. It is important to recognise that although the Appellant can express a view on the content of the OSEP, it will not have had the benefit of access to the professional insights this wider expertise provides.
19. With regard to the protective actions communicated in the OSEP, the potential radiological hazards from different UK nuclear sites range in type and magnitude, as well as having highly varied demographics. As a result, each associated OSEP has its own particular challenges. The unique features of the OSEP for the relevant DEPZ, are set out in Para 42 of ONR's SoC. These are important factors that provide significant challenges to implementing the OSEP and increase its sensitivity

to changes in demographics. Section 3.4 of ONR's SoC describes some of these issues in relation to sheltering.

20. As discussed in Section 2.2, the disruptive psycho-social impacts of an ongoing radiation emergency must be considered when determining the range of protective actions that are required. The Appellant's suggestion (Appendix Q of its SoC) that 'it should be possible to advise people that they can break shelter and return to normal life within an hour or two of the alarm' is not, in my experience of exercises and case studies, a realistic proposition for an area that may have been affected by a radioactive plume.
21. It is significantly more likely that, in the event of a release of ionising radiations from the AWE(B) site, there would be initial, widespread confusion and panic which would create a huge challenge for responders in the first few hours after a release. This is likely to evolve into an ongoing perception of widespread radiological contamination by residents and responders, causing ongoing social disruption and distress. It could take many days to understand the situation and provide reassurance to residents, particularly because the species of radioactive material which would be involved is particularly challenging to monitor. It is reasonable for the OSEP to consider the need to relocate residents whilst this complex work is undertaken.

2.4. Testing of the OSEP

22. The purpose of testing OSEPs is to demonstrate their ability to deliver an effective response to a radiation emergency which fulfils the purposes set out in Schedule 7 of REPP19. It should give confidence in the accuracy, completeness, practicability and adequacy of the plans and should identify how they can be improved.
23. The LA is required to test the OSEP at least once every three years. Participants then provide considered feedback to the LA and a report of the test must be completed within 3 months. ONR performs assessments of tests of the OSEP and provides its own comments for inclusion in the final report. ONR works with the LA to ensure that lessons have been learned from the test and improvements will be taken forward for the next revision of the plan.
24. As explained in Para 49 of ONR's SoC, Exercise ALDEX 23 took place on 24 April 2023 and I was a member of ONR's assessment team, largely focussing on the work of the Radiation Monitoring Unit ("RMU"), Evacuation and Sheltering Cell. This Cell was established to identify the need for these protective actions and provide strategic and tactical advice in deploying the necessary capabilities, resources and public communications. My observations, along with those made by colleagues from ONR and other responding organisations, will be provided to the LA for consideration in future reviews of the OSEP.
25. The process of capturing lessons, and identifying and implementing improvements must be allowed to conclude so that all feedback, covering the broad range of

expertise involved, can be collated and recorded appropriately. However, I can indicate that I recognised similar issues at ALDEX 23 that were evident at the previous modular exercise (Para 38 of ONR's SoC). Some of these matters relate to national capabilities that were recognised ahead of the test, and other matters related to strategic decision-making during the test. These matters would be sensitive to demographic changes as increasing the population in the DEPZ could reasonably be expected to lead to greater demands on responders for the timely establishment and operation of facilities to hold and offer reassurance monitoring for displaced persons. ONR is already engaging with the LA and national-level responders to seek improvement and will continue to do so as part of normal regulatory business.

2.5. Adequacy of the OSEP

26. Although the testing process has not concluded and feedback from all organisations has not been consolidated, I am not aware of any matters identified in testing or from our wider regulatory interactions that would suggest that the plan is not adequate at present. Accordingly, and to provide assurance to the Inspector and members of the public, ONR considers the OSEP to be adequate for the extant DEPZ.

3. Summary

27. It is my professional judgment that the OSEP is adequate for the extant DEPZ at present but requires improvement in areas that are likely to be sensitive to population increases within the DEPZ.
28. It is therefore reasonable, from a public safety perspective, to have concerns about increasing the population until the lessons have been learned from ALDEX-23 and the OSEP's statutory review and the associated improvements have been demonstrably implemented.

4. References

1	The Radiation (Emergency Preparedness and Public Information) Regulations 2019 Approved Code of Practice and guidance. Available here: https://www.onr.org.uk/documents/2020/reppir-2019-acop.pdf
2	The Radiation (Emergency Preparedness and Public Information) Regulations 2001. Available here: https://www.legislation.gov.uk/ukSI/2001/2975/pdfs/ukSI_20012975_en.pdf
3	ONR Statement of Case. APP/W0340/W/22/3312261. April 2023.
4	Appellant Statement of Case. November 2022