

Emergency Planning

Proof of Evidence

Town and Country Planning Act 1990
Section 78 appeal against the refusal of planning permission

Witness: Carolyn Richardson, BSc Hons, CIEH

Subject of Evidence: Emergency Planning

Appeal: APP/W0340/W/22.3312261

Site: Land to the rear of The Hollies, Reading Road, Burghfield Common, Reading, RG7 3BH

Proposal: Full planning permission for the erection of 32 dwellings including affordable housing, parking and landscaping. Access via Regis Manor Road

Date: August 2024

Council Reference: 22/00244/FULEXT



Proof of Evidence

Name: Carolyn Richardson

August 2024

West Berkshire Council
Development and Planning
Market Street
Newbury
Berkshire
RG14 5LD

T: 01635 519111

E: appeals@westberks.gov.uk

www.westberks.gov.uk/planning

Contents

1. INTRODUCTION	4
2. PURPOSE AND SCOPE OF STATEMENT	7
3. AWE AND EMERGENCY PLANNING	11
4. DEVELOPMENT MANAGEMENT ASSESSMENT PROCESS	15
5. 22 /00244/FUL APPLICATION REVIEW	20
BACKGROUND.....	20
LOCATION.....	20
POPULATION.....	22
6. ASSESSMENT OF THE PROPOSAL	25
PLANNING STATEMENT, JANUARY 2022 CD2.29	26
“PRE-APPLICATION” PLANNING SUBMISSION, AUGUST 2022 CD5.12	26
7. ALDEX-23 EXERCISE.....	31
8. RELEVANT APPEAL DECISIONS.....	33
9. RESPONSE TO APPEAL EVIDENCE.....	36
10. CONCLUSIONS.....	38

Appendix 1 - AWE Off-Site Emergency Plan Supporting Information
Annex 1 to Appendix 1 REPPIR AWE B Consequence Report 2019
Annex 2 to Appendix 1 AWE DEPZ Report March 2020
Annex 3 to Appendix 1 REPPIR AWE B Site Declaration 2022
Annex 4 to Appendix 1 AWE DEPZ Determination Report Jan 2023
Appendix 2 21 00244 EP response to Application and PREAPP
Appendix 3 ONR letter to WBDC re Aldex 23 Nov 2023
Appendix 4 WBDC letter to ONR Feb 2024
Appendix 5 APP/H1705/W/23/3326959 1-9 Shyshack Lane Decision
Appendix 6 APP/H107/A/09/2102644 12-20 Shyshack Lane Decision
Appendix 7 APP/H1705/W/19/3225175 1 Hillcrest Appeal decision
Appendix 8 APP/H1705/W/19/3221311 27 Millers Appeal decision
Appendix 9 Rebuttal to Dr Keith Pearce Evidence
Appendix 10 UKHSA report on KATMAL Reports
Appendix 11 Glossary of Terms

1. Introduction

Qualifications and Experience

- 1.1 My name is Carolyn Richardson. I have a degree in Environmental Health (BSc (Hons) 1st Class Environmental Health) and Post Graduate Diplomas in 'Meat Inspection & Other Foods', Acoustics & Noise Control and Leadership & Management.
- 1.2 I am a Chartered Member of the Chartered Institute for Environmental Health (CIEH) and a member of the Emergency Planning Society.
- 1.3 Since 2018 I have been the Service Manager for Emergency Planning for Bracknell Forest, Royal Borough of Windsor and Maidenhead and West Berkshire Councils, prior to that, from 2006 I was the Emergency Planning Manager for West Berkshire Council having previously been a Principal Environmental Health Officer for the same Council.
- 1.4 I have extensive and current experience in relation to emergency planning, response and recovery for all risks within West Berkshire area including the Atomic Weapons Establishment sites at Aldermaston and Burghfield (AWE (A) and (B)) respectively.
- 1.5 I have been involved in the Thames Valley Local Resilience Forum (TVLRF) since 2006, which is a multi-agency forum of responders including the emergency services, Health agencies including the UK Health Security Agency, utility companies, MOD representatives etc. As a senior strategic officer, I represent Berkshire on the TVLRF Delivery Group and I have either chaired or am the Berkshire representative on a number of risk and capability working groups including Chemical, Biological, Radiation and Nuclear (CBRN), Hazardous Materials (HAZMAT), site specific risks with hazards such as radioactive materials (Radiation (Emergency Preparedness & Public Information) Regulations 2019 (REPPPIR 19)), chemicals (Control of Major Accident Hazards Regulations 2015, COMAH), flooding, wildfires, human aspects, vulnerable people, recovery and event management including most recently the funeral of Her Majesty Queen Elizabeth II and Coronation of King Charles III.
- 1.6 I have been a member of the Local Authority Nuclear Working Group, a national group involving all local authorities across the UK where there are nuclear sites since 2006.

This group also includes the regulators, Office for Nuclear Regulation (ONR), UK Health Security Agency (UKHSA), Food Standards Agency (FSA), Dept. of Energy Security and Net Zero, Ministry of Housing, Communities and Local Government (MHCLG) and the Environment Agency (EA). I was involved in the revision of the National Nuclear Emergency Planning Guidance¹ and am currently on the national group revising this guidance in relation to the changes in the legislation.

- 1.7 I have worked closely with the AWE staff and developed a deep understanding of the hazards, risks and on-site and off-site responses in relation to a radiation emergency. I have been engaged with the development of the AWE On-site Response Plan in addition to the development of the AWE Off-Site Emergency Plan since 2006. I have also reviewed other REPPIR sites Off-Site Emergency Plans as peer reviews. Therefore, I am fully conversant with on-site and off-site emergency planning by way of developing, scrutinising, testing and reviewing.
- 1.8 Specific training undertaken in the emergency planning field includes Multiagency Gold Incident Command (MAGIC) by the College of Policing, Tactical and Strategic Coordinating Group training, Crisis Communications, and specific radiation training including for nuclear convoys.
- 1.9 I have been involved with the Atomic Weapons Establishment (AWE) sites exercises since 2004 initially taking part in Exercises in my capacity of Environmental Health professional, in what was known as the Health Advisory Cell (HAC), now known as the Scientific and Technical Advisory Cell (STAC) and more recently in the strategic command structures.
- 1.10 I have been the lead sponsor for the development of exercises at local, regional and national level with respect to AWE in addition to training, exercising and testing other specific risk sites and capability risks.
- 1.11 I also have extensive and recent strategic and practical experience in relation to response and recovery to major incidents at strategic level, being the Strategic Advisor to the Chief Executives for Berkshire including for flooding events, water outages, and throughout the COVID 19 response. I have also undertaken roles in rest centres, supporting vulnerable people, managing the Councils Emergency Operations Centre and attending the scenes of many incidents including fires, security incidents and flooding events. I have also led on recovery from major incidents and the debriefs from

¹ [National Nuclear Emergency Planning and Response Guidance - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/441222/nnepg-2016-2017.pdf)

them which has included engagement with the communities affected. I therefore have a wide understanding of how emergencies run in a multi-agency environment, the significant impact on Council and other agency resources that emergencies require and most importantly the effect they can have on the communities affected.

- 1.12 In both my main fields of employment in Environmental Health and Emergency Planning I have been involved in development control activities providing feedback in relation to my professional role at the time.
- 1.13 In summary I have a detailed understanding of the considerations and risks associated with the AWE sites, the associated and supporting plans for response and recovery for any emergency including from radiation emergencies and recent relevant experience of responding to emergencies including supporting the impacted communities.
- 1.14 My statement covers the matters relating to the AWE Off-Site Emergency Plan (AWE OSEP), other matters relating to emergency response and the impact this appeal site would have on the response and recovery from a radiation emergency and therefore the health and wellbeing of the 'new' community in addition to the existing community.
- 1.15 I confirm that this statement which I have prepared and provided for this appeal is true to the best of my knowledge and belief. I confirm that the opinions expressed are my true and professional opinions.

2. Purpose and Scope of Statement

2.1 This proof of evidence has been prepared in response to the appeal against refusal for the 'Erection of 32 dwellings including affordable housing, parking, and landscaping. Access via Regis Manor Road' at The Hollies, Reading Road, Burghfield Common Reading RG7 3BH (APP/W0340/W/22/3312261).

2.2 This statement addresses Reason for Refusal 2:

2. *The application is part of an allocated housing site in the Council Local Plan [HSADPD of 2017]. In addition, it lies in the inner protection zone of the DEPZ for AWE site [B] at Burghfield. This public protection zone was formally altered in 2019, after the site was allocated and accepted in the HSADP. Policy CS8 in the WBCS of 2006 to 2026 notes that [inter alia] within the inner zone, in order to be consistent with ONR advice, nearly all new housing will be rejected [para 5.43 of the supporting text], as the additional resident population would compromise the safety of the public in the case of an incident at AWE. This accords with the advice to the application provided by the Council Emergency Planning Service, and the ONR.*

In addition, para 97 of the NPPF of 2021 notes that [inter alia] "planning policies and decisions should promote public safety, and take into account wider security and defence requirements by—b] ensuring that operational sites are not affected adversely by the impact of other development in the area. Given the clear objection from both the AWE and the ONR to the application on this basis it is apparent that the application is unacceptable in the context of this advice.

The Council accordingly considers that future public safety would be compromised if the development were to proceed, and potential harm would occur to the future capability and capacity of AWE Burghfield to operate effectively, in the light of the above. These are clear material planning considerations which, despite the site being allocated for housing in the Local Plan, are factors which a responsible LPA cannot set aside.

The proposal is accordingly unacceptable.

2.3 This statement will make clear the implications of the proposal for the AWE Off-Site Emergency Plan (AWE OSEP). These would put at risk the safety and wellbeing of the additional residents, along with the existing population in the DEPZ, in the event of a radiation emergency - both in the immediate response and in the longer-term recovery phase.

- 2.4 Although a radiation emergency at either AWE site is very unlikely, both sites have hazards requiring Detailed Emergency Planning as set out within the REPPiR 19 Risk Framework, and West Berkshire Council is the lead local authority to plan for such an eventuality. More information on the risk framework and why there is a requirement to undertake this work, is detailed in **Appendix 1** to my proof of evidence (**AWE Off-Site Emergency Plan - Supporting Information**).
- 2.5 A radiation emergency at the AWE Burghfield site would result in the triggering of the AWE OSEP which is developed to *'mitigate, so far as is reasonably practicable, the consequences of a radiation emergency outside the operators premises'* (REPPiR 19 Reg 11). The AWE OSEP must be able to be ***'put into effect without delay'*** (Approved Code of Practice (ACOP) 11(1), 334)², in order ***'to provide prompt protection of members of the public in the area'***. The AWE OSEP also links directly with a number of other risk capabilities and supporting single agency and multi-agency plans, such as humanitarian assistance, radiation monitoring units, radiation monitoring strategy, and the recovery plan all with the aim of ensuring public safety and well-being during and after any radiation emergency caused by an incident at either AWE site. All these plans are detailed and due to the characteristics of the incident can be complex to implement.
- 2.6 A brief, and **very simplistic**, summary of the response and impact to the area as a result of a radiation emergency at an AWE site includes:
- a. Activation of that AWE OSEP and notification of all in the Detailed Emergency Planning Zone (DEPZ),
 - b. A 'requirement' for all those within the DEPZ to shelter inside buildings for up to 48 hours,
 - c. Supporting early mitigation actions put in place including:
 - a. transport mitigations put in place (road closures including the M4 & rail networks closed including the main Reading to Southampton line),
 - b. supporting the vulnerable in the community (schools, care homes, individual vulnerable people in their homes),
 - c. controlled displacement of some communities including school children and other vulnerable sites as necessary,

² [REPPiR ACOP](#)

- d. environmental and people monitoring,
 - e. supporting those outside the area at the time of radiation emergency,
 - f. initial decontamination
 - g. provision of trusted, accurate information.
- d. Immediate and/or controlled displacement and relocation of potentially large numbers of residents to safe places away from the affected areas within the DEPZ,
- e. Thereafter their return, after the recovery process is complete should that be possible, which may be after a pro-longed period of time with longer-term emergency temporary housing required in the interim.
- f. Putting in place supporting structures in relation to finance, community engagement, supporting with employment and business matters, temporary schooling arrangements and managing the 'blight' on the area as a result which will all impact on the well-being effect of those affected.
- 2.7 More details in relation to the requirements, processes, actions and complexities are provided in **Appendix 1**.
- 2.8 The Council does not give detailed evidence on the degree of radiation that may emanate from an incident at AWE Burghfield, nor on on-site emergency procedures; that evidence is given by the ONR and the AWE.
- 2.9 This statement will address the following:
- a. The background to the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPiR 19) and the requirements placed upon the Local Authority as a result of the changes in May 2019, and the implications arising from these changes including those that relate to land use and development.
 - b. The determination process and implications of the Detailed Emergency Planning Zone around the Atomic Weapons Establishment sites and specifically AWE Burghfield.
 - c. The requirements of the AWE OSEP including the preparation, validation and response and recovery arrangements in the immediate, short and longer term

following a radiation emergency and how these impact on matters that relate to land use and development.

- d. The initial response through to recovery implications of new developments in the DEPZ.
- e. The complexities relating to response and recovery to radiation emergencies and other incidents.
- f. The development management consultation process with emergency planning including the considerations taken into account, the background to this appeal site and the reasons for the advice against the application.

2.9. This evidence has been updated since the first inquiry in order to:

- a. Demonstrate clearly the issues relating to this appeal site and the reasons for recommending refusal.
- b. Take into account the rebuttal evidence from the last appeal.
- c. Provide evidence not available at the time of the last appeal.

2.10 The background and supporting information relating to serials 2.8 a. to e. above are provided in **Appendix 1** along with supporting annexes.

2.11 Where I use italics this will be quoted information from other documents, where I use bold font this is to highlight an appendix and/or to emphasise a point.

3. AWE and Emergency Planning

- 3.1 The Atomic Weapons Establishments at Aldermaston and Burghfield are located within the administrative boundaries of West Berkshire District Council (WBDC/the Council). They are there primarily to develop and manufacture nuclear warheads as part of the Continuous at Sea Deterrent for the UK Government.
- 3.2 Both AWE sites are nuclear licenced sites and fall within the scope of the Radiation (Emergency Preparedness & Public Information) Regulations 2019 (REPPiR 19).
- 3.3 WBDC is the lead local authority for both AWE sites and has various duties under legislation including the requirement to have an “adequate” AWE OSEP in place.
- 3.4 The fundamental requirements under Reg 2(1) are to take:

‘protective action’ in order ‘to prevent or reduce the exposure of emergency workers, members of the public, the environment or the contamination of property from ionising radiation in the event of a radiation emergency, and includes the provision of appropriate information to the public’

where a ***‘radiation emergency’*** means ***a non-routine situation or event arising from work with ionising radiation that necessitates prompt action to mitigate the serious consequences:***

- a. of a hazard resulting from the situation or event;***
- b. of a perceived risk arising from such a hazard; or***
- c. to any one or more of:***
 - i. human life***
 - ii. health and safety***
 - iii. quality of life***
 - iv. property***
 - v. the environment***

- 3.5 The focus therefore is to put the mitigation in place to prevent (AWE responsibility) or reduce (local authority responsibility) the **serious consequences** on those in the community.
- 3.6 As a result, there is a significant role for the Council in developing the AWE OSEP and ensuring compliance with the legislation. This role is undertaken by the Joint Emergency Planning Unit.
- 3.7 It is important to recognise that the work undertaken to maintain, develop, exercise and validate the AWE OSEP, is multi-agency work co-ordinated by the Council as local authority under REPIR 19. This is mainly done through the AWE Off-Site Planning Group (AWE OSPG). There are other engagement and working groups which the Council is involved in, including the Local Authority Nuclear Working Group, and has regular monthly meetings with the regulators. More details in relation to these groups and meetings by way of membership and their aims are set out below in **Table 1**.

Group/ Meetings	Membership	Aim	Meeting Frequency
AWE Off-Site Planning Group (AWE OSPG) (31 agencies)	Animal & Plant Health Agency	To ensure the legislation relating to the nuclear licensed sites of Atomic Weapon Establishment (AWE) Aldermaston and AWE Burghfield are complied with in a multi-agency environment.	At least quarterly
	AWE		
	- Defence Fire & Rescue Service		
	- Emergency Planning		
	- Communications		
	Basingstoke & Deane Borough Council		
	Berkshire Healthcare NHS FT		
	Environment Agency		
	Food Standards Agency		
	Hampshire Constabulary		
	Hampshire County Council		
	Hampshire Hospitals NHS Foundation Trust		
	Hampshire & Isle of Wight Integrated Care Board		
	Hampshire Fire & Rescue Service		
	Met Office		
Department of Levelling Up Housing and Communities Resilience and Emergencies Directorate			
Ministry of Defence (MOD)			
<ul style="list-style-type: none"> • HQ SE JRLO • MOD Police 			
National Highways			
Network Rail			

Group/ Meetings	Membership	Aim	Meeting Frequency
	Berkshire (west), Oxfordshire and Buckinghamshire Integrated Care Board NHS England Office for Nuclear Regulation UK Health Security Agency South East UKHSA Radiation Chemical and Environmental Hazards Directorate Royal Berkshire Fire & Rescue Service Royal Berkshire Hospital Reading Borough Council Southern Gas Network South Central Ambulance Service Thames Valley Police (TVP) Thames Water West Berkshire Council <ul style="list-style-type: none"> • Emergency Planning • Director Public Health • Communications Wokingham Borough Council Others as necessary		
AWE OSPG Subgroups <ul style="list-style-type: none"> • Comms/W&I • Recovery • Evacuation and Shelter • Education • Early Scientific Advice 	Varies depending on groups	Varies for subgroup but with the overarching aim to review the AWE OSEP and put in place details into the AWE OSEP. Noting some of these have changed and will change over time depending on the work required at the time	Varies according to work of the groups but in outline the frequencies are: <ul style="list-style-type: none"> • Bi-monthly • 6 monthly • Quarterly • Bi-monthly • Bi-monthly
Local Authority Nuclear Working Group (LANWG)	National Group: All Councils across the UK with nuclear licenced sites, the regulators – ONR and other government departments representatives including DEFRA (EA & FSA), DoH (UKHSA), MHCLG, and DES&NZ	To provide local authorities with a national forum to share information and develop better practice for nuclear off-site emergency plans, off-site exercises, and the provision of public information in the event of an emergency to promote adequate off-site emergency arrangements and support to on-site arrangements. Providing a forum to identify and resolve local authority issues	6 monthly

Group/ Meetings	Membership	Aim	Meeting Frequency
		or escalate to the National Nuclear Resilience Committee (NRCC) for resolution.	
AWE & WBDC Engagement meeting	AWE & West Berkshire Council	To ensure the operator and the local authority co-operate in respect of their duties in legislation relating to the AWE Aldermaston and AWE Burghfield	Monthly
Regulatory Intervention meeting	ONR and West Berkshire Council	To review West Berkshire Councils compliance with the legislation	Monthly

Table 1. Local and National Compliance Groups/Meetings

- 3.8 The number of groups and agencies involved, including government departments, and the frequency of their meetings as set out above are all necessary in planning for a radiation emergency. They demonstrating the seriousness placed on the matter and on supporting the Council in achieving compliance with the legislation.
- 3.9 It should however be noted that these groups and meetings are directly related to the AWE sites. There are also a wide range of planning groups which come under the Thames Valley and Hampshire & Isle of Wight Local Resilience Forums including Radiation Monitoring Unit Framework, Scientific and Technical Advisory Cell Plans etc.
- 3.10 Further details in relation to the legal requirements, the risk framework and the basis of the AWE OSEP including the geographic area covered by the DEPZ, and the pressures on the adequacy of the AWE OSEP, are detailed in **Appendix 1**. This is an essential background document to this statement and part of my evidence.

4. Development Management Assessment Process

- 4.1 There has been a development management assessment process in place in relation to the AWE sites since 2010, when it became very clear that there was a risk to public health and wellbeing should the DEPZ have uncontrolled development within it and therefore a risk that the AWE OSEP would not be adequate. (**Appendix 1**).
- 4.2 Due to the democratic boundaries of local authorities and the location of the AWE sites there are four Councils impacted through their Local Plans - West Berkshire, Wokingham Borough, Reading Borough and Basingstoke & Deane Borough Councils.
- 4.3 The consultation zones are set out on the ONRs website³, which are the same consultation zones that the respective Emergency Planning Services are consulted on, in addition to West Berkshire Council Emergency Planning Service as the legal holder of the AWE OSEP.
- 4.4 The consultation zones on the ONR Website as at August 2024 are set out below.

Consultation zones

For the purpose of advising on planning applications, ONR has the following consultation zones:

On the nuclear site

Within the nuclear site boundary.

Detailed Emergency Planning Zone (DEPZ)

The DEPZ where set by a Local Authority.

Outer Consultation Zone (OCZ)

Extends from the perimeter of the DEPZ out to a distance defined by ONR from the centre point of the site, where this distance is determined by the nature of the site. For sites without a DEPZ, the OCZ extends outward from the site perimeter fence.

12km zone

A circular zone of 12km radius around all nuclear sites, for certain types of significant development due to the potential for such developments to pose an external hazard to sites.

Special case

ONR also requests to be consulted on planning applications, irrespective of distance from nuclear sites, for special cases. These represent developments that either introduce a new hazard or change the existing external hazards posed to nuclear sites.

Each consultation zone has its own consultation criteria (see consultation criteria below).

Guidance on how the criteria should be interpreted is given in Table 3 below and in [ONR research project: Defining distances for consultation zones around nuclear sites](#).

Details of each site's DEPZ, which are published on the appropriate local authority website. Details of each site's OCZ can be found here - [details of OCZ](#). The centre points for OCZ should be used to determine the extent of the 12km consultation zone for each site.

- 4.5 The DEPZs for AWE Aldermaston and Burghfield sites are determined by WBDC as detailed in **Appendix 1**.

³ <https://www.onr.org.uk/land-use-planning.htm>

- 4.6 The Outer Consultation Zone for both AWE sites is 5km from the agreed ONR centre point.
- 4.7 The current Local Plan policy is set out in Policy CS8 of the West Berkshire Core Strategy 2006-2026 (adopted July 2012). This outlines the approach to development and public safety within the consultation zones of AWE Aldermaston and Burghfield. It is consistent with NPPF paragraph 101 which requires planning policies and decisions to promote public safety and take into account wider security and defence requirements.
- 4.8 Whilst the current Local Plan sets out the District's planning policies up to 2026, the Local Plan Review (LPR) is being prepared to cover the period up to 2041. The LPR was submitted to the Secretary of State on 31st March 2023 and is currently at Examination. Policy SP4 relates to the AWE sites. Following the examination hearing session on 9th May 2024 and in response to the Inspector's Action Point 12, the Council has proposed modifications to the submitted policy which now reads:

Policy SP4

Atomic Weapons Establishment (AWE) Aldermaston and Atomic Weapons Establishment (AWE) Burghfield

Within the Office for Nuclear Regulation (ONR) land use planning consultation zones surrounding AWE Aldermaston and AWE Burghfield development will be managed in the interests of public safety, and to ensure that any proposed developments do not adversely affect the defence related operation or capability of the AWE sites.

Development proposals within the land use planning consultation zones that pose an unacceptable risk to the operation of the AWE Off-Site Emergency Plan (OSEP) and/or adversely affect the defence related operation or capability of the AWE sites will be refused planning permission.

In determining applications, the ONR and AWE/MOD will be consulted on development proposals in the Detailed Emergency Planning Zone (DEPZ)¹², Outer Consultation Zone (OCZ)¹³ and 12km consultation zone which meets the ONR consultation criteria as detailed on the ONR website¹⁴. Development within the DEPZ is likely to be refused planning permission where the ONR, as regulator of the nuclear licensed sites, advise against the proposed development.

¹² Current and future Detailed Emergency Planning Zone (DEPZ) as defined by REPIR and as detailed on the Council's website. The extent of the DEPZs (at January 2023) shown in Appendix 3 and the Policies Map could change before the Local Plan is updated or superseded. Policy SP4 will be applied to the latest version of the DEPZ

¹³ Outer Consultation Zone (OCZ) and 12km zones as defined by ONR along with relevant distances and centre points. The OCZ and 12km zones are depicted in Appendix 3 and on the Policies Map

¹⁴ <https://www.onr.org.uk/our-work/what-we-regulate/other-regulationslegislations/land-use-planning/>

- 4.9 The proposed modified policy was discussed at the Hearing Session on 12th June 2024. The Inspector's interim findings and the weight to be accorded to policy SP4 is discussed in the planning evidence of Matthew Shepherd.
- 4.10 It is of particular significance as the existing Core Strategy predates REPIR 19. Policy CS8 refers to inner, middle and outer zones, which at the time of publishing were correct and reflected the applicable zones required under REPIR 2001 (see **Appendix 1**) and have since changed. The new proposed policy SP4 details the consultation requirements and current zones as published by ONR in their Land Use Planning page on their website⁴. These zones are the consultation zones that the Emergency Planning Services, and as necessary other agencies involved in the response to an AWE radiation emergency, including ONR, will use in order to assess the impact of any development on the adequacy AWE OSEP.
- 4.11 Each planning application submitted is evaluated by emergency planning professionals on its own merits, but specifically in relation to the impact the development would have on the adequacy of the AWE OSEP. The planning evidence of Matthew Shepherd covers the application of policy CS8 to land-use planning decisions in detail.
- 4.12 The consultation process in outline is:
- a. Development Management consult internally with the respective local Emergency Planning Officer and the Office for Nuclear Regulation (ONR) as per the criteria set out by ONR land use planning.
 - b. The local Emergency Planning Officer reviews the application taking into account several factors relating to the AWE OSEP and the impact the development may have on it. Where appropriate the officer will respond directly to Development Management to provide feedback or ask for clarity in relation to the application.
 - c. The Emergency Planning Officers from West Berkshire, Hampshire (on behalf of Basingstoke and Deane), Reading and Wokingham Councils meet on a regular basis to consider applications in order to ensure consistency in approach.
 - d. Specific consultation with specialists in the AWE OSPG in relation to detail in the planning application documents submitted. This will often include the UKHSA, emergency services etc.

⁴ <https://www.onr.org.uk/land-use-planning.htm>

- e. In more complex or large applications, the AWE Off-Site Planning Group (AWE OSPG) is consulted. The AWE OSPG is made up of all the responders who have a role in the AWE OSEP, which can involve over 30 different agencies. They provide feedback as necessary relating to their agencies area of responsibility and the impact on the community. As a result, for some agencies there will be no or low impact, such as the utility companies, but for others the impact of the development will be significant, such as the Councils, UKHSA and the blue light emergency services.
- f. Feedback is provided by the relevant local authority Emergency Planning Officer to the relevant Development Control service and to ONR.
- g. ONR review the proposal and the feedback from the Councils, including WBDC as the AWE OSEP owner, in order to make their assessment.

4.13 The considerations relating to the AWE OSEP include evaluating the effect of the application proposal in relation to a number of factors including:

- a. Whether the proposed development is within the DEPZ or Outline Planning Zone (OPZ). This should not be confused with the Outer Consultation Zone (OCA). The OPZ is for emergency planning purposes and extends to 12km for AWE Burghfield and 15km for AWE Aldermaston. Therefore, in some circumstances the development may be in the DEPZ for one AWE site but also the OPZ for the other AWE site. Regardless, as stated in **Appendix 1** the AWE OSEP needs to be adequate for both the DEPZ **and** the OPZ, although as detailed in Schedule 6, Part 2, Chapter 2, the response activity will be the same but the level of planning will differ. Noting that within the **OPZ there are over 180,000 properties** around the AWE Burghfield site over and above the number within the DEPZ.
- b. The location area of the proposed development within the DEPZ/OPZ including the density and type of the population in the existing community;
- c. The type of development e.g. residential, commercial, mixed, vulnerable sites;
- d. The scale of the development and the cumulative effect on the existing community;
- e. Any impact on short-term sheltering for up to 12 – 24hrs;
- f. Impact for medium to long-term sheltering up to 48hrs;
- g. Likely requirement for any immediate evacuation;
- h. Potential for, and the impact of subsequent evacuation/displacing of persons;

- i. Impact on the Warning and Informing process;
- j. Impact on any difference between day or night;
- k. Vulnerable people considerations;
- l. Impact on external issues e.g. parents wishing access to children, family wishing access to employees in the area, impacts as a result of those out of the area at the time of the radiation emergency;
- m. Impact on the access and egress routes;
- n. Recovery implications – in the short, medium and long term.

4.14 The Emergency Planning Services also are cognisant of the respective Councils' Local Plan and policies including any specific policies relating to the AWE sites.

4.15 The key principle in reviewing development proposals in the DEPZ is assessing the impact of the development against the adequacy of the AWE OSEP.

4.16 Should it be considered that the AWE OSEP would be inadequate, or likely to be, as a result of the development then this lack of assurance would result in an **Advise Against** the development being made. The reason is the lack of ability of emergency responders to adequately protect the health and wellbeing of all those living, working or visiting the area - both the existing population, and those in the proposed development.

5. 22 /00244/FUL Application Review

Background

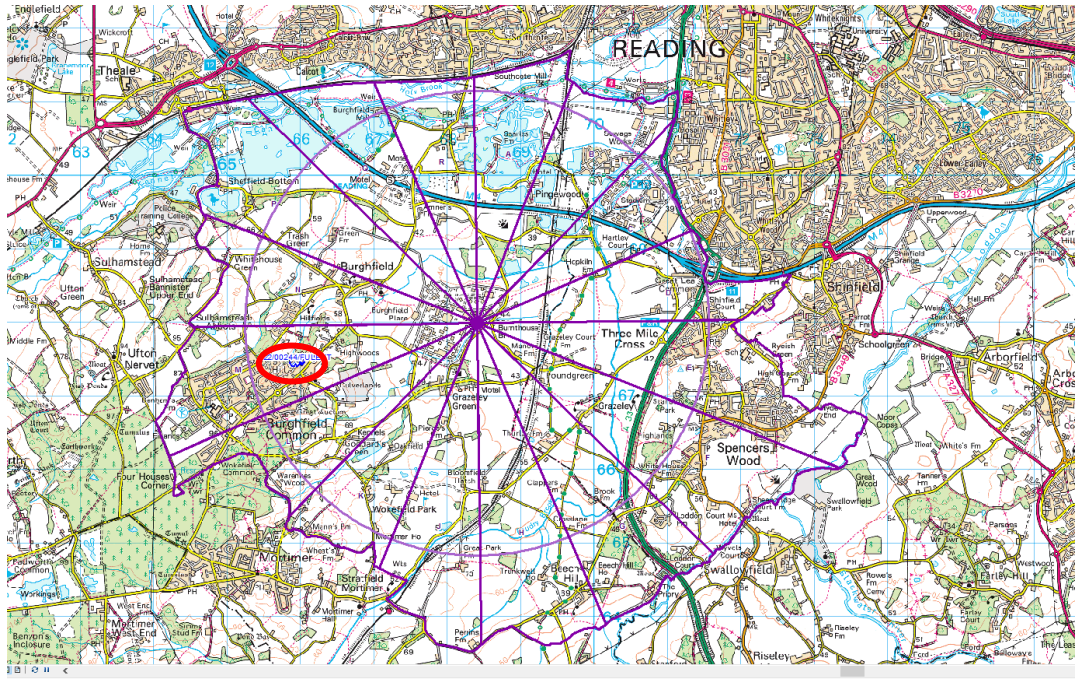
- 5.1 The history to the application site, now the appeal site, is set out below with respect to Emergency Planning:

Date	Emergency Planning Activities
03/02/2022	Planning application 22/00244 received for consideration
17/03/2022	Emergency Planning response submitted – Advise against
01/06/2022	Application refused
12/09/2022	“PreApp” received 22/02010PREOPC (CD5.12)
05/10/2022	“PreApp” meeting with applicants (CD5.13)
31/10/2022	Reviewed documents and meeting comments. Revised 22/00244 initial considerations and shared with DM Case Officer & Off-Site Planning Group (OSPG) - Advised against (Appendix 2)
24/11/2022	OSPG meeting – conclusion – Advise against confirmed
02/12/2022	Appeal submitted.

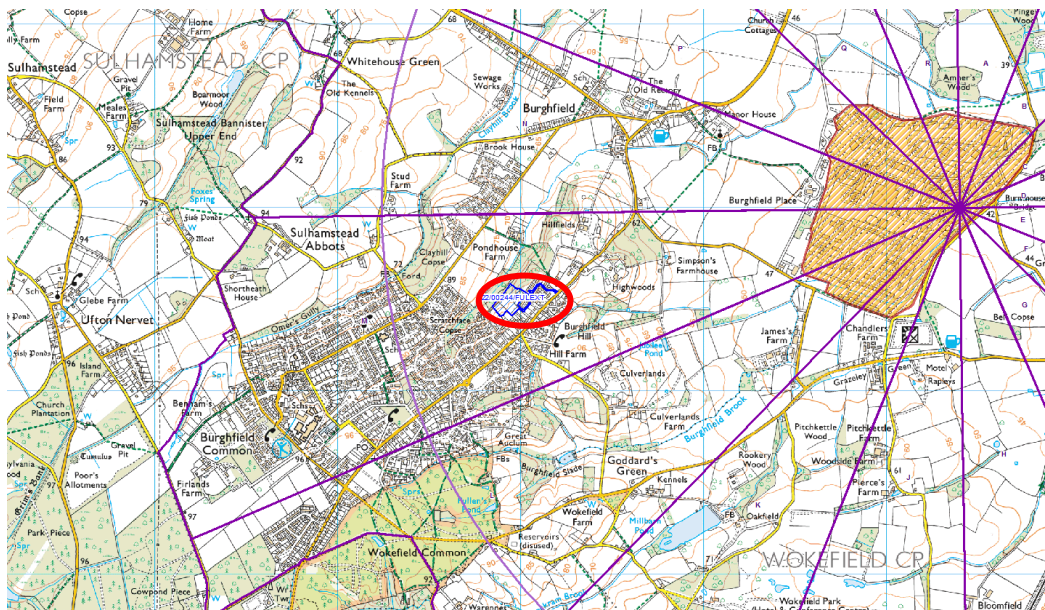
- 5.2 The decision to advise that the application be refused was made following the process set out in Section 4 of this document and having regard to the impact on the adequacy of the AWE OSEP. This was based in particular on the addition of more people, on top of the existing high population within the DEPZ, and in particular in the area of the appeal site.
- 5.3 The emergency planning feedback on the application, the document used to assess the application and the pre-app are attached as at **Appendix 2**. The comments in red font in the pre- app information were added as part of the review for the pre-app, which was submitted after the original application.

Location

- 5.4 The maps below show the appeal site (within red circle) and the AWE Burghfield site (orange hatched area). The appeal site can clearly be seen to be within the DEPZ, including the area identified in the Consequence Report as the minimal area for the size of the DEPZ - Urgent Protective Actions (UPA).



Map 1: Appeal site location within DEPZ (blue lines within the red circle)



Map 2: More detailed site location in the DEPZ

Key:

- Red Circle - Appeal site location
- Orange Hatched area – AWE Burghfield site
- Purple circle – Urgent Protective Actions area (from Consequence report)
- Purple outer lines – Detailed Emergency Planning Zone
- Purple segments – sectors used for Emergency Planning purposes.

- 5.5 The appellant's planning evidence at the first inquiry emphasised that the appeal site is allocated for residential development in the current local plan. However, as Matthew Shepherd explains in his planning evidence, the allocation was not unconditional. Development on the allocated site is still subject to Policy CS8. As a result of the material changes in legislation from May 2019 which resulted in enlargement of the area which must be covered by the Off-site Emergency Plan, the increase in population within that area, and the consequent increase in pressure on the OSEP, the Council considered that it was proportionate to recommend refusing permission for an additional 32 dwellings having regard to the potential harm to the public's safety in the event of a radiation emergency at AWE Burghfield.
- 5.6 A significant factor in this appeal is the sectoral location of the site within the DEPZ. Within the AWE OSEP the DEPZ is split into radial sectors to assist agencies in the plan development phase and for the initial response.

Population

- 5.7 The application site is in sector M which is an already densely populated sector, it is in fact the most densely populated sector within the DEPZ not only for residential but commercial and vulnerable sites too (e.g. Care Homes, Schools) as shown in the summary table 3 below with the sector with the appeal site highlighted in yellow:

DEPZ Sector	Residential	Caravan	Care Home	Commercial	Children's Nursery / Crèche	Primary / Infant / Junior / Middle School	Secondary / High School	Special Needs Establishment.
A	23	3	0	26	0	0	0	0
B	622	0	0	58	1	1	0	0
C	9	0	0	75	2	0	0	0
D	809	75	0	40	0	0	0	0
E	2189	1	1	94	0	0	1	0
F	620	97	1	112	1	2	0	0
G	128	49	0	58	0	0	0	0
H	90	1	0	17	0	0	0	0
J	39	1	0	12	0	0	0	0
K	45	1	0	22	0	0	0	0
L	77	9	0	23	0	0	0	0
M	2566	1	3	141	1	2	1	1
N	250	0	0	31	0	0	0	0
P	162	3	1	109	0	1	0	0
Q	32	0	0	47	0	0	0	0
R	77	4	0	69	0	0	0	0
Total	7738	245	6	934	5	6	2	1

Table 3: Population data by sector and type of usage. (WBDC 2019 data source RD mapping)

- 5.7 The significance of this is that the above relate to premises and not the number of people. Therefore, taking the residential properties only and using the average for residential units for West Berkshire of 2.4, the total predicted number of residents in the DEPZ is in the order of 18,571 people. In sector M alone there would be over 6150 people. This is not an insignificant number of people to support and does not take into account the number of people within workplaces (141) and the numbers in the sites deemed as vulnerable including schools (5) and care homes (3).
- 5.8 It should also be noted however that for emergency planning purposes we also need to accommodate, in the initial response, the sectors to either side of the main sector as a minimum as shown in orange in the above table.
- 5.9 What is significant to note is that when a radiation emergency is declared, emergency responders need to initially consider the worst-case scenario since the scale and impact will not be known for a period of time.
- 5.10 Therefore, for an undefined period of time **everyone** within the DEPZ needs to be protected and looked after until the incident is under control.
- 5.11 The decision to change from shelter will only be made when representatives of the Strategic Coordinating Group (SCG), which is a multi-agency group normally chaired by an Assistant Chief Constable and attended by other agencies' strategic leads, are satisfied that the conditions are correct. The SCG will receive the scientific information and recommendations from the Scientific and Technical Advisory Cell (STAC). The STAC is made up of scientific experts including AWE technical experts, Food Standards Agency, Environment Agency, Environmental Health, Directors of Public Health and significantly the UK Health Security Agency (UKHSA) who are the independent experts in this field.
- 5.12 In the current South East STAC Plan (July 2022) it is stated that: "*The establishment of a Scientific and Technical Advice Cell (STAC) will be important where there is significant wider health and environmental consequences, or there is a need for scientific and technical advice beyond the initial front-line response. The STAC brings together technical experts from those agencies involved in the response who can provide scientific and technical advice to the Chair of the Strategic Coordinating Group (SCG)*".

5.13 In this case the STAC will get its evidence following the completion of the environmental monitoring and analysis of the data. Thereafter the STAC will make recommendations to the SCG based on the situation at the time.

5.14 As stated in **Appendix 1**, but worth repeating here, environmental monitoring cannot begin until there is no more radioactive material being released from the AWE site. In addition, due to the nature of the radioactive materials the monitoring and analysis can take some time to achieve and therefore responders need to treat all areas as contaminated until otherwise advised.

5.15 Therefore, only when the SCG is satisfied on the recommendations from the STAC, will there be a planned standdown for some/all areas within the DEPZ, based on the information at the time as to what areas are contaminated.

5.16 Taking into account the numbers shown above, the challenges as set out in **Appendix 1** simply cannot be underestimated. These include:

- the **very short time** available to get people in suitable shelter to afford the most protection, which would be approximately 10 minutes, as set out in **Appendix 1 and Annex 1**;
- the time it will take to monitor and assess the level and areas of radioactive contamination;
- the need to adequately support vulnerable people – not only in schools and care homes but those who require care in their homes;
- the communications required to keep everyone affected informed since there will be a hunger for accurate information;
- the time and resources to undertake recovery including monitoring and providing reassurance as necessary.

5.17 The Appellant appears to accept – by its previously proposed legal agreement for a site-specific emergency mitigation plan – that there is a need to mitigate the emergency planning impacts, including in relation to increased pressure on rest centres. Indeed, that was done in Basingstoke and Deane Borough Council area regarding the application at Boundary Place, Tadley for 17 affordable rent apartments

(19/00579/FUL). But, in relation to this Appeal site, this Local Authority considers that a site-specific emergency plan is not workable. The appeal dwellings are intended mainly for the open market, as privately owned properties with no overall control by a single landlord or managing agent. Therefore, the Emergency Planning mitigation that had previously been proposed by the Appellant, of individual emergency plans secured by legal agreement, was considered to be unworkable.

- 5.18 In theory, an emergency plan *may* be workable for commercial premises. That is because a plan for commercial premises will be the responsibility of the employer as part of ensuring the health, safety and welfare of their staff by putting process in place to ensure employees and visitors follow the emergency plan. That is a very different situation to a residential development of mostly individually owned properties.
- 5.19 An additional 77 people (approximately) resident within the DEPZ and area of Urgent Protective Action, as a result of this development, would inevitably result in additional pressure on the AWE Off-Site Emergency Plan. The residential population in the DEPZ, and in this particular sector, is already significant and the OSEP is already under significant strain. The recommendation of the Emergency Planning Service and the AWE Off-Site Emergency Planning Group was to advise against the development because public safety would be compromised as a result of the increase in permanent residential population.

6. Assessment of the proposal

- 6.1 The application was accompanied by a Planning statement dated January 2022 [CD2.29] The “pre-application” proposal dated August 2022 [CD5.12] was in fact submitted after the application for permission was refused and was discussed at an AWE Off-Site Planning Group meeting on 24 November 2022. This was attended by ONR, Thames Water, UK Health Security Agency, AWE, National Highways, Reading BC, Berkshire Health Care NHS, Environment Agency, Royal Berkshire Hospital, Food Standards Agency, Thames Valley Police, Hampshire CC and Wokingham BC. The application was discussed with a conclusion to advise against in line with the information from the Appellant/Applicant.
- 6.2 The two planning statements are similar but the later “pre application” statement provides more detail.

Planning Statement, January 2022 CD2.29

6.3 The Planning Statement of January 22 submitted with the application [CD2.29 reference AWE matters in 5 paragraphs (5.10, 6.70 – 3)] identified that the site was in the middle zone under policy CS8, noting that it was an allocated site, and a correct assumption that Emergency Planning would have been consulted when the Local plan was being considered. It was also noted that ONR had not objected to the adjacent application. All of these points are or were factually correct at the time of the application. However, they did not take into account REPP19 and the location of the appeal site within the DEPZ.

“Pre-application” Planning Submission, August 2022 CD5.12

6.4 My assessment focussed on the Pre-Application Planning Submission dated 19 August 2022 [CD 5.12] which post-dates the application. Paragraph references below are to CD5.12. While matters have moved on since then, the appeal proposal and the appellant’s case is essentially the same as it was in August 2022. The pre-application process remains relevant because in my view it evidences the appellant’s overly simplistic approach to the emergency planning impacts of the proposal.

6.5 Para 2.10 states that the “site lies within the inner protection zone of the Detailed Emergency Planning Zone (DEPZ) for AWE Burghfield.” This is inaccurate in that the site is within the DEPZ and as stated previously and as detailed in **Appendix 1** the AWE OSEP relates to the whole of the DEPZ.

6.6 Para 2.17 requested feedback in relation to support for a revised application if:

- a. The Council updated the Emergency Plan to accommodate this development?
- b. If each of the proposed new dwellings had a landline telephone?
- c. Whether a site-specific emergency plan and legal agreement along the same lines as that approved in BDBC for Boundary Place (19/00579/FUL) were available?

6.7 The pre-app meeting notes at **[CD5.13]** are the appellant’s notes of the meeting. Within the notes the questions above were responded to. The appellant was told that the AWE OSEP was being reviewed at that time – recognising that there were concerns at that time in relation to capacity. There was a response as set out in

Appendix 2 in relation to the landline question, in addition it was agreed that I would take away the final point (11) to review further.

- 6.8 My brief notes of the meeting clearly set out that I explained about the number of properties already in the DEPZ, provided an overview of the plan and the challenges due to the numbers involved following the DEPZ changes, and explained that AWE OSEP was not the only plan used.
- 6.9 In addition, the number of rest centres required to support displaced people and importantly the staff to support the rest centres would be an issue, acknowledging that a percentage of people would be able to go to friends and families, but also noting that for vulnerable people finding suitable alternative accommodation is not simple. It was clear that the appellant took a more simplistic view of the issues. The Boundary Place application in Basingstoke and Dean (19/00579/FUL) for 17 affordable rent flats was also discussed, including the management plan and 106 agreements, and the fact it already had permission as a commercial unit. The appellant also advised that they were committed to an appeal.
- 6.10 My notes, recollections and follow-on emails reflect a different view to the appellant's record at **CD5.13**. This is shown by an email I sent to the AWE Off-Site Planning Group (AWE OSPG) as set out below:

Dear all

I have recently received some feedback in relation to the attached application – The Hollies Burghfield. The original application 21 00244 was refused. The applicant has since come back to the Council with the same application as a preapp and has met with me.

It was quite difficult since they rather look on the off-site plan quite simplistically not realising there is a massive suite of plans relating to this and we simply cannot magic rest centres and staff etc for displaced people, RMUs etc etc.

In addition to add to the complexities this was an allocated site in the West Berkshire Councils development control local plan – but that was in place before the DEPZ was revised in 2020.

I have therefore reviewed the application, reviewed the numbers and reviewed the annual monitoring data from DC since there is another 100 homes being built almost next door to the site – sadly they thought this was a reason for them to get the green light whereas in my view it makes it less likely.

I have therefore attached a few documents for your – the access and layout least relevant, their planning statement and my revised feedback.

6.11 In addition, I sent a further email to the case officer on 31/10/2022 in relation to the final question raised by the appellants which is addressed in the final sentence:

*In summary I have given it a lot of thought, checked back data and when it was in place and whilst noting this was an allocated site in 2017 no application had come forward until after the redetermination of the DEPZ. Therefore, the number of dwellings proposed have **not** been included in any planning data nor is it provided in the Annual Monitoring data which we now get provided to us from our DC colleagues. There are always going to be what ifs I am afraid and perhaps the main one is if the local plan was being reviewed at the time of the DEPZ redetermination the site would not be in the local plan.*

I have also looked into the legal options in relation to 'insurance' agreements for private dwellings and the advice I received was that this was not a viable option.

6.12 In para 3.2 of **CD5.12** the appellant refers to planning application reference 16/01685. This application is now in the DEPZ for AWE Burghfield, but at the time of the application and responses in October 2018, it was not, and therefore no objections were raised by Emergency Planning.

6.13 In paras 3.3 & 3.4 the appellant makes reference to planning application 19/00772 RESMAJ, which relates to the same site as the above 16/01865, and the decision was made by Aug 2019 prior to any changes in the DEPZ being confirmed therefore no objections were raised.

6.14 Paras 3.6 and 3.7 relate to a reserved matters application 22/00325 RESMAJ which was an allocated site given out line permission under application reference 18/02485. Again, this outline development was approved in advance of the changes in the DEPZ in March 2020. Linked to this it should be noted that as a result of the DEPZ changes, a condition was requested in order to mitigate the risk to those occupants.

6.15 Paras 3.9, 5.8 and 5.15 of **CD5.12** suggest a difference in approach between applications 18/02485 and 22/00244. Under 18/02485, an allocated site was approved in advance of the changes to the DEPZ. Under 22/00244, whilst also an allocated site at the time, did not have permission in place in advance of the changes. Therefore, that material change in relation to emergency planning resulted in a change in position by the Council as local planning authority. In addition, the fact that 18/02485 will add 100 dwellings to the DEPZ only reinforces the Council's case that adding even more development to the DEPZ as a result of this application fails to ensure the adequacy of the AWE OSEP and therefore the health, safety and wellbeing of the existing residents.

- 6.16 Para 3.10 refers to legal advice provided to the appellant. I agree in part with the advice that the test is whether the Emergency Plan can accommodate the development. However, this test is for the emergency planners to decide as they have the relevant expertise. It is my opinion based on my, and other responders', experience that the AWE OSEP cannot accommodate this additional development. There is a recognition by the AWE OSPG that there are a number of developments which have not yet been built but have valid permissions. These developments are not included in the data relating to the AWE OSEP since they are not built. These developments will place more strain on to the AWE OSEP when built and therefore place the adequacy of the plan at greater risk. This issue has now also been recognised at the local plan examination.
- 6.17 Paras 4.4 – 4.9 relate to the Core Strategy **2006** – 2026 and were therefore clearly supported by Emergency Planning and ONR in advance of the changes in REPPIR 19 and the changes to the DEPZ which took place in **2020**.
- 6.18 Paras 4.10 – 4.11 relate to the new emerging local plan on which Mr Shepherd provides evidence. What I can say however is that as soon as the DEPZ implications were known, it was recognised at an early stage there were likely to be development control issues as set out in the Committee Report of March 2020, **Appendix 1, Annex 2**.
- 6.19 Para 4.13 of CD5.12 is factually incorrect: the Council is responsible for having an adequate Off-Site Emergency Plan in order to mitigate the serious consequences of a radiation emergency as set out in REPPIR 19, Reg 2 (1). It is not obliged to update the OSEP to ensure that developments can be accommodated. The emergency planning test (as the appellant was advised) is whether the OSEP can accommodate the development.
- 6.20 Paras 5.9, 5.10 & 5.11 relate to updating the AWE OSEP in order to accommodate this appeal site. It is correct that the AWE OSEP is reviewed and updated on a regular basis. This is often relating to organisational changes, updates in operational procedures and guidance. However as detailed in **Appendix 1** there are already significant challenges with the AWE OSEP which have recently been tested during the ALDEX-23 exercise and borne out by way of the feedback from ONR, **Appendix 3**. I deal with this in more detail under Section 7, below.

- 6.21 Para 5.13 of CD5.12 then refers to the matter of the risk from the AWE sites. The appellant suggests that these changes are solely as a result of changes in calculation methodology. This may be the case, however what is missing is acknowledgment that the changes in calculation methodology arose as a result of legislation changes following the requirements of the Basic Safety Standards Directive and in response to lessons learnt after the radiation emergency in Fukushima, Japan in 2010. There are more details relating to this in **Appendix 1 Section 1**. Clearly there is a risk and a legal requirement to plan and mitigate the risk as far as possible.
- 6.22 In para 5.13 the appellant refers to the fact there had been no changes at the AWE Burghfield site, but that the DEPZ is now considerably larger. The background rationale to the DEPZ is set out in **Appendix 1**, and clearly relates to lessons learned from catastrophic incidents and the consequent reduction in appetite for risk. In any event, the extent of the DEPZ is no longer in issue following an unsuccessful legal challenge.
- 6.23 In para 5.14 the appellant gives a view that it seems unlikely the residents of the proposed dwellings will ever be asked to evacuate their homes. These comments, and other evidence provided by Dr Pearce to this appeal, other appeals and planning applications in the DEPZ have caused significant concern since they are based on assumptions and often not accurate, giving a very simplistic and false sense of security. Most of the protective actions, apart from the initial shelter action, cannot be determined in detail in advance of an emergency, since they will very much depend on the scenario at the time and are subject to many variables.
- 6.24 Para 5.17 of CD5.12 makes reference to a Basingstoke and Dean BC planning application which was approved in July 2022 (Tadley Hill). There are a number of points to note in relation to this application. First, it is outside the area for Urgent Protective Actions, which is different to this appeal site. In addition, it was approved in advance of the exercise in April 2023 which highlighted some significant capacity issues with the AWE OSEP as detailed in **Appendix 2**. As a result, since the exercise, a different view has been taken in relation to any planning application coming forward and its likely impact on the adequacy of the AWE OSEP.
- 6.25 In relation to para 5.18 of CD5.12 it should be noted that work is ongoing with the Cabinet Office in relation to the national emergency alerting system. However, whilst work to date is positive, the time to get the approvals in place, even with pre-agreements, may take longer than the system already in place. Noting that to achieve

best protection for people outside at the time of a radiation emergency is to take suitable shelter within 25mins. As set out in the AWE Consequences Report (**Appendix 1, Annex 1**), in reality there will remain approximately **10 minutes** to warn the public and for all the public to find suitable shelter, in the event of an emergency at AWE Burghfield. The alert however is only the first part of a complex response. The question posed by the applicant on this issue was also responded to as detailed in **Appendix 2**.

- 6.26 Also within para 5.18 is some narrative relating to Boundary Place. This is continued in Para 5.19 which also refers to a planning application 22/00535/FUL for a café which was recommended for refusal, not only by the Case Officer but by Emergency Planning. This is of course a commercial unit and as detailed previously and on taking legal advice an emergency plan is not appropriate for residential units.
- 6.27 It should be noted that the Boundary Place application (19/00579) was a different situation in that it was considered before the changes in REPPIR legislation, there was already permission for commercial units, and it involved a longer-term management company who would support any residents who were displaced as a result of a radiation emergency at AWE Aldermaston. As a result, that application was very different situation to this: a site with no previous usage, in private ownership and post the changes to REPPIR 19 requiring an adequate AWE OSEP. As stated previously this information was provided to the appellants at the pre-app meeting.

7. ALDEX-23 exercise

- 7.1 In addition to the challenges in relation to the AWE OSEP as detailed in **Appendix 1** it is important to also note that following an exercise in April 2023 the regulators, the Office for Nuclear Regulation (ONR) wrote to the Council in relation to the outcome of the exercise in November 2023. The ONR's letter and the Council's response of 6 February 2024 are in **Appendices 3 and 4** to this statement. Within the ONR's letter it is very clear that they have concerns about the adequacy of the AWE OSEP and the impact of any additional development within the DEPZ.
- 7.2 As set out in **Appendix 3** the Council was, and still is, endeavouring to improve the plan following the lessons identified at the ALDEX-23 exercise, but have not been able to overcome. Significantly at a recent regulator intervention meeting the follow up email confirmed the following:

Email dated: 05/08/2024 from ONR to West Berkshire Council:

Thank you for the prompt below and for inviting ONR to the workshop on the OSEP handbooks held 30th May 2024. I hope that the workshop feedback proves to be useful in the development of the OSEP.

As ONR stated during the workshop, changes in the draft OSEP and handbooks are required to address lessons learned from recent tests of the OSEP, and the views that have been expressed about pressures on the current plan. Consistent with the letter ONR has previously shared in November 2023 (ONR ref 2023/61798), a key focus needs to be on improvements to the management of displaced people. This relates to Handbook F (Evacuation, Shelter and Displaced People) and associated parts of the OSEP. ONR's observations in relation to this topic included;

- 1. WBC should explore the terminology used for displacing people in order to avoid confusion. The plan currently refers to 'subsequent evacuation', and I suggest that WBC should engage with UKHSA in order to determine if that term is the most appropriate when considering REPPIR and national and international guidance. I understand that it also needs to be consistent with WBC's wider LRF arrangements.*
- 2. The draft handbook F and OSEP refer to general TVLRF and HLOW guidance, as well as rest center plans developed by the individual councils for their respective areas. As such, it is unclear if these references support the OSEP's expectation for a relocation plan to be in place within 24hrs, and for this plan to be completed within 48hrs of the incident starting.*
- 3. The OSEP makes reference to TVP advice (p 105 refers) as part of evacuation considerations, presumably this is advice on the day of the incident? As such, it is unclear if these references support the OSEP's expectation for subsequent evacuation plans to be in place within 24hrs and to be completed within 48hrs of the incident starting.*

Based on the draft OSEP and handbooks, my view is that the planning basis for movement of people after the period of sheltering (whether considered as evacuation or relocation) needs to be further developed. I am cognisant ONR has not had visibility of the rest center plans, TVLRF or HLOW guidance and so additional detail may well be included in these documents.

I suggest we discuss the above observations in the next KIT meeting to clarify understanding and discuss WBC approach.

7.3 Critical to the above work is that it is based on the existing population, and what is not possible is to find more Humanitarian Centres (reception/rest/assurance centres), more monitoring equipment, and significantly more staff to support the additional requirements arising from further development in the DEPZ. The existing population is complicated as it is already, not only in numbers but in identified vulnerable populations - as detailed in **Appendix 1, Section 2**.

7.4 Action point 4 in the Council's February 2024 response to the ONR is:

“Revision of the development control process which when including information in relation to evacuation and shelter, and the current numbers will ensure the responses to applications within the Detailed Emergency Planning Zone will be more robust therefore protecting further the health and wellbeing of the current residents and businesses in the area but also ensuring as far as possible that no new development will go ahead where the plan cannot accommodate it therefore protecting any proposed new residents or businesses”.

- 7.5 For all of those reasons I do not accept the appellant’s case that there is a “simple answer” in that the current emergency plan can be “updated to allow for” this development.
- 7.6 I therefore refer back to the core regulatory requirement to have an adequate OSEP. There is a serious risk that adequacy will not be maintained if more development is granted permission in the DEPZ.
- 7.7 It is clear that **any** additional development within the DEPZ places the AWE OSEP at risk of being inadequate. Whether that risk results in advice to refuse planning permission is ultimately up to the ONR, whose consultation response triggers the “likely to refuse” provision in Policy CS8 and in draft policy SP4. The ONR’s response is based on the response of the Emergency Planning Service, but it is independent advice given with a full understanding of why the Council does not consider that the development can be accommodated within the OSEP.

8. Relevant appeal decisions

- 8.1 This section relates to other appeals relating to applications within the DEPZ of the AWE sites and the appellants documents at pre-app, application and appeal stages.
- 8.2 The issues identified in Section 5 to this PoE were also recognised in an Appeal Decision for the site at 1-9 Shyshack Lane, Baughurst (Planning Inspectorate reference: APP/H1705/W/23/3326959 (**Appendix 5**)). This decision was made on evidence heard at a public hearing on 21 November 2023. The inspector noted in his decision that the Council’s Emergency Planning Officer evidence should be given considerable weight:

“...population increase of around 7 residents. Although such an increase would be comparatively small, it is recognised that the plan is not infinitely scaleable. An increase in population would increase the need for, and demand placed upon, emergency responders, reception centres, rest centres and radiation monitoring exacerbating the difficulties of delivery emergency care in a complex multi-agency emergency. Given the specific area of expertise of the WBC’s Emergency Planning function, its concern with respect to the deliverability of the OSEP carries considerable weight.” [paragraph 10]

8.3 In that appeal the Inspector was concerned about an increase of 7 residents within the DEPZ. It is therefore suggested that this approach should apply for this appeal, as detailed in the planning PoE by Matthew Shepherd.

8.4 In addition, the Inspector found the following;

“15. Consequently, the chance of a release of radioactive material is low and if it were to happen the level of exposure would also be low. However, whilst comforting, this does not take into account the key purpose of the REPPIR to reduce exposure during a radiation emergency through the effective deployment of the OSEP. Furthermore, it is noted that ONR identifies that “there must be robust emergency preparedness and response arrangements in place for radiological emergencies, however unlikely they may be”

16. Also, these points do not account for the effect of an emergency event to the emergency services and the local population. The demands on emergency resources would be substantial creating short term and possibly long-term efforts to effectively manage such an emergency. This would need to take into account social, economic and environmental affects, that could require the local environment and community many years to fully recover. Furthermore, the anticipated low emission and exposure effects of any release would not diminish the statutory requirement for a robust OSEP to be in place, or the need for such a plan to be of sufficient rigor to ensure it can be delivered effectively in the interests of protecting public safety.”

8.5 A key purpose of REPPIR 19 is to reduce exposure during a radiation emergency through the effective deployment of the OSEP and this too was recognised by the Inspector:

17. Accordingly, I find that the proposal would adversely impact on the functioning of the OSEP contrary to the interests of public safety. Hence, it would conflict with LP policy SS7 and paragraph 97 of the National Planning Policy Framework (the Framework) which, among other matters, states that planning decisions should promote public safety and take into account wider security and defence requirements.”

8.6 It is precisely the same situation in this appeal as is considered in Shyshack Lane appeal: the safety of future occupants, and the impact on the existing occupants, would be adversely impacted and this is a material consideration.

8.7 In addition to the recent Shyshack Lane appeal there have been other appeals which have been dismissed for similar reasons. Specifically in the Basingstoke and Deane Borough Councils these include:

- | | | | | |
|----|------|------------------------|----------|---------------------|
| a. | BDBC | APP/H1705/A/09/2102664 | BDB69349 | 12-20 Shyshack Lane |
| b. | BDBC | APP/H1705/W/19/3225175 | 19/00027 | 1 Hillcrest, Tadley |
| c. | BDBC | APP/H1705/W/19/3221311 | 18/02623 | 27 Millers, Tadley |

These are submitted as **Appendices 6, 7 and 8**.

8.8 In relation to the latter two appeals, it should be noted that in both cases the Inspector specifically noted, and I paraphrase, that whilst the probability was low of a radiation emergency the proposals would adversely impact on the function of the emergency plan and therefore were in conflict with LP Policy SS7 (BDBC Policy in relation to AWE). Therefore, it is clear that previous appeals have been dismissed on the *grounds of the impact on the AWE Off-Site Emergency Plan, Policy SS7 of the Basingstoke and Deane Local Plan 2011-2029 and to protect public health and wellbeing.*

8.9 The appellant has made reference to the site Kingfisher Grove (APP/X0360)/W/22/3304042). The appeal and the outcome are recognised but there are two points to make about that appeal, as also referred to by Matthew Shepherd in his planning evidence:

- a. Emergency Planning from West Berkshire Council as the owner of the AWE OSEP was not represented at the Inquiry and nor was ONR or AWE/MOD. Therefore, the information provided at this appeal could not be considered.
- b. The addition of those 49 dwellings adds to the pressure on the AWE OSEP and the cumulative effect of the additional residential units in an already densely populated area.

9. Response to appeal evidence

- 9.1 My first rebuttal in **Appendix 9** to this evidence and as at **CD11.12** provides my assessment of Dr Pearce's evidence in his first main proof at **CD10.1 and CD10.2**, and highlights where there are clear differences. It should also be noted that in preparing the rebuttal, Mr Duncan Cox of UKHSA was consulted as an independent expert.
- 9.2 The experts in this field are the team within the UK Health Security Agency Radiation, Chemical and Environmental Hazards Directorate. They are trained, qualified and independent providing advice to AWE OSPG as to the development of the AWE OSEP and are key in the response phase as lead advisors to the Scientific & Technical Advisory Cell (STAC) and therefore the strategic decision makers. My concern has been such that a number of Development Control applications and planning appeal documents submitted by Dr Pearce/Dr Thorne/Katmal Ltd have been submitted to the UKHSA for their independent and expert consideration.
- 9.3 The report from UKHSA is provided at **Appendix 10** and demonstrates that the appellant's approach is based on significant assumptions and inaccuracies.
- 9.4 My first rebuttal echoes the feedback provided by UKHSA in relation to a number of Dr Pearce's documents provided to support planning applications and appeals,.
- 9.5 In response to Dr Pearce's rebuttal and on the assumption that the same or similar points will be made in his evidence at this re-hearing, my assessment is based on the following accepted principles.

- 9.6 With respect to risk, this is set out in the REPIR 19 Approved Code of Practice (ACOP) and in particular para 163, where it clearly demonstrates the links between the REPIR risk framework and the National Risk Register⁵ as shown in my **Appendix 1**.
- 9.7 In addition, as stated in my **Appendix 1**, the reasons for the changes to the area covered by the DEPZ are clear and not now a matter for debate.
- 9.8 The requirement to have a detailed plan to mitigate as far as possible the consequences of a radiation emergency, as defined in REPIR 19 and following the principles and purposes in Schedule 7 are also clear. These are extremely onerous legal obligations wherever they apply, and even more so in this DEPZ given the number of people living and working in the zone, and the short time available to alert them to shelter in an emergency.
- 9.9 Overall, I dispute the evidence provided by Dr Pearce which shows he does not appreciate the pressures responders will be under if the whole of the DEPZ is placed under shelter, and the actions which will be required to support a large population. In addition, regardless of his assumptions that the radiation release will be short in duration, the time it will take to confirm by way of environmental monitoring that it is safe to return to dwellings and premises may be significant, and again responders will have to manage that situation.
- 9.10 Responders do plan, train and exercise for a wide range of emergencies but that does not take away the significant pressures they will be under in responding to such an actual emergency. I have provided the information relating to this in **Appendix 1**.
- 9.11 It is also quite clear that Dr Pearce does not have experience of responding to actual emergencies and therefore does not have experience that I and other responders as part of the AWE OSPG have. I must also stress that my views are not mine alone, they are made in consultation with the other expert agencies involved in maintaining the OSEP.
- 9.12 The decisions at the time of any radiation emergency will be made at the time, based on the evidence available at that time. This is acknowledged in REPIR 19 Schedule 7 part 1 paragraph 1, which says that anyone with responsibility for preparing an OSEP must consider the principle of *“the necessity for the plan to **respond to the particular characteristics of a given radiation emergency as those characteristics emerge**”*.

⁵ [2023 NATIONAL RISK REGISTER NRR.pdf \(publishing.service.gov.uk\)](#)

This principle is not followed if any protective actions are ruled out in advance as being unnecessary. Again, I would make reference to the review undertaken by UKHSA, the independent experts, at **Appendix 10**.

- 9.13 At a recent appeal hearing I attended (APP/W0340/W/24/3342596), Dr Pearce suggested to the Inspector that “*AWE could ask the Secretary of State for Defence to request that the AWE sites are exempt from REPPIR legislation*”. I find this to be an extremely troubling comment. The Inspector is required to make his determination in the light of the legislation as it stands, which exists for reasons which have already been explained in detail elsewhere and Parliament has endorsed. There is no indication that the AWE sites will become exempt from REPPIR 19 in the future.
- 9.14 I also note that the appellant or the appellant’s agents have, in the past few months leading up to this re-hearing, submitted numerous FOI requests for technical information underpinning the OSEP and copies of the more recent AWE OSEP. The purpose of these requests is unclear at present. The OSEP is a strategic document prepared in consultation with multiple expert agencies, as explained in **Appendix 1**, involving extremely important considerations of public safety. Significantly however it is aimed at responders and not the general public, it is updated frequently and therefore ensuring that an out-of-date plan is not in the public domain which could cause more harm than good is essential. A public version of the plan is being developed but resources have meant it has not been completed. Any changes to the public actions required of them in an emergency will be communicated to them directly.

10. Conclusions

- 10.1 Throughout the application and appeal process the appellant has sought to downplay the risks of increasing the residential population within the DEPZ. However, REPPIR 19 exists to mitigate that risk. The area of the DEPZ is now confirmed. The need for an adequate OSEP is a requirement of the legislation. The appeal cannot be decided as if REPPIR 19 and its legal requirements did not exist, or as if the practicalities of responding to a radiation emergency were not as difficult as my evidence shows they are.
- 10.2 The ALDEX-23 exercise has shown that the OSEP is already under pressure. It is also clear that the ability to flex the plan to accommodate more properties on top of the

existing high numbers is not simple to achieve, and in so doing places the community at greater risk of the AWE OSEP failing when it is needed.

- 10.3 Any emergency plan and emergency response has many layers of complexity, in particular when the plan must support people in the community in what is likely to be a very stressful situation. This stress and fear that people experience during a non-radiation emergency can be extreme, but when radiation is the main risk (which unlike a fire or flood is intangible) there is a real danger of panic, making the job of responders more difficult than in a 'normal' emergency.
- 10.4 Added to the complexities is the impact that contamination can have in the longer term. In a recent IAEA report notes that '*many former residence of the evacuated zone in Fukushima have significant fears about moving back, even after decontamination*'. This is detailed in **Appendix 1**.
- 10.5 My concerns about this application are supported by the UKHSA as independent experts who have reviewed a number of documents associated with this appeal and other planning applications and provided the report which is at **Appendix 10**.
- 10.6 My concerns are only amplified by the appeal evidence provided by the appellant which fails to acknowledge the risk of increasing the DEPZ population and placing even more pressure on an AWE OSEP already at its limits.
- 10.7 I respectfully request that the Inspector dismisses this appeal.

Appendix 1

uAppendix 1 AWE Off-Site Emergency Plan Supporting Information

Contents

1. LEGISLATION & RISK.....	2
2. DETAILED EMERGENCY PLANNING ZONE (DEPZ)	12
3. AWE OFF-SITE EMERGENCY PLAN (AWE OSEP)	18
4. SPECIFIC RESPONSE TO AN AWE RADIATION EMERGENCY	25
5. RECOVERY.....	32
6. EMERGENCY RESPONSE - IMPACTS ON RESPONDERS AND THE COMMUNITY..	35

1. Legislation & Risk

1.1 The Atomic Weapons Establishments (AWE) at Aldermaston and Burghfield within the geographic area of West Berkshire Council are nuclear licenced sites. Both sites are operated by AWE plc for the Ministry of Defence in order to support the UK defence and security work, in particular the nuclear warhead activities. Both sites were previously used in World War II and have been involved in the current work since the 1950s.

1.2 The legislative basis relating to protecting the public and the environment from radiation emergencies is to be found in the Radiation (Emergency Preparedness and Public Information) Regulations 2019¹ (REPPIR 19), which replaced the previous legislation known as REPPIR 01.

1.3 REPPIR 19 came into effect in May 2020.

1.4 The Health and Safety Executive guidance on REPPIR 19 explains the main changes as follows:

[The Radiation \(Emergency Preparedness and Public Information\) Regulations 2019](#) (REPPIR 19) implement in Great Britain the articles on emergency preparedness and response in the [Basic Safety Standards Directive 2013/59/Euratom](#) (BSSD 2013)...

REPPIR 2019 are concerned with preparedness for radiation emergencies. The Regulations establish a framework of preparedness measures to ensure that arrangements are in place to effectively respond to that emergency, both on the site of the emergency situation and off-site where members of the public might be affected. The Regulations ensure that members of the public are provided with information, both before and during an emergency, so that they are properly informed and prepared, in advance, about what they need to do in the unlikely event of a radiation emergency occurring...

1.5 There were a number of changes in the new Regulations, with the main changes being:

- a. *A change to the definition of a radiation emergency. A radiation emergency is no longer defined in relation to an emergency scenario have the potential for a specific dose to a member of the public;*
- b. *The introduction of Outline Planning, with associated Outline Planning Zones. These planning zones are in addition to Detailed Emergency Planning Zones; and*
- c. *The Local Authority now determines the Detailed Emergency Planning Zones. Previously, this was done by the Regulator.*

¹ <https://www.hse.gov.uk/radiation/ionising/reppir.htm>

- 1.6 The changes in the new regulations came about following the lessons from the radiation emergency in Japan when an earthquake and subsequent Tsunami caused the Fukushima Daiichi Nuclear Power Plant disaster (2011) and changes made to the Basic Safety Standards Directive 2013/59/Euratom² (BSSD 2013) which the UK was required to transpose into legislation in order to protect the public in the context of a reduced appetite to the risks associated with nuclear licensed sites.
- 1.7 The HSE Guidance at <https://www.hse.gov.uk/radiation/ionising/reppir.htm> also explains the main duties on the local authority that shed light on why the Appeal proposal has an impact on public safety:

Local authorities who have an HSE-enforced site with the potential for a radiological emergency are responsible for determining both a Detailed Emergency Planning Zone (DEPZ) and Outline Planning Zone (OPZ), if appropriate, following receipt of the consequence report and a discussion with the operator.

*DEPZs are about **capabilities** and consider sheltering, evacuation, iodine prophylaxis, and how to put these into effect. These capabilities are pre-planned and can be put into effect quickly once an emergency has been declared...*

- 1.8 Therefore, the new Regulations require two zones, DEPZ and OPZ, to be the focus in relation to emergency planning. The DEPZ is designated under Regulation 8, and the OPZ under Regulation 9. The requirement for an adequate off-site emergency plan is set out in Regulation 11.
- 1.9 The DEPZ is a defined zone where it is proportionate to predefine protective actions which would be implemented without delay to mitigate the most likely consequence of a radiation emergency. This protective action should provide prompt protection to those who may be affected, maximising effectiveness which would be reduced if time was taken to consider and implement the action. (REPPIR Guidance 8(1) 233). This is particularly relevant to the AWE sites as a result of the short time to alert those in the affected area to take the immediate protective action of shelter. The details relating to the timings required for protective actions to be in place are set out in Section 2, to this appendix.

² <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31996L0029:EN:HTML>

1.10 The REPPIR 19 legislation has several requirements for local authorities which have nuclear licenced sites located within their areas. In this Appeal, AWE Burghfield is one such site. The requirements include:

- a. Requirement to determine a geographical area known as the “Detailed Emergency Planning Zone” (DEPZ) (Reg. 8) on the basis of the operator’s “Consequence Report” under Regulation 7 and paragraph 2 of Schedule 4,
- b. Prepare an Off-Site Emergency Plan (Reg. 11),
- c. Review and test of emergency plans (Reg. 12),
- d. Provision of information to the community within the DEPZ. These off-site arrangements link with the requirements on the site operators On-site emergency arrangements. (Reg. 21).

1.11 Regulation 8(1) DEPZ relates to land in this way:

(1) The local authority must determine the detailed emergency planning zone on the basis of the operator’s recommendation made under paragraph 2 of Schedule 4 and may extend that area in consideration of—

- (a) local geographic, demographic and practical implementation issues;*
- (b) the need to avoid, where practicable, the bisection of local communities; and*
- (c) the inclusion of vulnerable groups immediately adjacent to the area proposed by the operator.*

1.12 Regulation 11 requires the local authority to prepare an Off-Site Emergency Plan in line with Schedules 6 and 7.

1.13 Within REPPIR 19, the Approved Code of Practice³ (ACOP) and associated guidance documents the processes to be undertaken to achieve compliance which are clearly set out, and to which the Emergency Planning Service has adhered.

1.14 Significantly the REPPIR 19 Regulations ***‘aim to establish a framework for the protection of members of the public and workers from and in the event of radiation emergencies that originate from premises.’*** (Page 1, para 1 of the ACOP). This is the golden thread throughout from determining the Detailed Emergency Planning Zone (DEPZ), developing the Off-Site Emergency Plan and ensuring the Off-Site Emergency Plan in order that it remains ‘adequate’ as required by Regulation 11. More information relating to this is set out throughout this document.

³ <https://www.onr.org.uk/documents/2020/reppir-2019-acop.pdf>

- 1.15 This appendix evidences the complexity of a radiation emergency, and more 'normal' emergencies, in order to help a decision-maker understand the challenges likely to be experienced both during the initial emergency response, but also, significantly, in the recovery phase in relation to protecting public health and wellbeing.
- 1.16 In addition to the REPPIR 19 legislation and guidance, there is also the National Nuclear Emergency Planning and Response Guidance⁴ which, although published in 2015, and therefore prior to REPPIR 19, is still largely relevant.
- 1.17 REPPIR 19 is not the only legislation relevant to emergency response and recovery in relation to any emergency including a radiation emergency. Other legislation which also applies includes the Civil Contingencies Act 2004⁵ (CCA) and associated guidance.
- 1.18 The CCA legislation places duties on a wide range of agencies including Local Authorities. These duties include: to assess risk; put in place emergency plans and business continuity plans; have in place and maintain arrangements to make information available to warn and inform the public; to share information and cooperate with other responders; and provide business continuity advice to businesses and volunteer organisations.
- 1.18 Having regard to the requirement of the CCA to assess risk, there is a link to the National Risk Register 2023 edition⁶ which is a public document. It covers a broad area of risks to the UK such as flooding, cyber, animal diseases, major fires, malicious attacks. This Risk Register takes into account and captures the impact of emergencies into 7 areas as set out below:
- a. The *impact on human welfare*, including fatalities directly attributable to the incident, casualties resulting from the incident (including illness, injury and mental health impacts), and evacuation and shelter requirements.
 - b. Behavioural impacts, including changes in individuals' behaviour or levels of public outrage.
 - c. The impact on essential services, including disruption to transport, healthcare, education, financial services, food, water, energy, emergency services, telecommunications and government services.
 - d. Economic damage, including numbers of working hours lost.
 - e. Environmental impact, including damage to the environment.

⁴ <https://www.gov.uk/government/publications/national-nuclear-emergency-planning-and-response-guidance>

⁵ <https://www.legislation.gov.uk/ukpga/2004/36/contents>

⁶ [NATIONAL RISK REGISTER 2023 Edition](#)

- f. The impact on security, including on law enforcement agencies, armed forces, border security, and the criminal justice system.
- g. International impacts, including damage to the UK’s international relations and ability to project soft power, disruption to international development, violation of international law and norms, and international displacement and migration.

1.20 The impact from a radiation emergency at a nuclear facility such as AWE Burghfield or Aldermaston would include all the above impacts with a significant impact on human welfare and the environment, in the short and long term, and have a financial cost by way of billions of pounds. Therefore, the national risk register has assessed that a civil nuclear accident, although unlikely, would have a **catastrophic impact**– the highest impact category This is also shown on the Figure 1 below with the civil nuclear accident likelihood and impact shown as serial 28.

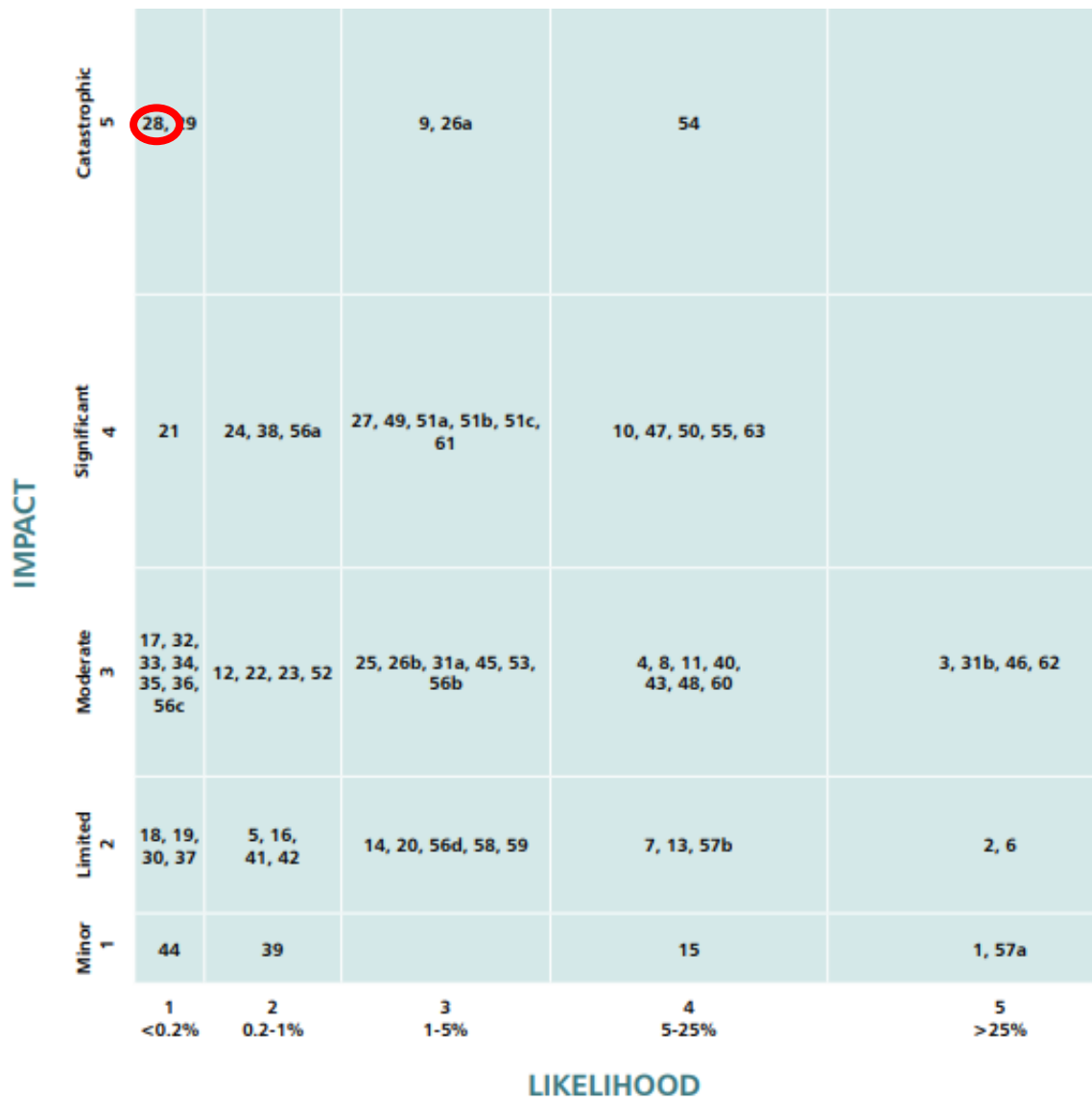


Figure 1: National Risk Assessment Matrix

1.21 In addition to the National Risk Register and within the Approved Code of Practice (ACOP) for REPIR 19 is a Risk Framework which, as stated in the ACOP, is based upon the National Risk Assessment. As with any risk framework it is based upon the impact and likelihood. The details including the descriptors are set out below in Tables 1 & 2.

		Descriptors					
		1	2	3	4	5	
Impact	Impact descriptor and effective dose	Human life (Acute exposure/ Deterministic Effects)	Health & Safety (Cancer induction)	Quality of life	Property	Environment	
	A	Catastrophic (>1 Sv)	Death and life changing consequences severe deterministic effects possible.	Possibility of life changing consequences because of significant (> 5%) increased risk of cancer induction.	Complete reconstruction of life activities.	Asset value completely lost.	Exclusion zones increase and heavy restrictions extended to further distance.
	B	Significant (100-1000 mSv)	Possibility of moderate deterministic effects.	Possibility of life changing consequences because of very small (0.5%) increased risk of cancer induction.	Initial reconstruction and continued interruption of normal life activities.	Major asset value depreciation.	Exclusion zones of environmental areas and heavy restrictions.
	C	Moderate (10-100 mSv)	No potential for deterministic effects, below threshold dose.	Possibility of life changing consequences because of very small (0.5%) increased risk of cancer induction.	Enforced prevention or interruption of normal life activities.	Potential or real asset value depreciation.	Restricted or temporary loss of environmental growth or produce.
	D	Minor (1-10 mSv)	No potential for deterministic effects, below threshold dose.	Minimal impacts and unlikely to have life changing consequences.	Potential self-imposed restrictive changes in normal life activities.	Assumed asset value depreciation.	Reluctance to use environmental areas and produce.
	E	Limited (less than 1 mSv)	No potential for deterministic effects, below threshold dose.	Normal background	Sustained normal life activities.	Asset value sustainable or dominated by market forces.	Sustained environmental conditions.

Table 1: REPIR 19 Risk Framework P 180 (ACOP Appendix 2, Table 1 Impact Table)

Likelihood descriptor	Relative likelihood of occurring in the next 5 years
Events not considered in the design	Less than 1 in 20,000
Very low	1 in 20,000 – 1 in 2,000
Low	1 in 2,000 – 1 in 200
Medium	1 in 200 – 1 in 20
High	1 in 20 – 1 in 2
Very high	Greater than 1 in 2

Table 2: REPIR 19 Risk Framework P181, (ACOP Appendix 2, Table 2 Likelihood table)

1.22 Also within Appendix 2 of the ACOP is the risk framework output which sets out where no emergency planning is required (which is not the case for AWE) but also where outline and detailed emergency planning is required which does apply to AWE as highlighted below.

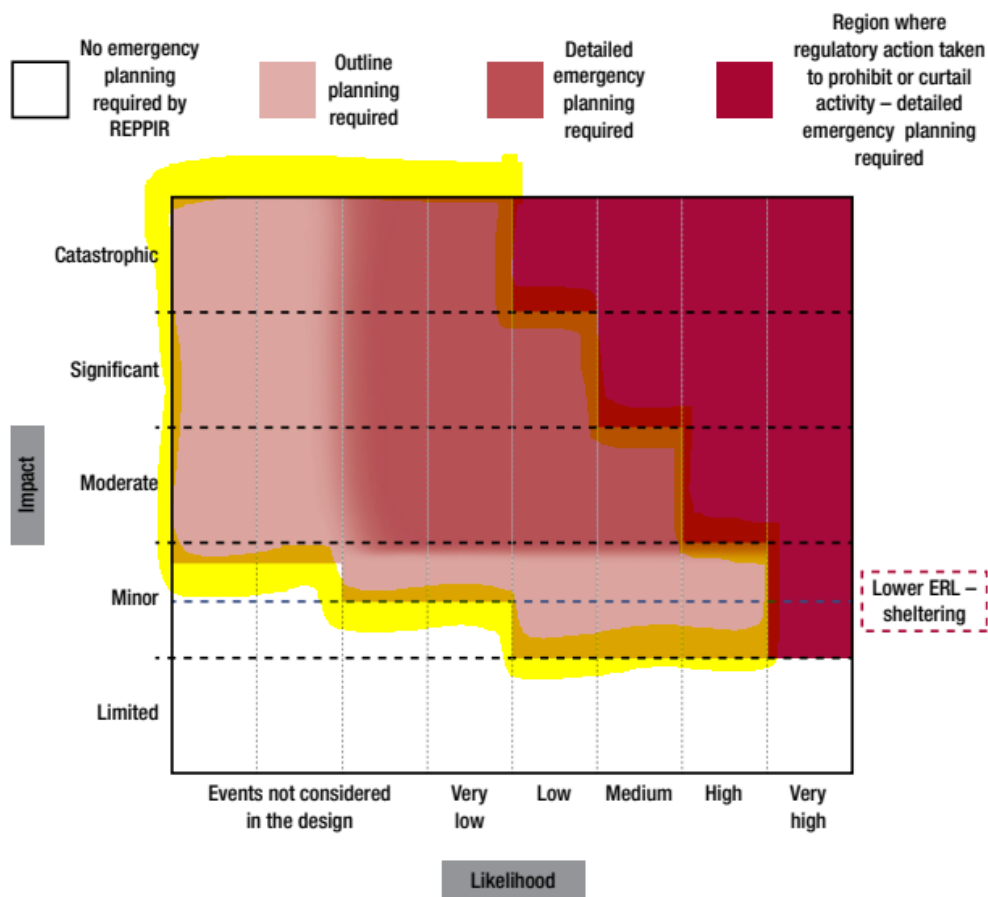


Figure 2: REPIR 19 Risk Framework P181, (ACOP Appendix 2, Figure 3, Risk Framework)

1.23 The above figure clearly demonstrates, in the area outlined in yellow, that under REPIR 19 there is a likelihood and an impact hence the need for Outline Emergency Planning and

Detailed Emergency Planning requirements with the impact ranging from minor to catastrophic.

The areas highlighted in 'orange' in tables 1 and 2 show the likelihood and impact of AWE radiation emergencies.

1.24 The actual impact, it is recognised, will be variable as a result of the scenario at the time including the weather conditions and the cause of the radiation emergency. However, whilst the scale of the impact may reduce, there will be an impact and significantly it should be noted that it is not just in the immediacy of the radiation emergency that there will be an impact but in the recovery. This may be prolonged and include long-term health, environmental and economic impacts requiring sustained recovery.

1.25 The likelihood of a radiation emergency arising at an AWE site remains very low, due to the layers of safety put in place and the oversight of the Nuclear Regulators. Nevertheless, the purpose of REPIR 19 is to address the impact of emergencies which may not be likely to occur but would have a catastrophic impact if they did occur.

1.24 The recently issued National Risk Register (NRR) 2023⁷ refers to only a small number of accidents occurring in the UK since 1956. However, the scenarios they have built their assessment on '*those far beyond a reasonable worst-case. The scenario used for this assessment is therefore extremely unlikely. It is based on an accident occurring at a UK civil nuclear site that results in a release of radiological material that extends beyond the boundary of the site.*

Onsite casualties could require decontamination, monitoring and treatment. No immediate fatal health effects would be anticipated offsite but there could be offsite casualties suffering from the effects of radiation.

There could also be an increase in the risk of longer-term health impacts, such as cancers. The resulting contamination could affect the environment and food production, and there could be disruption to domestic and international transport. The overall impacts of a release are highly dependent on weather patterns.'

1.25 It is also recognised in the NRR about the response capabilities and recovery as set out below:

⁷ [National Risk Register 2023 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/115222/national-risk-register-2023.pdf)

Response capability requirements

*There would be a **large-scale, multi-agency response**. A communications campaign would be needed to communicate key messages to the public. Protective actions would be promptly implemented to protect people's health, which based on the nature of the accident, could include sheltering, evacuation or the use of stable iodine. A ready stockpile of stable iodine tablets could be required as a medical countermeasure. Immediate capabilities could include radiation monitoring and decontamination services, alongside remediation services to restrict the spread of radioactive material. Humanitarian services would also be required to support those displaced, including but not limited to emergency shelter, food and water.*

Recovery

Around affected parts of the UK, there could be significant and prolonged long-term health, environmental and economic impacts requiring sustained recovery

- 1.26 A number of caveats relate to the above detail in the NRR in that it relates to Civil Nuclear accidents and therefore does not directly relate to the AWE nuclear sites. That said, the AWE sites are unique and complex and the impact relating to a radiation emergency arising from these sites would also be unique and complex.
- 1.27 Therefore, regrettably and notwithstanding safeguards which continue to improve being applied no doubt diligently by all concerned, radiation emergencies can and do happen and for the AWE sites they will be more complex than other nuclear sites.
- 1.28 It is significant that a 'radiation emergency' is defined in REPP19 and the ACOP to include both actual hazards and perceived risks:

'a non-routine situation or event arising from work with ionising radiation that necessitates prompt action to mitigate the serious consequences—

- (a) of a hazard resulting from that situation or event;*
- (b) of a **perceived risk** arising from such a hazard; or*
- (c) to any one or more of—*
 - (i) human life;*
 - (ii) health and safety;*
 - (iii) quality of life;*
 - (iv) property;*
 - (v) the environment;*

- 1.26 Significantly the **perceived risk** as described in the ACOP at paragraphs 75-77 is broad and includes situations where an explosion is heard at a distance from a known nuclear facility but in reality, no release or exposure to radiation has in fact occurred.
- 1.27 The Council's Off-Site Emergency Plan (OSEP) therefore must be designed to mitigate, so far as is reasonably practical, the consequences of a radiation emergency (Regulation 11(1)) as defined in Regulation (2)(1), which includes actual hazards as well as perceived risks.
- 1.28 Regulation 11(1) requires that the OSEP is "adequate". That is informed by Schedule 7 ("Principles and purposes of emergency plans"). Part 1 of Schedule 7 sets out the principles that any person with responsibility for preparing an emergency plan must consider. Part 2 of Schedule 7 states (emphasis added):

*"2. Any person with responsibility for preparing an emergency plan under these Regulations **must ensure that the plan, if implemented, would fulfil the following purposes—***

- (a) to reduce or stop the effects of the radiation emergency;*
- (b) to reduce the exposure to individuals and to the environment resulting from the release of ionising radiation;*
- (c) if necessary, to ensure that provision is made for the medical treatment of those affected by the radiation emergency; and*
- (d) to prioritise the implementation of the plan in relation to any person exposed to a dose in excess of the reference levels set out in regulation 20".*

2. Detailed Emergency Planning Zone (DEPZ)

Legislation

- 2.1 Regulation 8 of REPPIR 19 requires the local authority to determine a Detailed Emergency Planning Zone (DEPZ) on the basis of the operator's recommendation. The operator is the Atomic Weapons Establishment (AWE). This was a new obligation on the relevant local authority brought in under REPPIR 19, with the zoning previously undertaken by the Regulators.
- 2.2 Prior to determining the DEPZ, information is provided by the operator of the nuclear site in the form of a "Consequences Report" (Annex 1). AWE provide two reports, one for each nuclear site, both of which are publicly available on the West Berkshire Council website⁸. The relevance of the contents of the Consequences Report relating to any nuclear licenced site is that it forms the basis under REPPIR 19 for determining the *minimum size* of the DEPZ and therefore the main area of interest for the AWE Off-Site Emergency Plan (OSEP) to cover.
- 2.3 The Consequence Report not only provides the information in relation to the minimum geographical distances for setting the DEPZ, but also provides the justification behind operator's the recommendation, including response times to put in place urgent protective actions.

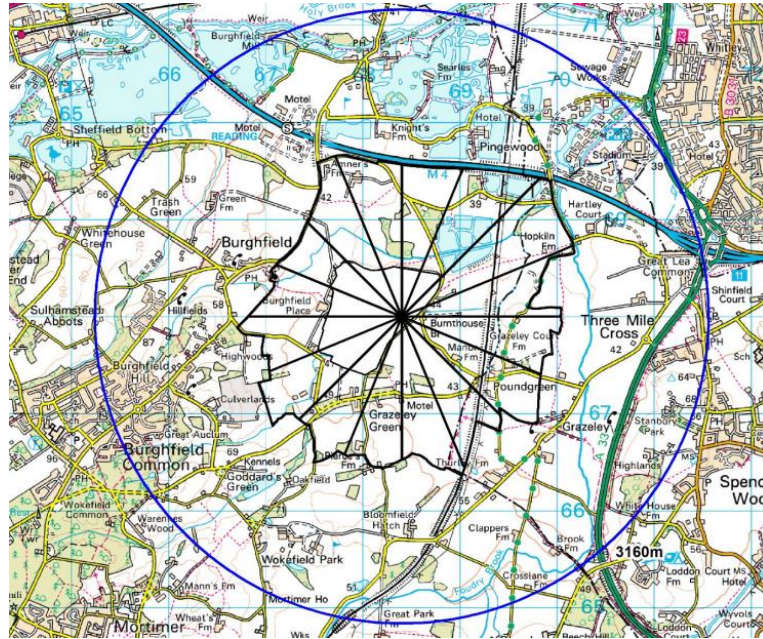
Background to the DEPZ

- 2.11 AWE nuclear sites in West Berkshire are very different to the majority of the other nuclear licenced sites around the UK. Many of these other sites are very remote locations, far from communities. They are often on a coastal area and many of them have nuclear reactors which are different to the processes undertaken at the AWE sites. Therefore, the area for urgent protective action, the DEPZ and the response times for these other sites are different to those around AWE. Significantly, the urgent protective action response time may be hours, and not minutes as is the case for the AWE sites.
- 2.12 An example of such a difference is Hunterston B Power Station which states in its Consequence Report that sheltering out to ~2km from the site is recommended, that stable iodine can be administered up to *5-8 hours* following exposure for averting iodine inhalation dose, advise should be issued within 24hr regarding consumption of leafy green

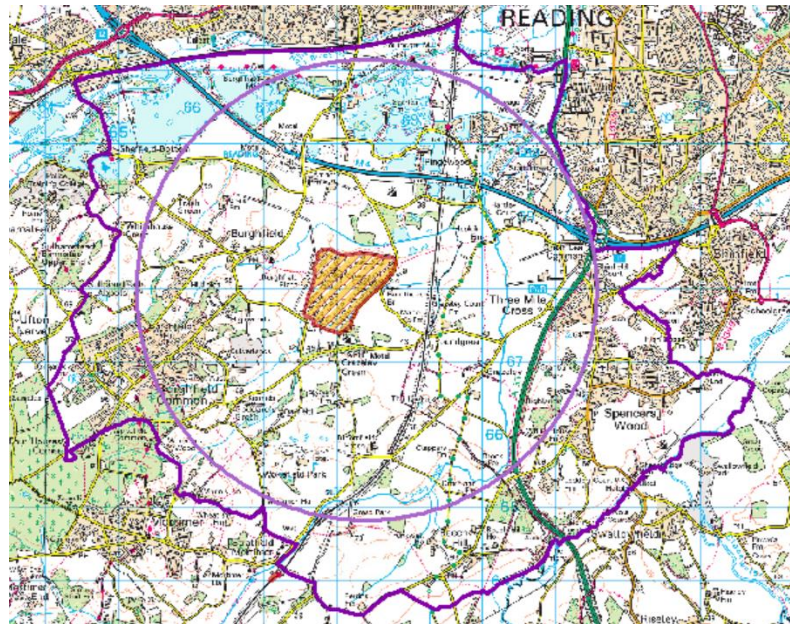
⁸ [Atomic Weapons Establishment \(AWE\) - West Berkshire Council](#)

vegetables, milk etc downwind of the site along with a 'conservative time factor for implementing the protective measure of 2 hours'. These measures are significantly different to the AWE sites where the time to put measures in place from start of incident is *13 minutes* for AWE Aldermaston and *25 minutes* for AWE Burghfield. Stable iodine tablet distribution is not applicable for AWE sites due to the different materials used, in addition countermeasures such as, *not* eating vegetables and milk, will be put in place almost *immediately*.

- 2.14 The procedures undertaken by West Berkshire Council to determine the DEPZ in March 2020 were upheld in January 2021 following a Judicial Review which was unsuccessfully challenged the process undertaken by the Council. (Crest Nicholson Operations Limited, Hallam Land Management Limited, Wilson Enterprises Limited and West Berkshire District Council and AWE Plc, Secretary of State for Defence, Public Health England and Office for Nuclear Regulation EWHC [2021] EWHC 289 (Admin). The Hon. Mrs Justice Thornton DBE 12 February 2021 rejected the claim on all grounds.
- 2.15 The DEPZs for both AWE nuclear sites have been reviewed and re-determined in January 2023. There have been two minor changes made to the AWE Burghfield DEPZ with the addition of two small areas to include properties within communities which had previously been excluded, no changes were made to the AWE Aldermaston site. Further information is in **Annexes 1, 2 and 3** in relation to AWE Burghfield.
- 2.17 The DEPZ for AWE Burghfield significantly changed by way of size and population density (residential and commercial) as a result of the changes in REPP19.
- 2.18 The map below sets out the DEPZ prior to the changes including the area of Urgent Protective Action to give some context to the changes. Significantly it can be seen the DEPZ prior to 2019 was South West of the M4 motorway and did not impact on many of the conurbations including Burghfield Common, Three Mile Cross, Spencers Wood and communities in Reading area.



2.19 The map below sets out the current DEPZ following the required changes. It clearly shows the expansion of the DEPZ size and the communities included as result.



2.20 In addition to the geographic scale the populations within the DEPZs increased as set out in the table below:

Type of Premises	Numbers – pre 2019 (based on figures from ONR 2018)	Number of People (2.4)	Numbers – post 2019 (based on West Berkshire RD data 2019)	Number of people (2.4)/ Capacity
Residential Properties	97	233	7738	18571
Caravans	N/A		245	588
Care Homes	0		5	
Commercial	30		934	

Type of Premises	Numbers – pre 2019 (based on figures from ONR 2018)	Number of People (2.4)	Numbers – post 2019 (based on West Berkshire RD data 2019)	Number of people (2.4)/ Capacity
Early Years Settings	0	N/A	5	Over 2000 children
Primary Schools	0		6	
Secondary Schools	0		2	
Other Education Establishments	0		1	
Major Sporting Venues	0		1	~24,000 capacity

- 2.21 The above clearly shows a significant increase in the population living and working within the whole of the DEPZ.
- 2.22 The DEPZ is reviewed and re-determined every 3 years, unless there is a change in operations on the AWE sites and /or the local authority considers there is a change in the local area which necessitates a re-determination. Therefore, any new improved facilities and/or closure of old facilities in the AWE sites may reduce the size of the DEPZ. The area may also be extended in consideration of the factors listed in Regulation 8(1).
- 2.23 Equally, the *methodology* for calculation of the DEPZ may change based on new evidence - which may mean it increases in size. In addition, over time different *parts* of the AWE site may be used for new nuclear facilities, subject to the normal planning and various consenting processes but that may result in changes in the risk profile and therefore changes in the DEPZ.
- 2.24 The DEPZ and the process of determination is undertaken carefully and reservedly by West Berkshire Council, not only for the impact on the community, but also in relation to ensuring compliance with REPP19. This includes the provision of public information and the development and implementation of the AWE OSEP in accordance with Regulation 11 and Schedules 6 and 7 of REPP19.

Urgent Protective Action within the DEPZ

- 2.4 The Consequence Reports for AWE Burghfield⁹ and the associated decision reports from March 2020 when the DEPZs were originally determined and subsequently in January 2023, are at **Annexes 1, 2, and 3**.

⁹ https://www.westberks.gov.uk/media/48825/AWE-Burghfield-Consequences-Report/pdf/REPP19_B-Site_ConsequencesReport_web_version1.pdf?m=637256670105370000

- 2.5 The AWE's evaluation of the *minimum* geographical extent of the DEPZ for AWE Burghfield is 3160m (Annexe 1 – Site Consequences Report) Part 2 2.(a)). This is also known as the “Urgent Protection Actions” (UPA) area. The “urgent protective action” recommended is sheltering. A further “Outline Planning Zone” (OPZ) of 12km is also recommended. The OPZ is set by the Ministry of Defence.

Part 2 2.(a) states that 3160m (the DEPZ) is *“the largest distance determined by detailed consequence assessment of a range of source terms and includes consideration of a range of weather conditions and vulnerable grounds within the population”*.

- 2.6 AWE recommends *‘that people are instructed, as soon as is practical, to immediately take-cover in a suitable building and to stay inside with the windows and doors all properly shut.’* (this is the “sheltering” and it is required to be immediate).

‘this ‘sheltering’ action may be necessary for a period of up to two days, or at least until the initial contaminated plume has passed and monitoring of the ground contamination has been undertaken to determine the level of groundshine; and subsequent potential for further dose uptake, (e.g. from contaminated locally produced foodstuffs).’

Thus, the period of time for sheltering may be extended, or it is more likely that due to the reduced benefit of sheltering in place then ‘subsequent’ evacuation/displacement of people may be necessary to protect public health.

- 2.7 Part 2) 2.e. of the Consequences Report advises that assuming no early warning of the onset of any incident, then there will be an average of approximately **25 minutes** from the start of the event until the leading edge of any radiation plume travels to the minimum distance recommended for urgent action. However, it should be noted that the Site Response Group could take up to an estimated 15 minutes to set-up and formally notify the Local Authority, and **there remains approximately 10 minutes to inform the public, and for the public to find suitable shelter, in order to realise any substantive benefit** from the sheltering action.

- 2.8 Therefore, anyone in the area at the time of an incident will immediately be at risk and adding more into the area places more people at risk. The above is based on a no notice accident which is the most likely type of event for either AWE site.

2.9 Part 2, 3 of the Consequences Report for AWE Burghfield sets out the details of the environmental pathways at risk in order to support the determination of food and water restrictions in the event of a radiation emergency.

- a. The release of radioactivity from the Burghfield Site as a result of a fault condition has the potential to result in doses to the public through a range of exposure pathways, including:*
- i. First-pass inhalation of air in the plume of contamination;*
 - ii. Short term external irradiation during passage of the plume – cloudshine*
 - iii. Long-term inhalation after resuspension, from ground contaminated by the initial plume;*
 - iv. Long-term external irradiation from ground contamination by the initial plume – Groundshine;*
 - v. Ingestion of food crops contaminated by the initial plume*
- b. The relative importance of the different exposure pathways is dependent on the type of accident and the potential radioactive isotopes which may be released.***

2.10 In effect this section of the Consequences Report advises that radioactive material can be resuspended by the action of the weather, or by farming practices, or any other disturbance processes, resulting in the potential for radiation exposure beyond the immediate aftermath of an incident.

2.25 As set out above West Berkshire Council is required to make an **adequate** AWE OSEP in accordance with Regulation 11(1). Therefore, the increase in population in the area where urgent protective action is required, following the designation of the DEPZ, has resulted in significant issues for the adequacy of the AWE OSEP, the details of which are set out in Section 3 to this Appendix.

3. AWE Off-Site Emergency Plan (AWE OSEP)

- 3.1 As required under REPP19 legislation, the operator is required to have an adequate on-site emergency plan (Reg.10) and the local authority must make an adequate off-site emergency plan covering the DEPZ and OPZ. (Reg. 11).
- 3.2 The legislation further requires that the plan contains the information as set out in Chapter 1 of part 2 of Schedule 6, Chapter 2 of part 2 of Schedule 6, Chapter 3 of part 2 of Schedule 6 and the principles and purposes of Schedule 7. The information required within the OSEP includes the following, noting it is not a comprehensive list but a summary:
- a. Provide a framework for the management, coordination and control of the off-site response
 - b. Plan can be implemented at speed including notifying the public, and maintaining the communications to the public including a return to normality process
 - c. Detailed planning to implement urgent protective actions within hours (albeit this would be too late for AWE sites)
 - d. Provision of welfare for the local population (e.g. the provision of food and shelter)
 - e. Possible reductions in staffing levels or closure of facilities during weekends, public holidays etc
 - f. Have the ability to be a sustained response
 - g. Have arrangements in place for:
 - i. sheltering members of the public
 - ii. evacuating members of the public
 - iii. preventing people entering the affected area
 - iv. controlling traffic
 - v. food, feed and water restrictions
 - vi. protecting property
 - vii. any other actions concerning the protection of members of the public e.g. restrictions on outdoor activities
 - viii. determining the nature and impact of the radiological hazard to inform decisions
 - ix. recovery processes
- 3.3 In addition, under Schedule 7 it states that there is a 'necessity to optimise protection strategies to ensure the proposed response, as a whole, is predicted to do more to mitigate

- the radiation emergency and facilitate the transition from that emergency than to increase its duration or consequences, taking into account:
- a. The health risks arising from exposure to ionising radiation as a result of the radiation emergency, in both the long and the short term,
 - b. The economic consequences of the radiation emergency
 - c. The effects of the disruption, both on the premises and in the area immediately surrounding it, and on the public perception of the effects of the radiation emergency'
- 3.4 This is in addition to 'avoiding, as far as possible, the occurrence of serious physical injury to person or persons' and 'ensuring than an appropriate balance is struck between the expected harms and benefits of any particular protective action so as to maximise the benefit of the action'.
- 3.5 Therefore, there are a wide range of requirements to be put in place in the AWE OSEP to comply with REPPIR 19.
- 3.6 It is also recognised that the '*adequacy of the plan is an ongoing process involving review, revision and testing*'. (ACOP Para 341). There is also no requirement to provide 'headroom' for more and more people in the DEPZ.
- 3.7 Whilst the two nuclear sites of AWE Aldermaston and Burghfield are within the geographic area of West Berkshire Council (WBDC), the development of the AWE OSEP requires coordination of a wide range of stakeholders who would be involved in a response relating to a radiation emergency at either site. The list of organisations and agencies which the local authority must consult is in Regulation 11(5).
- 3.8 The development of the most recent plan involved over 27 agencies ranging from the emergency services in the Thames Valley and Hampshire; several government departments and agencies including the Environment Agency, UK Health Security Agency and Food Standards Agency; four local authorities due to the cross-border nature of the DEPZs and OPZs, health services including Integrated Care Boards and hospitals, utility companies and transport companies (Rail and Road). Therefore, the role of this local authority in developing the AWE OSEP is coordination and ensuring compliance with REPPIR 19 as the local authority responsible under Regulation 11(1).
- 3.9 West Berkshire Council is the duty holder and is required by REPPIR 19 to have an 'adequate Off-site emergency plan covering that zone or zones' (the zones being the DEPZ and Outline Planning Zone (OPZ)) (Reg. 11). The Council also 'and have the capability

available to ensure this happens without unnecessary delay' (Para 238 of ACOP). As set out in the ACOP, Para 338 the process for making an adequate plan involves:

- a. writing the plan, including the minimum content required by Schedule 6 and meeting the principles and purposes in Schedule 7;
- b. ***implementing the necessary requirements (or seeking confirmation of this) to ensure the plan is capable of being put into effect without delay when required;*** and
- c. testing the plan to demonstrate its adequacy and making any necessary improvements to the plan as identified by the test.

3.10 The focus of the AWE OSEP is in relation to responder's actions and not that of the public which is covered in a public information booklet.

3.11 The first revision of the AWE OSEP post REPIR 19 was developed by May 2020 following the changes to the DEPZ around AWE Burghfield. Since that date there have been a further 5 updates to the OSEP as a result of agency updates, changes in procedures, lessons identified following 6 focused exercises on 5 themes undertaken over 2021/2022, and more detailed reviews of specific actions in the AWE OSEP which had changed due to REPIR 19.

3.12 The latest 'live' approved version of the plan issued in March 2023 is currently [August 2024] being extensively reviewed and revised. This review process can take some time depending on the updates to be put in place. The AWE OSEP is therefore a living document being amended as necessary with regular training and exercising undertaken with the other responders in order to test the adequacy of the AWE OSEP, or elements of it. This is recognised in the ACOP as normal practice.

3.13 It should however be noted that there has been an AWE OSEP in place for many years from the 2001 Regulations that involved the term DEPZ and at that time an area known as the 'area of extendibility'.

3.14 The AWE OSEP is a detailed document for all responding agencies to use in a coordinated way and in order to facilitate the protection of the public and/or environment following an emergency involving an on-site release of radiation which is having an effect outside the AWE Aldermaston or Burghfield site boundaries i.e. a radiation emergency as defined in Regulation 2(1).

- 3.15 The AWE OSEP has a protective marking of Official Sensitive¹⁰ because of the content within it therefore it is not a public document. In addition, the management of old versions of the AWE OSEP is important because if the wrong actions are taken by the community affected based on out-of-date information when changes occur, the OSEP risks increasing the risk of harm to the community.
- 3.16 The **aim** of the AWE OSEP (2023 version) is to enable an effective response to a radiation emergency at either of the AWE sites which has or could have an impact on the community surrounding the sites.
- 3.17 The **objectives** of the Plan are to provide:
- a. Information about the sites and their hazards
 - b. The roles and responsibilities of each responding agency
 - c. The activation, command & control and coordination procedures
 - d. Protective actions to implement.
 - e. Warning and Informing, including communication procedures
 - f. Information about recovery
 - g. Where to find more information.
- 3.18 Note the AWE OSEP aims to support responders to act effectively and promptly in order to protect the public.
- 3.19 The AWE OSEP in place is detailed but it does not cover all possible eventualities and does not provide all the answers in one document. Instead, each agencies' own emergency response and recovery plans and expertise are essential along with other supporting plans and frameworks, as stated in previously. The AWE OSEP does give the overall response framework and some specific information in relation to the site, countermeasures and mitigation options in order to support responders in the response.

Development control

- 3.20 The key point in relation to increases in population within the DEPZ is that if the AWE OSEP is not "adequate" then not only is public safety compromised contrary to the purpose of REPPIR 19, but the site's capability to continue work with ionising radiation is also

10

https://assets.publishing.service.gov.uk/media/649c38eb06179b00113f745c/Government_Security_Classifications_Policy_Quick_Read.pdf (Para 16)

compromised which has serious implications for national security. The Council will also be in breach of Regulation 11(1).

- 3.21 Whilst the requirement is to revise and maintain the adequacy of the AWE OSEP and associated plans, it is not infinitely scalable. Its continued adequacy is dependent not only on funding but on the availability of personnel with relevant experience, and also resources such as transport for evacuations, and places to shelter.
- 3.22 The reality of managing an off-site radiation emergency is inherently extremely challenging due to the nature of the emergency, the existing population density within the DEPZ, the resource intensity of the response, the longevity of the response and thereafter the recovery phase. This is emphasised in **Section 4** in relation to the issues responding to 'normal' emergencies. It is also reflected in the multiple agencies involved in preparing and maintaining the OSEP.
- 3.23 The AWE OSEP is based on the data at the time of writing. The data being the number of **existing and occupied** residential, commercial and other communities (schools, care homes, caravan sites etc) at that time and not those which have not been built.
- 3.24 The AWE OSEP cannot simply be amended to accommodate every new development. There is not an infinite number of reception centres, rest centres, radiation monitoring units to accommodate and process the number of people in the DEPZ in the immediate and short-term recovery timeframe nor in the long term.
- 3.25 Even if there were sufficient physical sites the staffing of all these locations would be a significant issue, taking into account the shrinking size of responding agencies. In addition, whilst support may be provided by the voluntary sector this too cannot be guaranteed since they are volunteers. In addition, noting also that some of these assets are national capabilities and not just local capabilities, again they too have limitations.
- 3.26 Therefore, any additional residential or commercial properties regardless of scale could have an adverse effect on the effectiveness of the AWE Off-Site Emergency Plan. Whether or not the OSEP can safely accommodate a given development is matter of emergency planning expertise.

Adequacy of the AWE OSEP – existing concerns

- 3.27 Short of an actual radiation emergency the best way to test the adequacy of the AWE OSEP is to undertake exercises.
- 3.28 The last full test of the AWE OSEP was in April 2023 with the focus on the AWE Burghfield site. It was the first opportunity to do so since the changes in the DEPZ. Prior to 2023 modular tests were undertaken in 2021/2022 as a result of the COVID19 pandemic preventing a full test to be undertaken as planned in 2019/2020.
- 3.29 Whilst the AWE Off-Site Planning Group (AWE OSPG) have a good understanding of the AWE OSEP and its adequacy the authoritative body in relation to the adequacy of the AWE OSEP is the Office for Nuclear Regulation (ONR).
- 3.30 Following the exercise and the comprehensive debrief process the regulators, the Office for Nuclear Regulation (ONR), provided their findings which raised some significant concerns.
- 3.31 The letter received from ONR confirms that the Council had complied with the REPPIR 19 (Reg 12) by testing the OSEP and undertaking a debrief to identify lessons. However, it goes on to state:

'The significant expansion of the Burghfield detailed emergency planning zone in 2019 (to accommodate changes introduced in REPPIR'19), together with proposals for development of land surrounding the AWE sites, has substantially increased the number of people requiring protection in the event of a radiation emergency. This is resulting in pressures that impact on the practical implementation of the OSEP. ONR is concerned that apparent issues with the delivery of the plan will be exacerbated by further increases in population and improvements are required to address these.'

In ONR's opinion, the ALDEX have highlighted that key areas for improvement relate to the management of people displaced by the response to the radiation emergency, either by urgent evacuation or subsequent relocation after the period of sheltering (the protective action during the early phase of an emergency). This relates to the movement of people and the provision of monitoring and personal decontamination, in addition to welfare support.'

Noting the pressures indicated, I request that the Council provides a formal response to this letter setting out the proposed actions that it will undertake to implement improvements to the OSEP to address any capacity or capability-related concerns. It should clearly

identify any improvements needed for the current level of population and also identify those improvements that may be needed for any future population increases that are already committed. I would ask that a response is provided by 31st January 2024.

To provide the relevant level of regulatory oversight moving forward, we intend to carry out a series of targeted formal regulatory interventions involving the Joint Emergency Planning Unit. The purpose of these will be to gain confidence that the necessary OSEP improvements have been correctly identified and scoped, are being managed and progressed, and that these will deliver the reasonably practicable improvements to the OSEP required to satisfactorily address and mitigate current concerns.'

- 3.32 The full letter from ONR is at **Appendix 2** along with the Council's response at **Appendix 3**.
- 3.33 As detailed in the letter from West Berkshire Council, the AWE OSEP is being reviewed, however the timescale for completion has been extended because of some elements of the OSEP which require more attention. In particular the concerns in relation to resources: whether they are buildings to operate from, staffing and/or equipment to implement the OSEP quickly and effectively are being reviewed in more detail.
- 3.34 Despite the best efforts of all the agencies involved in the AWE OSPG who develop the plan together, there is a real risk that some of the issues **cannot** be overcome and the plan may be deemed to be inadequate.
- 3.35 Sections 4 and 5 below provide more explanation in relation to the challenges, complexities and impacts for communities and responders in relation to the initial response, subsequent actions and recovery to a Radiation Emergency. Section 6 to this Appendix provides examples of 'ordinary' emergencies to illustrate the complexities.

4. Specific Response to an AWE Radiation Emergency

- 4.1 The Consequence Report (**Annex 1**) states at 2e. that '*assuming no early warning of the onset of any incident, and that the Site Response Group could take up to an estimated 15 minutes to set-up and formally notify the Local Authority, there remains approximately **10 minutes** to inform the public, and for the public to find suitable shelter, in order to realise any substantive benefit from the sheltering action*'.
- 4.2 As a result, anyone outside will be at risk immediately following a radiation emergency.
- 4.3 The response to an AWE radiation emergency at either site is therefore required to be *fast* to afford the best protection to the community

Warning and Informing

- 4.4 The public will be alerted using an alerting system in place which AWE can activate and automatically goes to all landlines.
- 4.5 Responders do recognise that fewer people have landlines than when the system was originally set up, therefore in addition to the landline alerts notifications will be made to the media and through social media channels. Therefore, the multiple communication routes will be used to alert as many people as possible as quickly as possible.
- 4.6 The notifications for a radiation emergency will be for the whole area of the DEPZ initially, since the exact area affected will not be known in detail until monitoring has been undertaken which will take time to do.
- 4.7 The use of the new government Emergency Alert¹¹ system is currently not available for use to alert people in relation to an AWE radiation emergency. This may change in the future which may negate the need for the alert via landlines.

¹¹ <https://www.gov.uk/alerts>

Responders Activation

4.8 In addition to alerting the public the emergency responders are also activated through an automated system activated by AWE.

Initial Response Actions & Considerations

4.9 Following the activation of the responders the following actions are put in place, note it is not an exhaustive list and they are not instant measures:

#	Actions	Points to note
a	Agencies put in place their own plans.	
b	Each agency will stand up their own Emergency Operation Centres.	For each agency this could be in the order of 10- 15 people on 24/7 shifts
c	The full multi-agency coordination structures will be put in place, which will include national response due to the nature of the emergency.	To appreciate the scale of such an emergency the Strategic Coordinating Centre & Tactical Coordinating Centre for the last exercise had over 150 participants from 27 agencies over an 8-hour period. This would be replicated 24/7.
d	Continual communication messages to the public with accurate information.	The expected demand for information from those affected, the wider UK and internationally cannot be underestimated. There is a comms plan with key messages however they will need to be reviewed and new messages promoted to support those affected
e	Alerting all vulnerable sites such as schools, care homes, mobile home sites directly to ensure they are enacting any plans they have in place and identifying any issues they may have;	Within the AWE B area there are 3 primary schools, 2 secondary schools, 2 other education establishments resulting in a significant number of children (over 1500) excluding the early years settings of which there are 6. It should also be noted that based on feedback from schools the most likely action to support the schools is to remove the children, based on scientific advice at the time, with all the PPE, driver safety, coach safety systems all being put into place. Also significantly this would be based on ~ 40-45 children in any one coach along with staff and moving them to a safe place. There are also 6 care homes in the DEPZ for AWE B which range from 6 to 58 residents with complex needs. The largest is The Hollies Care Home which is directly adjacent to this appeal site.
f	Establishing the individual vulnerable people database for the area at that time and what	Noting a workshop undertaken as part of the AWE OSEP review resulted in data being provided by Social Care services indicating that on that day there

#	Actions	Points to note
	the support may be required for them (using information sharing protocols);	were over 1200 adults and children who were deemed as vulnerable and likely to require support.
g	Putting in place road closures to limit access into the area and then putting in diversions to keep people away	Noting the closure of the M4 which can be quick to do but places a risk that more traffic will try to move onto the side roads, potentially moving towards the hazard before other road closures can be fully in place;
h	Managing any impact on the rail network, including stations in the DEPZ;	Noting main Reading to Basingstoke train line operates trains at 20minute intervals, including stopping at Reading Green Park which is in the DEPZ) with knock on effects at Reading and Basingstoke stations and local responders as a result
i	Assessing the requirements for urgent evacuation;	This will be based on the early monitoring undertaken by AWE. If it is necessary then due to the situation it will involve specialist emergency services officers and will have a number of urgent actions to undertake when they are out of the DEPZ. The numbers are likely be very low but it will depend on the cause and impact on the local area and therefore the health, safety and welfare of those people.
j	Assessing and planning for subsequent relocation	Taking into account that after 48hrs it is very likely that sheltering in place will not be suitable since it will not afford the same protection. As a result, planning needs to start early so as to establish the resources required and communicated to the community affected. This could be a few or a significant number of properties within the DEPZ area depending on the monitoring results. Anyone displaced at this stage will initially be placed into reception centres or rest centres. Normally we would encourage people to go to friends and families and this is likely to be the case BUT they may need to be monitored first and depending on how they were moved out of the affected area they may have no transport. Both issues would need to be resolved.
k	Putting in place locations (reception and rest centres) for those who cannot go home to be supported.	It is recognised that if people are displaced than they need to go somewhere. As above in relation to reception and rest centres.
l	Putting in place locations (Assistance Centres (information locations)) for worried friends and families for those within the affected area to be supported	These are places for people worried about relatives to come to in order to get information and be supported.
m	Confirming the environmental &	The DEPZ is split into sectors for planning and

#	Actions	Points to note
	people monitoring strategies and thereafter implementing the monitoring in order to confirming the area(s) likely to be affected.	<p>response purposes should be there be a directional plume. Importantly however for the AWE Burghfield site due to the weather conditions that may be experienced there may not be a directional plume but instead a more widespread area of contamination around the whole site therefore increasing the impact. Note the number of samples to be taken to assess the impact needs to be sufficient to provide the data to be assured of the situation. Also, the monitoring of the main source radiation (alpha particles) is not a simple process.</p> <p>There also will be no monitoring undertaken until the release on site is under control. Therefore, it cannot be underestimated how long this process may take.</p>
n	Putting in radiation monitoring of all those within the affected area,	People radiation monitoring units need to be set up, which can take at least 6-12 hours post confirming the need. There are also many limiting factors relating to RMUs by way of locations, specialists to undertake the work, waste management, decontamination processes, and significantly the time it takes to undertake the monitoring which will be in the order of 20mins per person. Priority would be given to those most likely to be affected but assurance monitoring will also be necessary for many more.
o	Monitoring the weather forecast and considering the implications.	Any changes in weather when the release is on going or which is likely to cause resuspension will have an impact on monitoring strategies and the response
p	Alerting the UK NHS systems	Many people will be worried across the UK, based on previous nuclear accidents elsewhere and especially if they have travelled through the area or are in the surrounding areas such as Reading, Newbury, Aldermaston etc etc
q	Limiting the use of food related matters such as crops, fruit, vegetables and livestock in the affected area;	The Food Standards Agency will put in a 30km precautionary ban on the use of crops, fruit, vegetables and livestock including milk etc around the site. Thereafter they will be undertaking monitoring to assess the impact and the recovery where there is contamination. Noting that a 30km ban will cover an area from the AWE site roughly to Alton to the south, Maidenhead to the east and Newbury to the west so a significant area. All of which will need to be managed.
r	Considering the recovery process in readiness for a smooth transition from response	The recovery stage is likely to be a lot longer than the response phase as a result of the complexities as to how clean is clean, environmental clean ups, people

#	Actions	Points to note
	to recovery, noting that this may be for days, weeks, months or years depending on the level of radiation contamination.	long term monitoring, long term housing options, mental health and wellbeing support, compensation. Noting that the issues as a result of Fukushima are still ongoing 13 years post the incident. Significant to any good recovery is a good response and as far as possible keeping the community together, and maintaining normality as much as possible – work, schooling etc. If people are placed in temporary accommodation, hotels etc this has the risk of making the situation worse if they are not in the local area which is likely to be the case.

- 4.10 Speed is crucial at the start to get people into suitable shelter as quickly as possible.. At the start of a response consideration is given as to who may need to be relocated, along with the practicalities such as areas to be relocated, where will they go, how will the rest centres or longer term accommodated be resourced, transportation requirements, communication methods etc etc. These all take time to implement normally and is more complex when in a radiation contaminated environment.
- 4.11 Significantly in relation to reception/rest centres there are a number of uses for them but they can only be used for one purpose at any one time (reception, rest centre, assistance centre)). Noting there are 23 identified rest centres within the four council areas however these centres are limited in their capacities in that in total 5845 people could be supported if ALL were in place and everyone was standing (reception centres, but there would be a reduction for seating). However, this capacity would be reduced significantly for rest centre capabilities to approximately 3500 people as a maximum.
- 4.12 The above figures are however based on best case scenario, that all the identified sites are available and willing to support, and that they can be sufficiently staffed. This is not likely to be the case and therefore the reality is likely to be significantly less capacity.
- 4.13 In addition rest centres are only really workable for a period of 48hrs. Beyond that a more permanent, suitable solution would need to be in place.
- 4.14 In addition to staffing site specific locations 24/7 to expand on the resource intensity of the response for one Council only (i.e. it would be replicated for Wokingham BC and Reading BC

for a radiation emergency at AWE Burghfield) the following staffing would be necessary for every 8 hours in the strategic and tactical coordination centres.

Location	No of Staff
Strategic Coordinating Centre	1 x Executive Director 1 x Emergency Planning Tactical Advisor 1 x loggist 1 x Communications officer in Media Advisory Cell 1 x Env health rep in Scientific and Technical Advisory Cell 1 x Director of Public Health in Scientific and Technical Advisory Cell 1 x Executive Director – Recovery Cell 2 x support to recovery cell
Tactical Coordinating Centre	1 x Service Director 1 x Emergency Planning Tactical Advisor 1 x loggist 1 x Highways lead– Displaced People Cell 3 x senior officers – Displaced People Cell 1 x Public Health consultant

Table 3 Council Staffing requirements at coordinating centres for 1 x 8r period

- 4.15 The above clearly shows that for the multi-agency coordination centres that for every 8 hours at least 17 officers are required every 8 hours, noting these are senior officers.
- 4.16 In addition the services will be undertaking many of the tasks identified above, supporting the internal Emergency Operations Centre and managing the many calls from the public. Therefore the impact on just one organisation for an 8 hour period will result in business continuity plans being implemented and mutual aid arrangements.
- 4.17 As indicated above these figures are only for the coordination centres and do not include staff resources for assistance centres (reception, rest and assistance centres) plus radiation monitoring units, individual staff supporting vulnerable people, and the subgroups set up under these strategic and tactical cells by way of Media Advisory Cells, Displaced People cells, Radiation Monitoring Unit cells. Examples of the number of people which may be involved in outline are set out below:
- 4.17 Mutual aid would be called up from other local authorities locally and across the UK from local authorities with nuclear sites. Indeed, every agency would be doing the same to bolster

their resources. Some agencies, including those who have specialist roles such as monitoring will also be activating resources from overseas. However, mutual aid cannot be guaranteed and is often only for a short period.

Summary

- 4.18 The response to a radiation emergency is complex with many agencies involved and many considerations to take into account.
- 4.19 Many emergencies are complex however the added issue of radiation will undoubtedly make it more challenging because of the inevitable level of public concern.
- 4.20 There is also not an infinite number of resources to be called upon as has been explained previously.
- 4.21 An increase in population within the DEPZ will only add to the complexities of the response to a radiation emergency, therefore impacting the response and the risk to their public health and well-being as well as national security.
- 4.22 Ultimately the ONR is responsible for determining if the local planning authority should be advised against granting permission for more development and so an increase in population within the DEPZ. The ONR's recommendation is based on the council's emergency planning consultation response, but the ONR will ensure that their response is justified.

5. Recovery

- 5.1 Following the immediate response to a radiation emergency as described previously there will be a recovery phase. Recovery is the process of rebuilding restoring and rehabilitating the community following an emergency. It however is not just a remedial process but broadly interlinks categories of impact, that can be summarised as aspects of well-being, that the individuals and communities needs to recover from and include:
- a. Humanitarian (including Health)
 - b. Economic
 - c. Infrastructure
 - d. Environmental
- 5.2 All of the above will be relevant to recovery from a radiation emergency.
- 5.3 There is a Thames Valley Local Resilience Forum Recovery Plan to support the recovery process. Its focus is more on structure and guidance rather than detail since it covers a wide range of incidents to recover from. The principles within it however include coordination and setting up arrangements where specialists can focus on their area of expertise to agree the strategy and actions within the plan. There are however many documents to support the process including the Strategic National Guidance¹², the National Nuclear Emergency Planning and Response Guidance, Part 3 – Recovery¹³, the UK Radiation Recovery Handbook for Radiation Incidents 2024¹⁴
- 5.4 The recovery phase will commence when there is a formal handover from the Strategic Coordinating Group. The recovery, however, is likely to be complex, as indicated previously.
- 5.5 It should be set out clearly that in the case of a radiation emergency, it is very much *not* the case that those affected, those evacuated, will be able to *immediately* return to their homes (as they might do after a flood or a fire, and to begin themselves a clean-up of their homes). Instead, there will be the requirement for environmental monitoring as per the strategy, people monitoring, remediation of land and building clean up strategy, clear communications,

¹² [SNG 5thEdition Final March 2017_1_.pdf \(publishing.service.gov.uk\)](#)

¹³ www.gov.uk/government/publications/national-nuclear-emergency-planning-and-response-guidance

¹⁴ [UK recovery handbook for radiation incidents 2024 - GOV.UK \(www.gov.uk\)](#).

physical clean up and the long-term health and environmental monitoring. All these processes and activities take time due to the nature of the material involved.

- 5.6 Regardless of the level of radiation contamination there is likely to also be a requirement of continual monitoring of the environment over a number of years. Indeed in 1958 there was an alleged crash on Greenham Common involving the US Air Force which involved a radiation source. In the late 1990s environmental monitoring was taking place in relation to this in order to establish if there were any material in the environment or in the food chain. This involved taking house dust samples, grass, fish and meat samples from the local area. Whilst no evidence was found, there was a genuine fear factor associated with the ongoing monitoring after an incident over a 40-year period. That fear factor also reduces well-being significantly.
- 5.7 How long 'recovery' will take cannot be specified before any emergency plan because there are so many variables to take into account which will only be known at the time of the incident. It may be hours or days but equally it may be months or years. This has been the case as set out previously in relation to radiation and other non-radiation-type emergencies.
- 5.8 Recovery is likely to be complex, in particular if there is remediation work to property and the land to be undertaken and an evacuation has taken place.
- 5.9 Throughout that period of recovery, any area contaminated with radiation may require anyone living or working there to be displaced and accommodated elsewhere or as the recovery strategy directs until it is certified that it is safe for the community to return. It should be noted that depending on the level of contamination then the residential units may be deemed unfit of human habitation under housing legislation. The consequential need for re-housing permanently in alternative accommodation also reduces well-being significantly and disrupts communities because of their fragmentation.
- 5.10 The recovery process including ongoing monitoring of property, the environment and people is also likely to be an ongoing process for some time.
- 5.11 Like the response to an emergency, the recovery from a radiation emergency will be complex and resource intensive. The time period cannot be predicted since the data at the time will direct the type of recovery and how it will be undertaken. It will also be a costly process due to the experts and specialist resources which will be required.

- 5.12 Regardless of how long or not the recovery process would be, there also remains the real fear and genuine concerns that properties within the DEPZ, including the proposed new properties, would be 'blighted' by the ionising event affecting their property or being associated with their property.
- 5.13 The psychological wellbeing of those living and working within the DEPZ area is likely to be affected in a significant way and for a significant period, as was the case at Three Mile Island and in flooding events.
- 5.14 There can be support available in particular by way of the Bellwin scheme¹⁵ which is a Government scheme which may support local authorities as set out in S155 of the Local Government Act 1989. However, it is not a given and there are parameters including that it may only cover '*the costs of immediate actions taken in the aftermath of an emergency or disaster*' and so not extend to the potentially medium and longer term recovery from a radiation emergency at AWE Burghfield, howsoever long that aftermath may be.
- 5.15 In addition for the residential or commercial properties, there is no insurance in relation to radiation emergencies. As a result, there can be expected to be significant costs associated with this type of incident for the owners of these properties including any new properties proposed as in these at the Appeal site.
- 5.16 Finally, whilst this recovery section is perhaps the shortest in length it is very likely to actually be the longest piece of work ongoing in the community after a radiation emergency. As has been referenced previously the impact of Fukushima in 2011 is still being felt as the recovery process continues both in physical clean up recovery but significantly in the health and wellbeing of the community affected. Therefore, again the impact of a radiation emergency cannot be overstated – hence the potential for the catastrophic impact as detailed in the national risk register and the risk framework relating to REPPiR 19.

¹⁵ <https://www.gov.uk/government/publications/bellwin-scheme-guidance-notes-for-claims/bellwin-scheme-of-emergency-financial-assistance-to-local-authorities-guidance-notes-for-claims>

6. Emergency Response - Impacts on Responders and the Community

- 6.1 In order to understand more fully the impacts on responders and the community when an emergency happens, set out below are a variety of incidents, many of which I have been involved with directly and therefore have direct experience of the challenges and different levels of complexities or have been involved in the scrutiny of the debriefs and lessons identified as Chair and member of the Thames Valley Local Resilience Forum Continuous Improvement Group (previously Training, Exercising and Organisational Learning)
- 6.2 There has not been an off-site radiation emergency from a site in the UK since 10 October 1957 at the Windscale site, Cumbria. Therefore, there are no recent radiation emergencies in the UK to compare with directly. However, what can be drawn from it is that, in comparison to the AWE sites, the location of Windscale was quite remote from communities and the communications by way of social media etc. were very different to those now. Lessons were learnt from that incident. However, the fact there has not been a radiation emergency since 1957 in the UK does not mean it is not possible and the impact of radiation emergencies can be drawn from more recent radiation emergencies elsewhere and indeed other 'normal' emergencies. All of which demonstrate the reason why placing people in a known risk area is not appropriate.
- 6.3 There are examples of more recent radiation emergencies where learning can be drawn from in relation to the impact both short and long term on the community including the radiation emergencies at:
- a. **Three Mile Island, USA 1979 (Reactor Accident).** Feedback from some of the community living near the site at the time reported they had thought it was safe to live near the site. However, when things went wrong thousands of people evacuated from the area with subsequent concerns such as whether they could have children, would any children born to them in the future be normal, what would happen to their homes and their pets. They did not know who to trust since they had been assured it was safe and it wasn't. This fear was elevated for them at the time since they recalled Hiroshima, Japan in 1945. Therefore, whilst the risk of contamination in itself was low, the fear factor – the fear of irradiation effects on people, property and food – and related mental health concerns and trust relating to the radiation emergency during the incident and following

the incident caused significant and far longer-term impacts on the community that was required to be displaced as a result of the incident.

- b. **Chernobyl Nuclear Power plant, Ukraine, 1986.** The resulting steam explosion and fires were not only experienced in Ukraine where workers and those in the local community were directly affected and are still by the radiation but also across northern areas of the UK. 9800 farms across North West Scotland, Wales, Northern Ireland and Cumbria had controls placed on them by the Food Standards Agency with the final controls only being lifted as recently as 2012 in those geographic locations, no less than 26 years after the event as a result of radioactive particles in the upland peat. This meant that livestock in the area had to be tested prior to moving from the affected areas until 2021 in order to ensure that contamination levels were actually at safe levels. Whilst the AWE sites do not have reactors, they are nuclear licensed sites and the potential implications in the local areas for a long period of recovery with implications for property owners, landowners and farmers in the event of a radiation emergency is likely to be significant either in reality or due to a perceived risk with long term mitigation and monitoring required.
- c. **Fukushima Daiichi Nuclear Power Plant, Japan (2011).** This radiation emergency was a result of earthquakes and subsequent Tsunami in 2011, but it is still having an effect in the Country over 13 years later. The situation in Japan was complex since there had been an earthquake followed by a Tsunami and the nuclear site was a nuclear reactor site, which AWE sites are not, the recent IAEA report 'Ten Years of Remediation Efforts in Japan'¹⁶ does demonstrate learning and impacts for the recovery phase of any radiation emergency. In particular the learning set out:
 - i. the clear expectations of the communities being '*as low as possible*' clean ups;
 - ii. the extensive and different types of remedial actions required to be put in place;
 - iii. the perception in relation to health impacts, similar to those from Three Mile Island;
 - iv. the waste management challenges;
 - v. the specialist contractors required and
 - vi. the impact on responders in addition to the community.

¹⁶ <https://www.iaea.org/publications/15193/ten-years-of-remediation-efforts-in-japan>

In addition, the IAEA reported that the other knock-on consequences of this emergency were the reduction in power after the incident and the *reduced trust in nuclear safety* which had a ripple affect across the world.

These are examples of the genuine fears and concerns that arise for people who are displaced by an radiation emergency, as well as the long period of time during which those fears and real concerns subsist.

The report also stated that *'the initial relocation of thousands of people, leads to impact of social dimensions'* with suggestions by the authors that *'management of social identity, in addition to social support is important for mitigating psychological distress after a nuclear accident, and the support for individuals should be focused on the management of both host and evacuee communities in relation areas'*.

The report provides details in relation to the public expectations in relation to remediation which included:

- a. Confusion by the meaning of the Government long term remediation goal and how it would be achieved
- b. Increased distrust in the government by the residents
- c. Shortage of labour for the recovery activities
- d. Volume of contaminated waste and its storage
- e. Communications in particular the post-accident reality including the impact of perception on health. It was noted that despite the knowledge, people living in the contaminated environments will be anxious about radiation related diseases and in particular cancer, although it was noted that their public information in advance was limited.
- f. Evacuation and time periods.

The incident happened in March 2011 however the lifting of the evacuation orders in the 'difficult to return zones' may be lifted in 2023 – 12 years later. Part of the reason for this time period was the lack of maintenance of infrastructure in that time period caused by the long-term evacuation. Therefore, the area not only required decontamination but repairs to properties and infrastructure to ensure it was habitable prior to occupation. In addition, it has been highlighted in a recent IAEA report that *'many former residents of the evacuated zone in Fukushima have significant fears about moving back, even after decontamination'*.

- g. Environmental clean-up – including agricultural fields, forests, reservoirs, lakes and matters relating to food safety.

h. Financial and reputational damage

Whilst the report can be used to influence the AWE OSEP and implement the lessons identified there are some elements which are unlikely to be resolved including the perception on long term health impacts; the impacts of evacuation on the community affected and the responding agencies as a result and the time periods which could be involved.

As a result linking back to one of the definitions of a 'radiation emergency' (para 1.25) including a 'perceived risk' it is clear this can go for a long time after the radiation emergency has taken place.

6.4 The impacts on responders and the community can also be drawn from more conventional emergencies as set out below are examples of such incidents:

a. **Buncefield explosion and fire in 2005**, (an upper tier Control of Major Accident Hazard (COMAH)¹⁷ site), This incident caused a change in planning legislation as a result of the 'domino' effect with a large petrol distribution site being adjacent to other businesses and a residential area. The incident is reported to have cost in the order of £100m to local companies, with an increase in unemployment as companies relocated or folded, increased debt in the community, psychological impacts relating to the unemployment, being displaced from homes. 2000 people were evacuated in the initial response with some still not back in their homes a year later due to the damage and remained living in hotels. Reports highlight the emotional and mental health stresses of the incident along with financial concerns.¹⁸ By contrast with a radiation emergency, this was an incident where you could move around relatively freely after the event of the explosion incident and where the damage to property could be seen after the initial fire was extinguished. This is not going to be the case in a radiation emergency at AWE. The very invisible nature of radioactive contamination is what makes it so genuinely fearful and so significant a cause for real concerns for a population living within a risk area.

In 2015 reporting of the 'Buncefield' fuel depot (COMAH site) explosion and as reported by the BBC relating to 10 years post the accident residents stated that 'The damage to Mr Mitchell's house took about six months to repair at a cost of about £200,000 but the

¹⁷ <https://www.hse.gov.uk/comah/>

¹⁸

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/78983/Buncefield-Social-Impact-Assessment-Final_20Report_0.pdf

psychological impact was even more significant, with his family developing post-traumatic stress disorder (PTSD).¹⁹ This is relevant since they knew they lived near a fuel depot but the long term psychological effects including flashbacks and the individual financial effect of the explosion was significant for years afterwards.

The wider implications of Buncefield were changes in development control such that there are now strict limits as to what can be build adjacent to COMAH sites in order to protect the community.

- b. **Flooding in West Berkshire.** The impact of your home being at risk or actually flooded has been experienced in West Berkshire several times. There was flash flooding in 2007 when a 1:300yr event affected over 2500 properties by internal flooding. The impact on the responders was significant in that when it was raining it was not safe and /or very difficult to move around the area since vehicles were being stranded. However, the impact on the communities affected was much more with people having 1m of water coming through their home destroying everything inside, all to be seen by everyone in days to come when drives and gardens became full of the contents of these homes. This early clear up whilst significant was not the end of the recovery, instead the reality of the whole family living in a family home upstairs for several months, or people moved out until the works were completed which for many was at least 6 months to a year. School work suffered for children living in smaller areas in their homes or due to longer travel times if they had to move out; people also struggled with work again often since they had longer travel times. Many people lived in caravans on their drives over the winter period to save money or due to insurance issues. However, the additional hidden impact was the fear of it happening again with anxiety levels increasing every time there was a period of heavy rain. The impact of flooding whether you can expect it if you live next to a river or not as a result of flash flooding is generally the same. With an initial removal of the obvious damage and muck in the homes but with a very long recovery by way of drying out and repairing the physical damage but with the ongoing mental health concerns. The impact on responders is also great by way of support with the clean-up and through the health system. I have been involved with many of those affected through the Flood Forums in place in Berkshire and have seen the stress and strain on people with some breaking down into tears as a result of the pressures. Following the floods in 2013/2014 West Berkshire Council undertook a survey of those affected. During the floods approximately 181 properties were flooded internally. Of those 36 responders

¹⁹ <https://www.bbc.co.uk/news/uk-england-beds-bucks-hers-34919922>

to the survey confirmed that they had moved *out* of their property. A significant percentage, approximately 31%, *left their homes* and had to move *outside* West Berkshire administrative area. The reason given by survey respondents was that the lack of availability of the type of home they needed for their family in the administrative area of West Berkshire.

The table below shows where they moved to:

	Within West Berkshire	Outside West Berkshire
Lived with friends/family	68.4%	31.6%
Rented a house	61.5%	38.5%
Lived in a hotel/B&B	77.8%	22.2%

These events in West Berkshire demonstrate that *without* it being a radiation emergency the impact of flooding on the community in the short term can be, and here was, significant.

But the impact is even more so in the longer term by way of housing availability because evacuated people have to reside in dwellings *somewhere* as each day passes and, in the case of radioactive contamination, for a likely considerable long period before it is confirmed as safe to return and also a person feels sufficiently comfortable returning to a residence that has been subject to ionisation or a risk of the same.

In addition, the stresses placed on families when living away when work is being done on their homes, or their homes are being made safe for their return, or indeed the stresses related to being out of their homes and outside the area due to the shortages of temporary / rental accommodation in the area cannot be underestimated.

The above flooding evacuation related to *only* 181 households whereas within the DEPZ and the numbers of properties within it are significantly more.

- c. **Grenfell Tower Fire in 2017.** The fire in the 120 flat tower block resulted in 72 lives being lost. However, it *also* resulted in longer term residential issues arising from over 200 people being made homeless and having no residence.

In 2021, over 4 years later it was reported that all but 6 households had been rehoused into permanent housing. Therefore, even with the type of more relatable emergency and

tragic incident such as a fire, it can be seen for a relatively small number of people (200) it can take many years (here, 4 years) to find permanent housing for those displaced.

In the interim period the 'community' of residents were rehoused over a wide area of London and the Home Counties resulting in the 'community' and therefore local support network being split up too.

This event also demonstrates the impact of housing availability and the loss of community and related harm to well-being because of being moved or having to move away from the area which added to the physiological recovery.

- d. **Salisbury nerve agent poisonings in 2018.** This incident more closely demonstrates the similarities to an AWE radiation emergency in that the nerve agent could not be seen or smelt by a person.

There are a number of points which can be drawn from this incident to demonstrate the longer term impacts on recovering from such an incident including:

- i. How far the incident was spreading without it being seen. It was not just a town centre incident but the homes of both sets of victims created new incident scenes.
- ii. The fear across the community was significant, particularly after the two local people were affected and one person sadly died.
- iii. The impact on responders, not only as a result of the police officer who became very ill, but the hospital setting and the removal of emergency vehicles from being used again due to potential contamination.
- iv. The community seeing emergency services and the military in full personal protective equipment (PPE).
- v. The effect on businesses with perhaps the most recognised one being 'Zizzi' where two of the victims had been which was only able to open 8 months after the event. Critical to this was ensuring it was 'clean' to operate again was a significant recovery plan in relation to bringing people back into the city.

The scale of this incident however was relatively small in relation to the potential impact as a result of an AWE radiation emergency.

- e. **COVID19 Pandemic 2020.** The start of the CV19 pandemic until when the vaccination programme was rolled out also demonstrates the fear associated with something you cannot see or smell and may cause you significant harm.

The result was general compliance with the requirements and guidance in relation to staying at home, isolating from each other and the wearing of masks. The response also however highlighted some significant challenges faced by the responders by way of overwhelming of the NHS, the significant support required for the vulnerable (either in their homes and or in care/nursing homes), the testing regime put in place and the significant support needed for businesses.

This would also be the case with an AWE radiation emergency in that there would be a risk of the NHS in the immediate aftermath being overwhelmed with 'worried well' and this could be across the UK. The support needed in order to visit vulnerable clients within the area affected could be significant not least in that the carers would need PPE or depending on the hazard may not be able to enter the area and therefore specialist responders would be involved. Testing/monitoring of people and the environment would be required which takes time to set up and there are also limited specialists to undertake this role therefore international support may be required. The support required for businesses to continue afterwards whether in the same location or elsewhere is likely to be significant financially, in addition financial support is likely to be required for any residents since most if not no insurance policies cover for radiation emergencies.

- f. **Large utility outage 2022.** In Oxfordshire in 2022 there was a significant water outage involving over 35000 properties. As part of the plans the identification of vulnerable people was required in order to ensure they were being provided with bottled water directly.

Mutual aid was provided by West Berkshire Council in order to lead on the identification of vulnerable people. The process involves an agreed Thames Valley Local Resilience Forum data sharing protocol with data being shared by a number of agencies to identify all the vulnerable people in an area. This could be social care data, assisted bin collection data, supported living and priority service user data from the utility companies. The data

when reviewed resulted in over 5000 records. The impact therefore on the responders on checking on all of these residents and supporting them was significant.

The same process would be applied to an AWE incident. It cannot be done in advance and held in a plan since the vulnerable databases regularly change. Any vulnerable person within the AWE area however may need to be supported before they are either evacuated or within a short period of time depending on their vulnerabilities.

The addition, in relation to the Appeal proposals, would reasonably be expected to add to the number of vulnerable people in the DEPZ area at some time in the lifetime of the properties and therefore the impact upon responders.

- g. **Evacuations due to 'suspect chemicals' 2022.** In 2022 there was a security incident in Bracknell Forest Council area whereby 124 homes were evacuated.

When the police evacuated the residents, they were asked if they had anywhere else to go, including overnight, in order to assess the needs for overnight accommodation should the incident go into the evening. 25 households, over 30% had nowhere else to go.

During any emergency people are encouraged to go to friends and families where they can hopefully be more comfortable. But, for many, this is not necessarily an option as was demonstrated in the recent Bracknell incident.

Therefore, rest centres - such as leisure centres - may be utilised. However, such facilities are only meant to be for a short period of time in the order of 48-72 hours in the immediate aftermath of an incident. They are also resource intensive for the local authority but other responders too in particular health agencies will be impacted.

- h. **Evacuation using Hotels as accommodation.** Other options for displaced people may involve using hotels. This is not a simple option not only in relation to availability but from experience in West Berkshire it is also resource intensive. By placing displaced people in a hotel does not negate the agencies of responsibilities with staffing required to support the occupants by ensuring, as far as possible:
- a. Suitable safeguarding is in place
 - b. Children can attend school;
 - c. People can get to their work
 - d. Supporting with basic human needs such as clothing, toiletries and food and

- e. Supporting the health and well-being of the guests especially over prolonged periods.

Therefore, the use of hotels may be a temporary solution but not likely to be the longer-term solution.

- 6.5 The above nuclear and 'conventional' emergencies demonstrate the complexities of any response and the impact on those affected in the community and the responders. There is no one cap fits all situations, and this would be the same for a radiation emergency.
- 6.6 Significantly the amount of resources by way of rest centres, housing for those displaced, staff to support the displaced residents, specialist staff and equipment have significant limitations as to their availability and how quickly they can be delivered and for long they can be maintained. Noting that any delay will impact the response and therefore the confidence, assurances and trust the affected community will have.
- 6.7 It is also clear that, unlike a radiation emergency, in most of the incidents above people could move around relatively freely after the event, and where there was damage to property it could be seen. This is not going to be the case in a radiation emergency. As has also been referred to the intangible nature of radioactive contamination is what makes an incident so significant a cause for concerns for a population living within a risk area. The inclusion of "perceived risk" within the REPPIR definition of a radiation emergency reflects this reality.



ATOMIC WEAPONS ESTABLISHMENT

AWE BURGHFIELD

CONSEQUENCES REPORT

© British Crown Owned Copyright 2019/AWE

Published with permission of the Controller of Her Britannic Majesty's Stationary Office.

This document is of United Kingdom origin and contains proprietary information which is the property of the Secretary of State for Defence. It is furnished in confidence and may not be copied, used or disclosed in whole or in part without prior written consent of Defence Intellectual Property Rights DIPR-PL - Ministry of Defence, Abbey Wood, Bristol, BS34 8JH, England.

Introduction

This document is the consequences report for the Burghfield Site, as required under Regulation 7(1) of The Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPIR 2019).

The following information has been titled to relate specifically to the REPPIR 2019 Schedule 4 items required to be included within this report.

Part 1 – Factual Information

1. Regulation 7(3) Schedule 4, paragraph 1(a) - Name and address of the operator:

AWE plc, Aldermaston, Reading, Berkshire, RG7 4PR.

2. Regulation 7(3) Schedule 4, paragraph 1(b) - Postal address of the premises where the radioactive substance will be processed, manufactured, used or stored, or where the facilities for processing, manufacture, use of storage exist:

AWE plc, Burghfield, Reading, Berkshire, RG7 2PQ.

3. Regulation 7(3) Schedule 4, paragraph 1(c) - The date on which it is anticipated that the work with ionising radiation will commence or, if it has already commenced, a statement to that effect:

The Burghfield Site has been occupied in support of the UK nuclear deterrent since 1950 and work with ionising radiation has been conducted on the site since that date.

Part 2 – Recommendations

1. Regulation 7(3) Schedule 4, paragraph 2(a) - The proposed minimum geographical extent from the premises to be covered by the local authority's off-site emergency plan:

a. The proposed minimum geographical extent to be covered by the Local Authorities Off-Site Emergency plan is an area extending to a radial distance of 3160m from the Burghfield Site centre location.
This is illustrated on Map A in Appendix A.

b. In addition to the minimum geographical extent recommended above, an Outline Planning Zone, extending to a radial distance of 12km around the Burghfield Site centre location, has been determined by the Secretary of State for Defence, in accordance with Regulation 9(1)(c).
This is illustrated on Map B in Appendix B.

2. Regulation 7(3) Schedule 4, paragraph 2(b) – The minimum distances to which urgent protective actions may need to be taken, marking against each distance the timescale for implementation of the relevant action; and paragraph 3(a) – The recommended urgent protective actions to be taken within that zone, if any, together with timescales for the implementation of those actions.

- a. The following distance is recommended for the urgent protective action of sheltering. This is the largest distance determined by detailed consequence assessment of a range of source terms and includes consideration of a range of weather conditions and vulnerable groups within the population.
- b. The minimum distance to which urgent protective actions should be taken corresponds to an area with radial distance of 3160m.
- c. It is recommended that people are instructed, as soon as is practical, to immediately take-cover in a suitable building and to stay inside with the windows and doors all properly shut. This 'sheltering' action may be necessary for a period of up to two days, or at least until the initial contaminated plume has passed and monitoring of the ground contamination has been undertaken to determine the level of groundshine; and subsequent potential for further dose uptake, (e.g. from contaminated locally produced foodstuffs).
- d. It is recommended that the declaration of a Radiation Emergency, by the operator, to the Local Authority is the trigger for implementing the off-site emergency plan and initiating all the above recommended urgent protective actions.
- e. Category F weather conditions typically has an associated mean wind speed of 2ms^{-1} . From the event site, there will be an average of approximately 1500 seconds (25 minutes) from the initiation of the event until the leading edge of any plume travels to the minimum distance recommended for urgent action. Assuming no early warning of the onset of any incident, and that the Site Response Group could take up to an estimated 15 minutes to set-up and formally notify the Local Authority, there remains approximately 10 minutes to inform the public, and for the public to find suitable shelter, in order to realise any substantive benefit from the sheltering action.

3. *Regulation 7(3) Schedule 4, paragraph 3(b) – Details of the environmental pathways at risk in order to support the determination of food and water restrictions in the event of a radiation emergency:*

- a. The release of radioactivity from the Burghfield Site as a result of a fault condition has the potential to result in doses to the public through a range of exposure pathways, including:
 - i. First-pass inhalation of air in the plume of contamination;
 - ii. Short-term external irradiation during passage of the plume – Cloudshine;
 - iii. Long-term inhalation after resuspension, from ground contaminated by the initial plume;
 - iv. Long-term external irradiation from ground contamination by the initial plume – Groundshine;
 - v. Ingestion of food crops contaminated by the initial plume.
- b. The relative importance of the different exposure pathways is dependent on the type of accident and the potential radioactive isotopes which may be released.

- c. The most likely predicted accidents would spread material by explosive distribution, these are non-fission incidents, where the material that would dominate in this type of release will be plutonium (which is an Alpha emitting actinide) in an inhalable particulate form.
- d. For potentially more energetic events, a range of fission products would be produced meaning that both internal (inhalation) as well as external exposure (irradiation) would dominate.
- e. For the majority of fault sequences, the material released would be in the form of fine particulates of plutonium oxide and the predominant exposure pathway to individuals outside the Burghfield Site during the passage of the plume would be by inhalation. As the plume travels downwind, deposition mechanisms would deplete the plume and leave radioactive material on the ground. Most forms of plutonium are removed from biological pathways by being fixed in the soil and only small amounts are concentrated by biological processes into the food chain, primarily through grazing animals. However, the material can be resuspended by the action of the weather, or by farming practices, or any other disturbance processes, resulting in a potential for longer term inhalation doses.
- f. Doses to the public resulting from this consequence may include contributions from cloudshine, first-pass inhalation, long-term inhalation following resuspension, and groundshine.
- g. Overall, the primary concern for early response decision-making to radiation emergencies involving possible accidents at the Burghfield Site only merits consideration of the first-pass inhalation dose and therefore sheltering is the recommended urgent protective action.

Part 3 - Rationale

1. ***Regulation 7(3) Schedule 4, paragraph 4 – The rationale supporting each recommendation made:***

- a. The release of radioactive particles small enough to be respirable have the potential to result in radiological doses to the public from a range of exposure routes, most notably:
 - First-pass inhalation of air from the plume of contamination;
 - Long-term inhalation after resuspension of ground contamination by the initial plume;
 - Ingestion of food crops contaminated by the initial plume;
 - Long-term external irradiation from ground contamination by the initial plume.
- b. It has been assessed that the first-pass inhalation dose is the most significant by far, for initial emergency response purposes, which has resulted in the recommendation to shelter as the most appropriate urgent protective action. This should be coupled with a restriction on the consumption of all locally produced food, until the direction of the plume and the extent of the contamination has been

fully investigated, examined and understood. Appropriate local instructions should then be made available to the public based on the prevailing conditions.

- c. The recommendation for the minimum emergency action distance at the Burghfield Site originates from the Consequence Assessment carried out under REPIR 2019. The guidance set out in the Approved Code of Practice is to use the largest candidate distances recommended for the urgent protective actions identified against the lower Emergency Reference Level. This 3160m distance is selected as the minimum geographical extent of the Detailed Emergency Planning Zone (see appendix C for definition) about the Burghfield Site Centre Location.
- d. This distance has increased from the REPIR 2001 ONR determination. The REPIR 2001 determination was based on a 5mSv dose contour using 55% Cat D weather conditions. Under REPIR 2019, the minimum distance for urgent protective actions is based on a 7.5mSv dose contour. However, in accordance with the new requirements of REPIR 2019, the 'reasonable foreseeability' argument is no longer allowed, and several different requirements have had to be taken into consideration, these being that the assessment must:
 - Consider age, and other characteristics which would render specific members of the public especially vulnerable;
 - Include all relevant pathways;
 - Consider a representative range of source terms;
 - Consider a range of weather conditions to account for consequences that are less likely, but which have greater consequences.
- e. A further consideration is the geographical area around the site and the potentially significant period that these adverse weather conditions could be experienced.
- f. AWE has analysed the dose from a range of weather conditions and has decided to base its proposal on a weather category that is less likely, but which could provide significantly greater doses. Consideration of less likely weather categories, which occur around 12% of the time in the local geographical area, increases the 7.5mSv dose contour to 3160m around the site centre location.

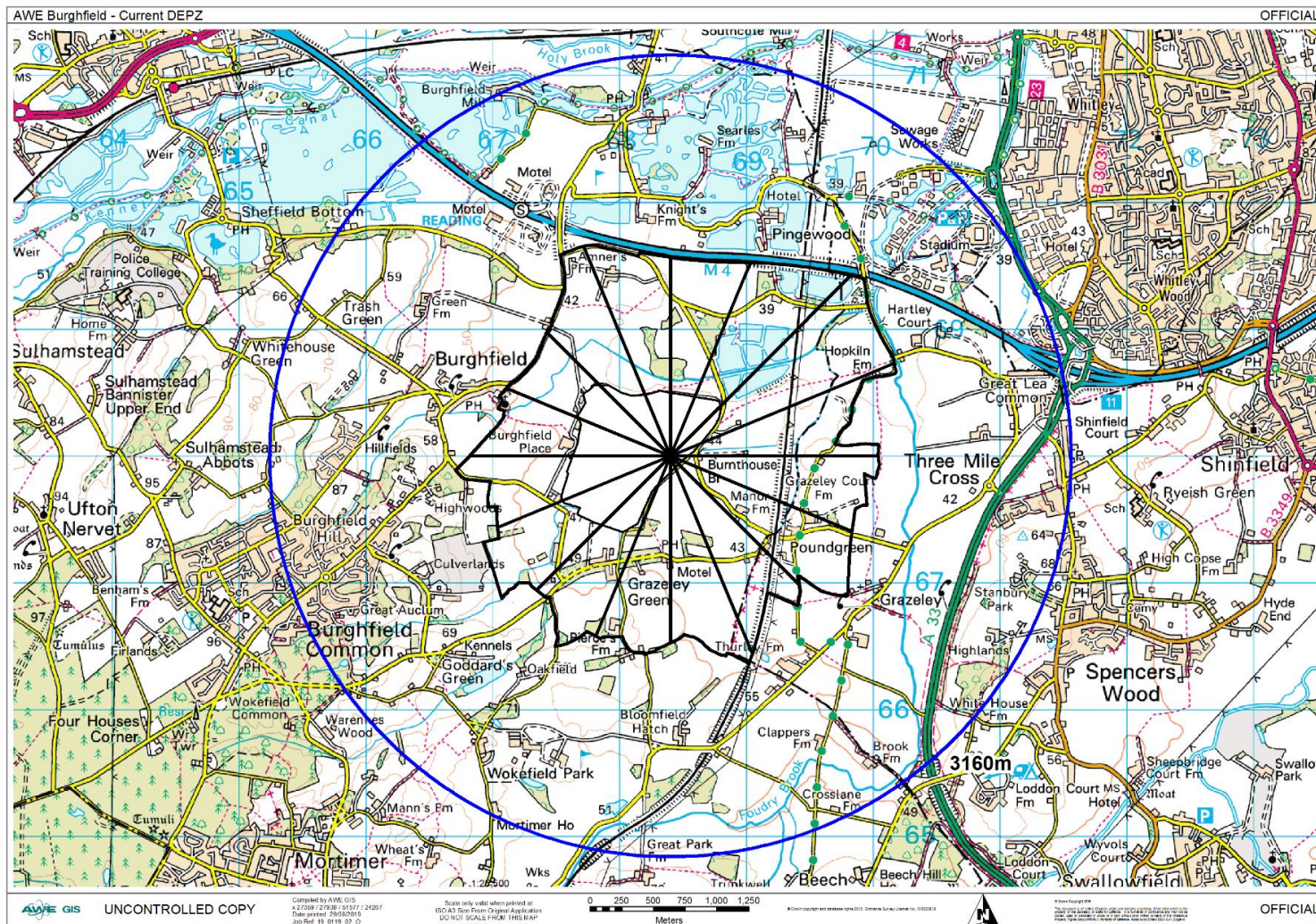
2. *Regulation 7(3) Schedule 4, paragraph 5(a) – The rationale for its recommendation on the minimum distances for which urgent protective action may need to be taken:*

- a. The minimum distance is established from the guidance provided in support of the Regulations, for the appropriate source terms, and is based on the requirement to identify a distance that has the potential to deliver a 3mSv dose saving, when adopting the recommended urgent protective action; which in this case is sheltering.

3. *Regulation 7(3) Schedule 4, paragraph 5(b) – The rationale for agreement that no off-site planning is required.*

- a. Given the content of this Consequences Report, this requirement does not apply to the Burghfield Site.

Appendix A: Map A – The ragged bold black sector is the current boundary of the Detailed Emergency Planning Zone. The Proposed Urgent Action Distance (blue circle) is set at 3160m for the Burghfield Site.



Appendix B: Map B – The Outline Planning Zone Boundary, set at 12Km for the Burghfield Site.



Appendix C: Definitions

Detailed Emergency Planning Zone (DEPZ)	A zone determined in accordance with Regulation 8 of the REPPIR 2019 Regulations. This is now covered by the Local Authority's off-site emergency plan
Outline Planning Zone (OPZ)	A zone determined in accordance with Regulation 9 of the REPPIR 2019 Regulations and covered by the Local Authority's off-site emergency plan.

AWE Detailed Emergency Planning Zone

Committee considering report:	Corporate Board
Date of Committee:	12 th March 2020
Portfolio Member:	Councillor Hilary Cole
Date Head of Service agreed report: (for Corporate Board)	4 th March 2020
Date Portfolio Member agreed report:	4 th March 2020
Report Author:	Carolyn Richardson/Paul Anstey
Forward Plan Ref:	

1. Purpose of the Report

- 1.1 To explain the implications of the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPPIR 19) on the Council.
- 1.2 To determine the new Detailed Emergency Planning Zones (DEPZ) around both Atomic Weapons Establishment (AWE) sites as required under REPPPIR 19.
- 1.3 To identify next steps in relation to the AWE Off-Site Emergency Plan.

2. Recommendations

- 2.1 To note the implications of REPPPIR 19 on the Council.
- 2.2 That the Head of Public Protection and Culture determine the DEPZ at AWE Aldermaston and AWE Burghfield in accordance with the content of this report, and as more particularly shown in Appendix A.

3. Implications and Impact Assessment

Implication	Commentary
Financial:	<p>The time spent by officers in relation to most activities required to be undertaken by this Council can be recharged to AWE. This is set out in REPPPIR 19.</p> <p>Costs arising from other partners can also be recovered.</p> <p>Costs must be reasonable and proportionate.</p>
Human Resource:	<p>No direct HR implications.</p> <p>To note: some additional resources are being sourced to back fill the other work in the team to allow this project to be completed by the deadline.</p>
Legal:	<p>Failure to comply with the legislation may result in the regulators, who are the Office for Nuclear Regulation (ONR), taking enforcement action against the Council.</p>

Risk Management:	<p>It is important to note that there are no changes in activity on the AWE sites, and there is no greater risk to the public than before this legislation was introduced.</p> <p>REPPIR 2019 together with the associated Code of Practice and guidance seek to establish a framework to ensure the appropriate management of risks in accordance with the legislative framework.</p> <p>Failure to comply with REPPIR 19 could result in enforcement action leading to some financial and reputational impacts.</p>		
Property:	No direct implications.		
Policy:	No		
	Positive	Neutral	Negative
			Commentary
Equalities Impact:			
A Are there any aspects of the proposed decision, including how it is delivered or accessed, that could impact on inequality?		X	The process will consider this as part of the AWE Off-Site Emergency Plan.
B Will the proposed decision have an impact upon the lives of people with protected characteristics, including employees and service users?		X	The process will consider this as part of the AWE Off-Site Emergency Plan.
Environmental Impact:		X	There is no greater risk as a result of the DEPZ changes being put in place.
Health Impact:		X	People living in the proposed DEPZ will have the benefit of appropriate mitigation measures identified in the Off-Site Emergency Plan.
ICT or Digital Services Impact:		X	
Council Strategy Priorities or Business as Usual:		X	Business as Usual.
Data Impact:		X	
Consultation and Engagement:	Amy Gower, Paul Anstey, John Ashworth, Sarah Clarke, Lewis Powys, Joseph Holmes		

4. Executive Summary

- 4.1 This report explains the implications of the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPIR 19) for the Council. This includes the need to determine the new Detailed Emergency Planning Zones (DEPZ) around both Atomic Weapons Establishment (AWE) sites.
- 4.2 The DEPZ is the defined zone around the nuclear site where it is necessary to pre-define protective actions which would be implemented without delay to mitigate the likely consequences of a radiation emergency. There are requirements in REPPIR 19 and its Approved Code of Practice (ACoP) detailing how to determine the DEPZ. The Council have one year to comply in full by 21st May 2020 with REPPIR 19.
- 4.3 This report sets out the reasons for the determination, the process which has been followed and identifies next steps in relation to the AWE Off-Site Emergency Plan.

5. Supporting Information

5.1 Introduction

- 5.1.1 The Atomic Weapons Establishments (AWE) at Aldermaston and Burghfield are both nuclear licensed sites with the role of manufacturing, maintaining and developing the nuclear weapons for the Ministry of Defence.
- 5.1.2 There is a wide range of legislation relating to these sites in order to ensure that, as far as practicable, they operate safely. There is a requirement to have an effective on-site response in place to ensure both the safety of workers and the public outside the site boundaries. Further, there must be an appropriate Off-Site plan in place with external partners to protect the public should the need arise.
- 5.1.3 The majority of the regulatory requirements are for the operator, AWE Plc, to comply with and seek to ensure incidents do not occur. However West Berkshire Council, along with other agencies, also have responsibilities under REPPIR 19.

5.2 Background

- 5.2.1 On 22nd May 2019, the Government introduced REPPIR 19 to strengthen the national emergency preparedness and response arrangements for radiological emergencies. The new legislation replaced the Radiation (Emergency Preparedness and Public Information) Regulations 2001. All 36 UK nuclear sites working with 'ionising radiation' (as defined by the legislation) have one year to comply in full by 21st May 2020.
- 5.2.2 The principal changes under REPPIR 19, with implications for the Council are set out below. The Council must:
 - i. Determine the Detailed Emergency Planning Zone (DEPZ). The DEPZ is the geographic area that the AWE Off-Site Emergency Plan must cover in detail and the Council, along with the other agencies involved in the AWE Off-Site Emergency Plan, must be able to support. Previously the function of determining the DEPZ was undertaken by ONR.
 - ii. Provide information to the public within the DEPZ areas. Previously this was done by the site Operator.

- iii. Appoint a Radiation Protection Advisor.
- iv. Review and revise the AWE Off-Site Emergency Plan. The Council had responsibility for this since 2001, but this must now be reviewed to ensure compliance with REPPiR 19 and to take into account the changes in the zone. The Council must prepare an adequate off-site emergency plan which must be designed to mitigate, so far as is reasonably practicable, the consequences of a radiation emergency impacting outside the operator's premises. The Council must also ensure that the Off-Site Plan can be put into effect without delay.

5.2.3 The main focus of this report is in relation to the determination of the DEPZ. This must be determined to enable the AWE Off-Site Emergency Plan to be progressed and completed by 21st May 2020.

5.3 Detailed Emergency Planning Zone (DEPZ) Determination

There is a legal process in place in order to allow the DEPZ to be determined which is clearly set out in the legislation and ACoP and detailed below with respect to the process and progress for the AWE sites:

5.3.1 Hazard Evaluation and Consequence Assessment (HECA) (Regulations 4, 5 & 6)

The first part of the process requires AWE as the site operator to provide a Consequence Report to this Council and the Regulators. In order to do so, AWE's technical experts undertook a Hazard Evaluation and Consequences Assessment (HECA) (the equivalent of what used to be known as the HIRE – Hazard Identification and Risk Evaluation under REPPiR 2001).

AWE Aldermaston and AWE Burghfield have different inventories of radioactive and explosive materials and therefore different fault scenarios are applicable to each site under the legislation. In particular, a key change in REPPiR 19 Schedule 3 requires the operator to consider risks which may be less likely, but can lead to greater consequences.

The consequence assessment therefore considered a greater range of weather conditions than previous assessments under REPPiR 2001. Specific types of weather were more likely to be experienced in the geographical vicinity of AWE.

In addition the previous 'boundary' of 5mSv (the dose that a person may be exposed to over a year period post any radiation emergency) is no longer valid.

5.3.2 Consequence Report (Regulation 7)

Based on the results of the assessment, AWE, as the operator, must propose the minimum area for any Urgent Protective Actions (UPA) required in the unlikely event of a radiation emergency with off-site impact.

The UPA forms the basis of the information provided to the Council and ONR in a document called the Consequence Report (CR). These reports set out the minimum areas to be included in the DEPZ, what the urgent protective action should be and how quickly it would need to be put in place in order to protect the public. These reports were due to be received by the Council on 21st September 2019. Due to governance processes within AWE and the MoD, they were not however released to the Council until 21st November 2019.

Both sites have different UPA areas under the REPPiR 19 assessment, than they had previously. It should be noted that for both sites there has been no change in activity, safety or risk, but a change in criteria required to evaluate the risks against. The differences between the two sites with respect to the scale of change relates to what materials are on each site, the amounts involved and what processes are undertaken at each of the sites.

5.3.3 Outline Planning Zone (OPZ)

This is concerned with information and communication to a wider community and whilst it is a much lower level of planning it covers considerations for rare but potentially more serious events.

5.3.4 Independent Assurance

Not all councils have the technical expertise nor the security clearance to review the Consequence Reports in detail. As a result, Public Health England Centre for Radiation, Chemical and Environmental Hazards (PHE CRCE) undertook to review reports submitted from all 36 UK nuclear sites.

Officers requested support on 21st November 2020 from PHE CRCE for their technical experts to review the AWE Consequence Reports and provide feedback. This has provided independent assurance to the Council that the information provided from AWE was valid.

The feedback was received on 10th January 2020 and confirmed that PHE CRCE were satisfied with the approach and outcomes of both AWE site Consequence Reports. It should be noted that for some nuclear sites, the report from the operator and the feedback from PHE CRCE did not agree, and it was therefore important to get the independent review and assurance in advance of undertaking more work on the potential new DEPZ.

5.3.5 Review of Consequence Report (Regulation 7)

On receipt of the Consequence Reports AWE and the Council met to consider the implications whilst pending the response from PHE CRCE. This included reviewing the Consequence Report to ensure it met the requirements of Schedule 4 of REPPiR 19 and there was a clear understanding of why there were changes in the proposed areas for both AWE sites.

5.4 AWE Aldermaston Consequence Report Summary:

5.4.1 Urgent Protection Actions (UPA) area for the site is a 1540m radius. However based on analysis of vulnerable groups exposure to tritium it was further recommended to extend the minimum area out to 2000m.

5.4.2 Outline Planning Zone (OPZ) area for the site is a radius 15km.

5.4.3 The recommended Urgent Protective Action (UPA) is shelter.

5.4.4 Timescales for undertaking the UPA (Shelter) is as soon as possible.

5.5 AWE Burghfield Consequence Report Summary:

5.5.1 Urgent Protective Actions (UPA) area for the site is a radius of 3160m.

5.5.2 Outline Planning Zone (OPZ) area for the site is a radius of 12km.

5.5.3 The recommended Urgent Protective Action (UPA) is shelter.

5.5.4 Timescales for undertaking the UPA (Shelter) is as soon as possible and no later than 25 minutes from the start of the incident.

5.5.5 The main reason for the change in the UPA for this site relate to the operations on the site, different fault sequence scenarios and importantly the weather conditions.

5.6 Developing the DEPZ (Regulation 8)

5.6.1 The distances identified in the Consequence Reports determine the minimum boundaries for the area to be included in the DEPZ and subsequent UPA. Those properties within the DEPZ are therefore afforded a warning system to alert them to take shelter as soon as possible and minimise the risk to their health.

5.6.2 In addition to the minimum geographic extent and, as set out in the regulations and ACoP, there are additional requirements to consider when developing the DEPZ:

Reg 8 (1) *The local authority must determine the detailed emergency planning zone on the basis of the operator's recommendation made under (paragraph 2) of Schedule 4 and may extend that area in consideration of.*

- (a) local geographic, demographic and practical implementation issues;*
- (b) the need to avoid, where practicable, the bisection of local communities; and*
- (c) the inclusion of vulnerable groups immediately adjacent to the area proposed by the operator.*

The ACOP provides further details to be considered:

The detailed emergency planning zone must be based on the minimum geographical extent proposed by the operator in the consequences report and should:

- (a) be of sufficient extent to enable an adequate response to a range of emergencies; and*
- (b) reflect the benefits and detriments of protective action by considering an appropriate balance between;*
 - i. dose averted; and*
 - ii. the impact of implementing protective actions in a radiation emergency across too wide an area.*

In defining the boundary of a detailed emergency planning zone, geographic features should be used for ease of implementing the local authority's off-site emergency plan. Physical features such as roads, rivers, railways or footpaths should be considered as well as political or postcode boundaries, particularly where these features and concepts correspond with other local authority emergency planning arrangements.

5.6.3 The above criteria is the same as that used by the regulators (ONR) when they had responsibility for determining the DEPZ.

5.6.4 The process for assessing and developing the DEPZs for both sites followed the legislative requirements. A desk top exercise was initially undertaken to review maps and consider the options. Site visits were subsequently conducted in the areas concerned to confirm what was shown on the map was the same in reality, which was often not the case due to new developments. The output of this process was a draft

DEPZ with justifications as to why some routes were chosen, all of which were based on the legal requirements.

- 5.6.5 In preparation for the work Officers undertook training provided by the regulators in July 2019, accompanying other officers from Local Authorities with nuclear sites. In preparation, officers attended the Local Authority Nuclear Working Group, involving all Councils with Nuclear sites, and is supported with attendance by a number of other agencies including the regulators (ONR), the lead government department (BEIS), Public Health England CRCE and the Ministry of Defence. The group aims to support each other and challenge other agencies as appropriate.

5.7 Liaising with relevant organisations

- 5.7.1 Although no formal consultation is required under the legislation and ACoP, the guidance suggests that the Council may liaise with other organisations to consider the draft DEPZ.
- 5.7.2 In view of the cross border implications of the revised UPA area, liaising with the AWE Off-Site Planning Group (OSPG) was considered the best approach, since it was already a formed group of agencies with knowledge of the AWE sites and emergency planning. As a result that group was consulted.
- 5.7.3 On the 6th January 2020 there was a meeting of the AWE OSPG where a presentation was provided giving background information and the proposed details of the DEPZs for each site, and in particular for AWE Burghfield why the areas had been considered. It was heavily caveated at that stage since the feedback on the Consequence Report had not been received from PHE CRCE. It therefore allowed an opportunity for agencies to ask questions about the routes at that early stage. The majority of stakeholders who form the OSPG were in attendance.
- 5.7.4 From the 13th January 2020 to 27th January 2020, the AWE OSPG were provided with the proposed DEPZ documentation, an interactive map to allow them to drill down into the detail for each area and a feedback form to provide feedback to the emergency planning team. Nine consultees (56%) impacted by the AWE Aldermaston site responded within the timeline; and ten (56%) consultees impacted by the AWE Burghfield site responded within the timeline.
- 5.7.5 On the 17th January 2020 the Consequence Reports were shared with the AWE Off-Site Planning Group, following permission to share from AWE, along with a reminder about the closing date for the consultation.
- 5.7.6 A small number of responses were provided outside the timeframe and those were also considered.

5.8 Confirming the DEPZ (Regulation 8 (2))

Following the feedback from the AWE OSPG and the other consultation as detailed above the points raised were reviewed, checked against the mapping, the legislation, the ACoP and followed up with confirmatory visits. The outcome for both DEPZs following this review are detailed in Appendix A.

- 5.8.1 **AWE Aldermaston:** It is proposed not to change the current DEPZ around the AWE Aldermaston site. This proposal is based on:

- i. the UPA along with the additional information relating to potential risks to health as a result of Tritium impacts
- ii. feedback received
- iii. having regard to the wider requirements and guidance in particular not bisecting communities.
- iv. the other OSPG agencies agree with this approach including Hampshire County Council where the largest impact would manifest.

5.8.2 **AWE Burghfield:** Due to the changes identified in the Consequence Report, and taking into account the feedback from the consultation, the proposed DEPZ is based on:

- i. the UPA information in the Consequence Report
- ii. feedback received
- iii. additional comments
- iv. having regard to the wider requirements and guidance in particular not bisecting communities and managing the alerting process.

5.9 DEPZ Proposals and Outline Planning Zones

5.9.1 The final DEPZs proposals for both sites are set out in [Appendix A](#).

5.9.2 The Outline Planning Zones, as determined by the Ministry of Defence, are detailed in [Appendix B](#).

5.10 Implications of Proposed DEPZs

5.10.1 **AWE Aldermaston.** Since there is no proposed change in the DEPZ there will be no significant implications other than revising the Off-Site Emergency Plan in line with REPIR 19.

5.10.2 **AWE Burghfield.** As a result of the enlarged DEPZ, there are a number of implications including:

- i. A number of communities being included in the DEPZ which had not been before including Burghfield Common (West Berkshire), Green Park (Reading), Three Mile Cross and Spencers Wood (both Wokingham). As a result there may be questions raised by these communities as to why they are now within the DEPZ. In line with best practice for previous determinations by ONR, a comprehensive Communications Plan is in place.
- ii. The number of properties affected will increase. The table below shows the number of residential properties and others (commercial, farms etc). A more detailed review of the communities within the DEPZ will be conducted after the determination. It should also be noted that this does not include approved developments which have not yet been built.

	AWE B DEPZ	AWE A DEPZ
Residential properties	6651	7154
Other (everything else)	2887	1819
TOTAL	9538	8973

- iii. Additional Town, Parish and Ward areas affected. Geographically there are a number of new parishes and wards which are now affected by the DEPZ for the first time or more affected. Positively with the exception of Bradfield (WBDC), Whitley, Minster & Southcote (RBC) they have all been engaged in the AWE Local Liaison Committee and therefore they have representatives who have an understanding of the AWE sites, what they do and the associated risks.

5.11 Next Steps

5.11.1 **Revising the AWE Off-Site Emergency Plan** in order to mitigate the impact for those people/properties now included in the DEPZ. This requires a substantial piece of work in relation to confirming the number of residential and commercial units existing within the area and those locations where planning permission has already been granted and the application is still valid. Thereafter work is required to confirm the best countermeasures to be put in place after the initial Urgent Protection Action of shelter is in place, taking into account the fact that the protective value of sheltering in a building beyond 48hrs reduces. This would include undertaking a coordinated movement of people from homes and workplaces, road closures and supporting those who may have been out of their homes at the time of an incident.

REPPIR 19 makes it clear that where neighbouring authorities are to be involved in the process they must make their own arrangements to meet the requirements of the Off-Site Plan. It is not for the Council to underwrite that risk.

5.11.2 **Informing the community** within the DEPZ that they are in it and what they should do in the event of an incident at either of the sites. This will need to be undertaken sensitively, in particular for those who have not been within the DEPZ before, hence the detailed Communications Plan. It would also take into account guidance for businesses and specific risk sites such as the Madjeski stadium which is an open area site which can hold a large number of people.

6. Other options considered

A number of alternative shapes for the revised DEPZ were considered but subsequently discounted as they did not meet the requirements detailed within REPPIR 19 together with the ACoP and guidance.

7. Conclusion

7.1 REPPIR 19 was passed by the Government to provide a suitable framework to ensure the safety of the public and workers in the event of a radiation emergency. It is important to note that there are no changes in activity at either AWE Aldermaston or AWE Burghfield, and there is no greater risk to the public than before the legislation was introduced.

7.2 The role of the Council is fourfold:

- i. To draw the boundary of the Detailed Emergency Planning Zone (DEPZ) for each site, based on a minimum area determined by the operator (AWE), taking into account those matters detailed within the legislation and guidance such as local communities, geographical features, etc. As noted above, the DEPZ is the geographic area that the AWE Off-Site Emergency Plan must cover in detail and the Council, along with

the other agencies involved in the AWE Off-Site Emergency Plan, must be able to support – previously this was determined by ONR.

- ii. To provide information to the public within the DEPZ areas. Previously this was done by AWE.
- iii. To appoint a Radiation Protection Advisor.
- iv. To review and revise the AWE Off-Site Emergency Plan in compliance with REPPiR 19 (taking into account any changes in the DEPZ).

7.3 The Council is required to comply with REPPiR 19 by 21st May 2020. Officers have identified the key actions and timeline to ensure compliance with the legislation.

7.4 The primary focus for the Council in respect of REPPiR 19 is public safety. All actions should be focussed around ensuring the Council protects its residents and businesses, mitigates risk where possible and works closely with AWE and other partners to deliver, in the event of an incident, a comprehensive off-site response by virtue of a good quality Off-Site Emergency Plan.

7.5 The proposed DEPZs for the sites has required careful consideration. There has been detailed liaison with relevant partners and neighbouring local authorities who are directly affected. It should be noted that this is not a requirement of REPPiR 19 but is considered important in maintaining good working relationships.

7.6 It is considered appropriate in the circumstances to determine the DEPZs for AWE Aldermaston and AWE Burghfield in accordance with the recommendations detailed in this report and as more particularly shown on the plans at Appendix A

8. Appendices

Appendix A DEPZ Proposals for each AWE Site

Appendix B Outline Planning Zones for each AWE Site

Officer details:

Name: Carolyn Richardson

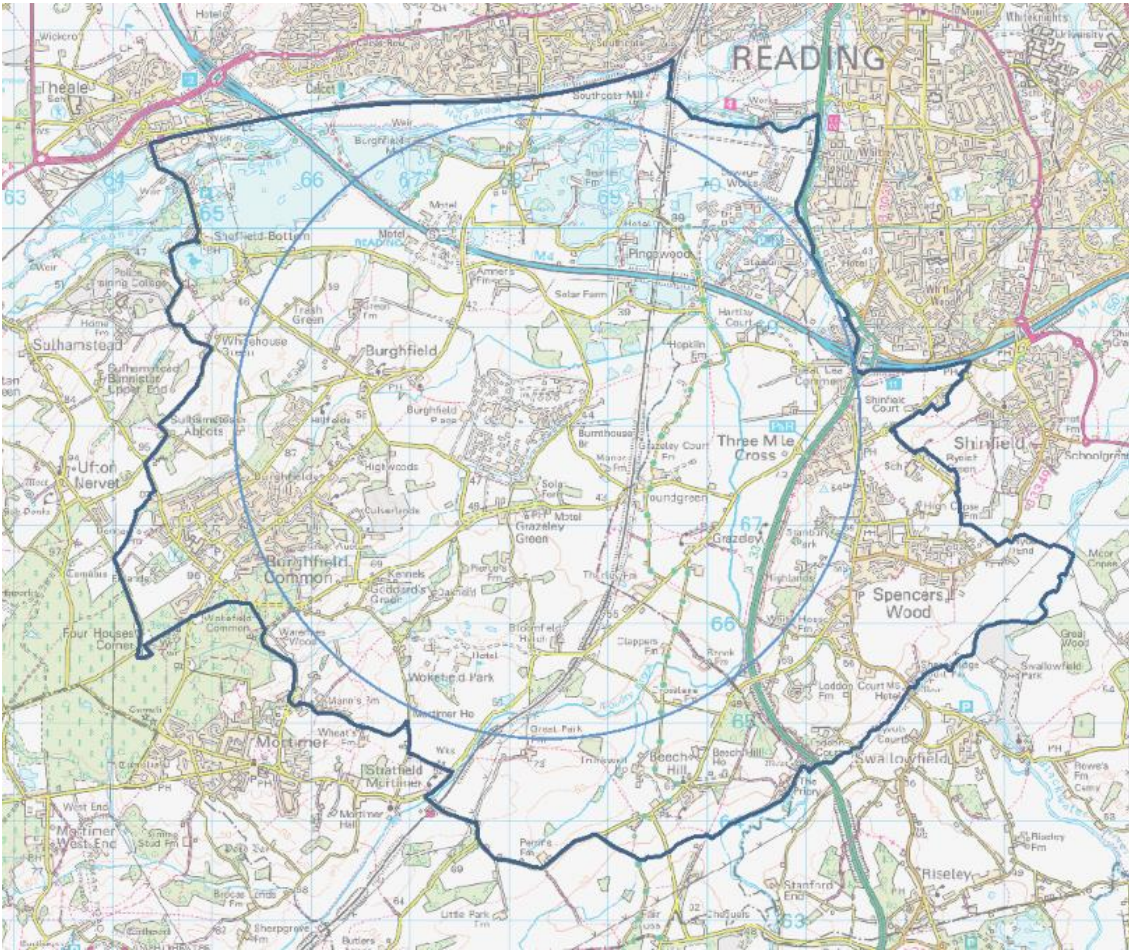
Job Title: Service Manager – Emergency Planning

Appendix A - DEPZ Determination

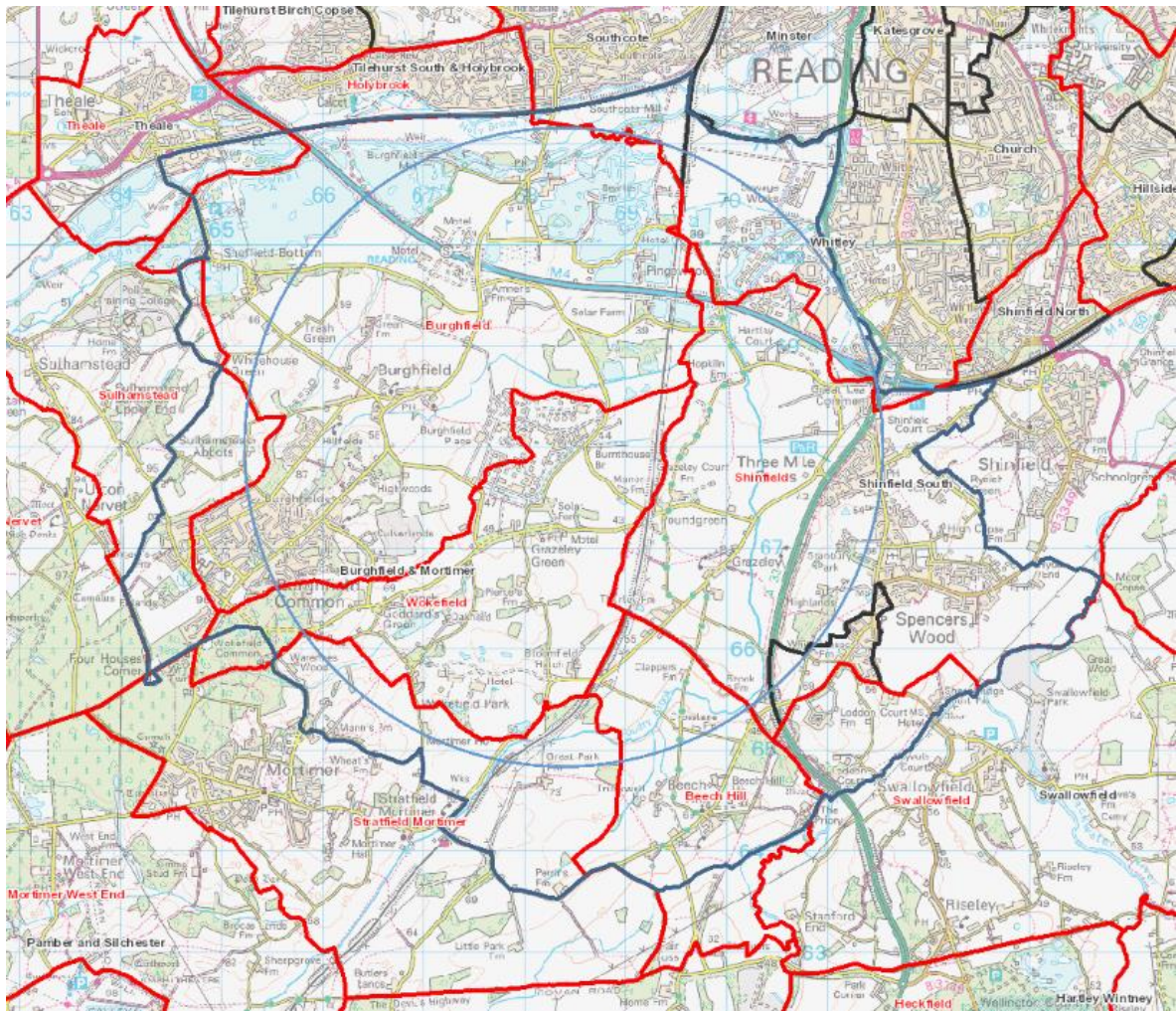
AWE Aldermaston DEPZ



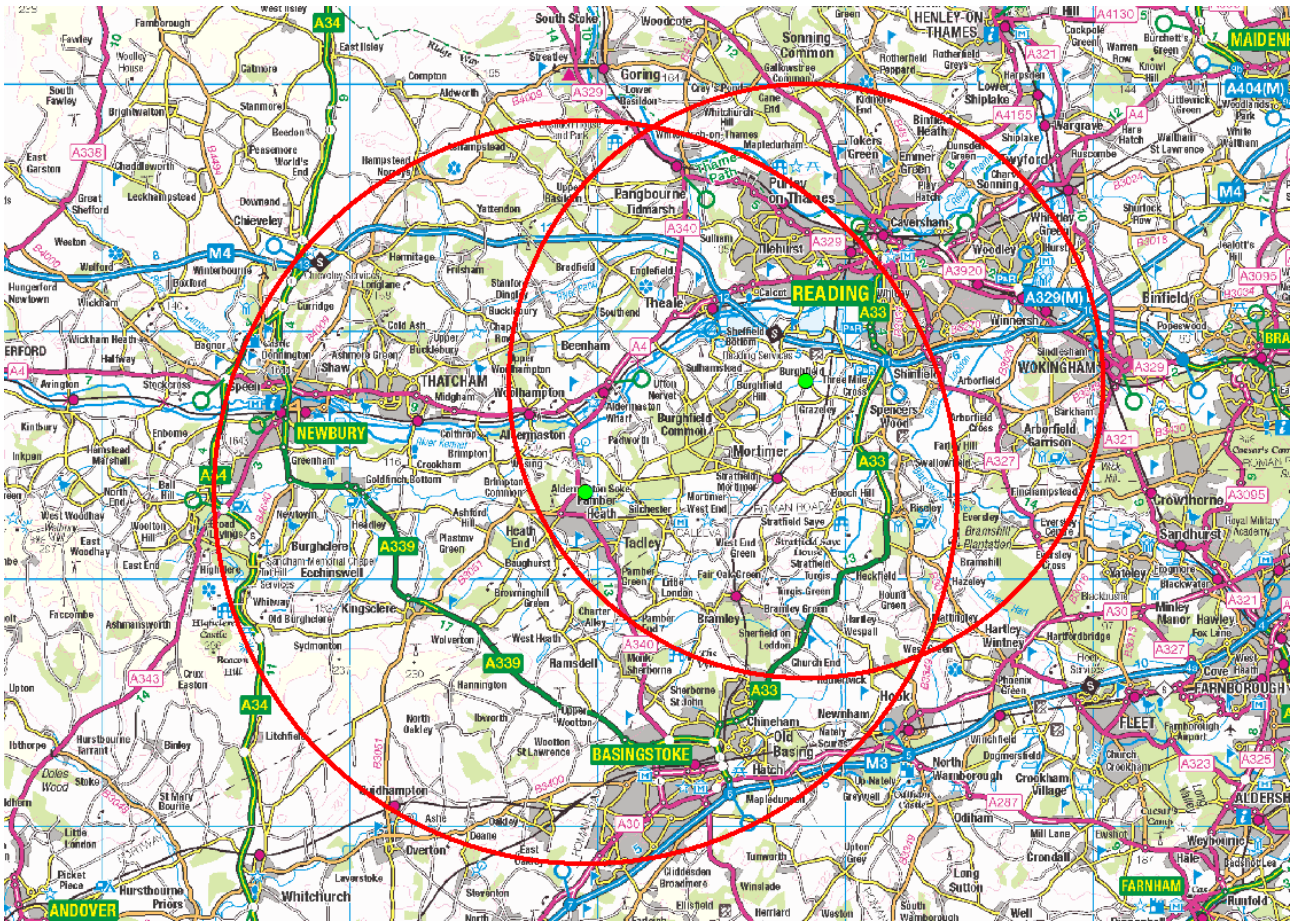
AWE Burghfield DEPZ



AWE Burghfield DEPZ (with Parish Councils (Red Boundaries))



Appendix B - Outline Planning Zones





ATOMIC WEAPONS ESTABLISHMENT

AWE BURGHFIELD

Declaration of No Change REPPIR 2019

© British Crown Owned Copyright 2022/AWE

Published with permission of the Controller of Her Britannic Majesty's Stationery Office.

This document is of United Kingdom origin and contains proprietary information which is the property of the Secretary of State for Defence. It is furnished in confidence and may not be copied, used or disclosed in whole or in part without prior written consent of Defence Intellectual Property Rights DIPR-PL - Ministry of Defence, Abbey Wood, Bristol, BS34 8JH, England.

Introduction

This document contains a “declaration of no change” for AWE Burghfield, in accordance with Regulation 6(2)(b) of The Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPIR 2019).

Review of AWE Burghfield’s last hazard evaluation and consequence assessment

Regulation 6(2) of REPPIR 2019 provides that:

“For such time as the work with ionising radiation in respect of which an evaluation made pursuant to Regulation 4(1) continues, the operator must, within 3 years of the date of the completion of the last evaluation (whether made in accordance with Regulation 4(1) or this paragraph), or longer, if agreed by the regulator, either-

- (a) make a further evaluation; or*
- (b) if there is no change of circumstances which would affect the last Consequences Report required by Regulation 7, make a declaration to that effect.”*

A review of the last AWE Burghfield hazard evaluation and consequence assessment carried out in 2019, as required under Regulation 6(2) of REPPIR 2019, has been completed.

This review process has been undertaken in accordance with the requirements of Regulation 6 of REPPIR 2019 and the current Approved Code of Practice and guidance (second edition 2020).

The evidence gathered by the review process has concluded there has been no change in circumstances or material change which would affect the conclusions of the previous hazard evaluation or consequence assessment required by Regulations 4(1) and 5(1).

Declaration of No Change

This document is a “declaration of no change”, in accordance with Regulation 6(2)(b).

The 2022 review of the 2019 hazard evaluation and consequence assessment has concluded the Consequences Report (Issue 1) dated November 2019 continues to provide the necessary information for the local authority (in this case West Berkshire District Council) to prepare an off-site emergency plan.

AWE Detailed Emergency Planning Zone

Decision Paper:	Service Director Development & Regulation
Date of Decision:	19 th January 2023
Report Authors:	Jonah Maddocks & Carolyn Richardson

1 Purpose of the Report

- 1.1 To provide information and the decisions made in relation to the determination of the Detailed Emergency Planning Zones (DEPZ) around both Atomic Weapons Establishment (AWE) sites review process as required under Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPiR19).
- 1.2 To confirm the next steps to ensure compliance with REPPiR19.

2 Executive Summary

- 2.1 This report explains the need to determine the Detailed Emergency Planning Zones (DEPZ) around both Atomic Weapons Establishment (AWE) sites as required under the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPiR19).
- 2.2 The DEPZ is the defined zone around the nuclear site where it is necessary to pre-define protective actions which would be implemented without delay to mitigate the likely consequences of a radiation emergency.
- 2.3 There are requirements in REPPiR19, the associated Approved Code of Practice (ACoP) and guidance detailing why, how and when to determine or review any DEPZ.
- 2.4 Under REPPiR19 the operator needs to undertake a review of hazard evaluation and consequence assessment within 3 years of the date of the completion of the last evaluation (or longer if agreed with the regulator or earlier should there be material changes in operations on the nuclear site).
- 2.5 The last determination for both AWE sites was in March 2020 with the last Consequence Report received in November 2019.
- 2.6 In undertaking this statutory review the Council has followed the legislation, ACOP and guidance.
- 2.7 The Council had two months to comply from the date of receipt of the information from AWE. This was received on the 18th November 2022 and therefore the date for completion of the process is 18 January 2023. In view of the timeframe over the festive period and the internal governance structure a request was made to the Regulators,

AWE Detailed Emergency Planning Zone

Office for Nuclear Regulation, with a request for an additional day to complete the determination process.

2.8 The options considered are detailed in this report.

2.9 The decision was to:

(a) Amend the DEPZ for AWE Burghfield as detailed in Appendix A.

(b) Make no changes to the DEPZ for AWE Aldermaston.

3 Supporting Information

3.1 There is a legal process in place in order to allow the DEPZ to be determined by the Council which is clearly set out in the legislation, ACoP and guidance. This is summarised in this section with respect to the process for the AWE sites.

3.2 The role of the Council is to:

(a) To determine the boundary of the Detailed Emergency Planning Zone (DEPZ) for each site, based on a minimum area identified by the operator (AWE), taking into account those matters detailed within the legislation and guidance such as local communities, geographical features, etc. As noted above, the DEPZ is the geographic area that the AWE Off-Site Emergency Plan must cover in detail and the Council, along with the other agencies involved in the AWE Off-Site Emergency Plan, must be able to support.

(b) To provide information to the public within the DEPZ areas.

(c) To review and revise the AWE Off-Site Emergency Plan in compliance with REPP19 (taking into account any changes in the DEPZ).

3.3 The Council was required to comply with REPP19 by updating the DEPZ by the 18th January 2023. Officers therefore prepared the key actions and timeline in relation to this deadline. As a result of internal governance and the festive period a request was made to ONR for an additional day to finalise the process.

3.4 The primary focus for the Council in respect of REPP19 is public safety. All actions should be focussed around ensuring the Council protects its residents and businesses, mitigates risk where possible and works closely with AWE and other partners to deliver, in the event of an incident, a comprehensive off-site response by virtue of a good quality Off-Site Emergency Plan.

3.5 In order to undertake the requirements there are a number of steps required of the operator in advance as set out below.

3.6 Hazard Evaluation and Consequence Assessment (HECA) (Regulations 4, 5 & 6)

3.7 The first part of the process requires AWE as the site operator to provide a Consequence Report to this Council and the Regulators. In order to do so, AWEs

technical experts undertook a Hazard Evaluation and Consequences Assessment (HECA).

- 3.8 AWE Aldermaston and AWE Burghfield have different inventories of radioactive and explosive materials and therefore different fault scenarios are applicable to each site under the legislation.
- 3.9 The process is undertaken within 3 years of the date of the completion of the last evaluation of where the operator proposes a material change, or where a material change occurs, in the work with ionising radiation to which an operator was required to make an evaluation pursuant to regulation 4(1).

3.10 Consequence Report (Regulation 7)

- 3.11 Based on the results of the assessment, AWE, as the operator, must propose the minimum area for any Urgent Protective Actions (UPA) required in the unlikely event of a radiation emergency with an off-site impact.
- 3.12 The UPA forms the basis of the information provided to the Council and the regulators, ONR, in a document called the Consequence Report (CR). These reports, one for each AWE site, set out the minimum areas to be included in the DEPZ, what the urgent protective action(s) should be and how quickly it would need to be put in place in order to protect the public.
- 3.13 The latest Consequence Reports for each site were received by the Council on the 18th November 2022.
- 3.14 There has been **no change** to the UPA areas for either AWE site under the REPP19 HECA. It should also be noted that for both sites there has been no change in activity or risk.

3.15 AWE Aldermaston Consequence Report Summary:

- (a) Urgent Protection Actions (UPA) area for the site is a 1540m radius. However based on analysis of vulnerable groups exposure to tritium it was further recommended to extend the minimum area out to 2000m.
- (b) Outline Planning Zone (OPZ) area for the site is a radius 15km.
- (c) The recommended Urgent Protective Action (UPA) is shelter.
- (d) Timescales for undertaking the UPA (Shelter) is as soon as possible.

3.16 AWE Burghfield Consequence Report Summary:

- (a) Urgent Protective Actions (UPA) area for the site is a radius of 3160m.
- (b) Outline Planning Zone (OPZ) area for the site is a radius of 12km.
- (c) The recommended Urgent Protective Action (UPA) is shelter.

- (d) Timescales for undertaking the UPA (Shelter) is as soon as possible and no later than 25 minutes from the start of the incident.

3.17 Developing the DEPZ (Regulation 8)

3.18 The distances identified in the Consequence Reports determine the **minimum** boundaries for the area to be included in the DEPZ and subsequent OPZ.

3.19 In addition to the minimum geographic extent, the UPA, then taking into account the details set out in the regulations, ACoP and guidance, there are additional requirements to consider when developing the DEPZ.

3.20 Reg 8 (1) requires that the local authority must determine the DEPZ on the basis of the operator's recommendation made under (paragraph 2) of Schedule 4 and may extend that area in consideration of:

- (a) local geographic, demographic and practical implementation issues;
- (b) the need to avoid, where practicable, the bisection of local communities; and
- (c) the inclusion of vulnerable groups immediately adjacent to the area proposed by the operator.

3.21 Those properties within the DEPZ are therefore afforded a means of warning and informing process to alert them to take shelter as soon as possible and minimise the risk to their health.

3.22 The ACOP provides further details to be considered:

3.23 The DEPZ must be based on the minimum geographical extent proposed by the operator in the consequences report and should:

- a. be of sufficient extent to enable an adequate response to a range of emergencies; and
- b. reflect the benefits and detriments of protective action by considering an appropriate balance between;
 - i. dose averted; and
 - ii. the impact of implementing protective actions in a radiation emergency across too wide an area.

3.24 In defining the boundary of a DEPZ, geographic features should be used for ease of implementing the local authority's off-site emergency plan. Physical features such as roads, rivers, railways or footpaths should be considered as well as political or postcode boundaries, particularly where these features and concepts correspond with other local authority emergency planning arrangements.

3.25 Actions undertaken to determine the DEPZ

3.26 The process for assessing and developing the DEPZs for both sites followed the legislative requirements and included:

- (a) A desk top exercise was initially undertaken to review maps and consider the options.
- (b) Site visits were subsequently conducted in the areas concerned to confirm what was shown on the map was the same in reality, having regard to any new developments, changes in features etc. This was jointly undertaken, where appropriate, with the Emergency Planning Officers from Wokingham, Reading and Hampshire Councils. These were undertaken in advance of receipt of the Consequence Report (CR) due to the timings involved in the process. If the CR had been significantly different then further site visits would have been undertaken.
- (c) A review of all the planning applications which have been approved but not developed which were still valid was undertaken in order to check they were not going to result in a bisection of the DEPZ should they be built in the next 3 years. At this time there are no developments with planning permission which will impact the DEPZ boundary as determined within this report.

3.27 The output of this process was a draft DEPZ with justifications as to why some suggested amendments to the DEPZ were offered, all of which were based on the legal requirements. These are shown in Appendix A.

3.28 Liaising with relevant organisations

3.29 Although no formal consultation is required under the legislation and the ACoP, the guidance suggests that the Council may liaise with other organisations to consider the draft DEPZ.

3.30 In view of the cross border implications of the revised DEPZ area, liaising with the AWE Off-Site Planning Group (OSPG) was considered the best approach, since it was already a formed group of agencies with knowledge of the AWE sites and emergency planning in detail. As a result the AWE OSPG was consulted.

3.31 On the 24th November 2022 there was a meeting of the AWE OSPG where a presentation was provided giving background information and the proposed details of the DEPZs for each site, as well as access to map with the potential changes.

3.32 At the time of the meeting there was general agreement with the proposed changes.

3.33 The AWE OSPG was given a further two weeks to consider the proposals and provide any suggested changes by 9 December 2022.

3.34 The results of the consultation with the AWE OSPG confirmed that the group agreed with the proposals for the AWE Burghfield Site DEPZ changes.

3.35 There was some feedback in relation to the AWE Aldermaston proposed changes however as noted in Appendix A the implications are more in relation to formalising a situation which already happens by way of notifications etc. and not splitting a

community. The disadvantage to this however is there are properties to the south of the potential expansion, leading to the possibility of more properties being added into the DEPZ which is some distance away from the area where Urgent Protective Actions are necessary.

3.36 Proposed options with Rational

3.37 Following the receipt of the Consequence Reports and using the legislation, ACoP and guidance in undertaking the actions detailed in 5.25 to 5.35 the proposed options are:

- (a) Confirm the minor changes for AWE Aldermaston site as detailed in Appendix A to the AWE Aldermaston DEPZ.
- (b) Confirm one or both changes for the AWE Burghfield site as detailed in Appendix A to the AWE Burghfield DEPZ
- (c) Make no changes to one or both AWE site DEPZ.

3.38 There are no changes for the OPZs for either site.

4 Implications of Proposed DEPZs

4.1 Should options 3.37 (a) or (b) have been approved then the minor increases to both DEPZs will result in eight additional properties being included in the DEPZ. Therefore they would need to be formally written to in order to ensure they are aware of the changes regardless of the fact they have received the booklet and AWE Connect Newsletter previously.

4.2 There would also be some questions in relation to the above changes since there is no change in the UPA, no change in the risks etc. It could also be seen that it was not concluded effectively in 2020. It is however considered that that the options for changing either DEPZ is instead fine tuning the DEPZ following the first determination by this Council in 2020 which is what formal reviews should do.

4.3 There would be no changes to land use planning policies.

5 Feedback from Governance Consultation

5.1 In addition to the AWE Off-Site Planning Group the process and proposed outcomes were considered in advance of a final decision by the Councils Corporate Board, Ops Board and Opposition leaders were briefed.

6 Decision by Service Director – Development and Regulation

6.1 The Service Director- Development & Regulation reviewed the reports prepared and discussed with officers in relation to the proposals in advance of confirming the determination of the DEPZ as per his delegated authority under the Scheme of Delegation as:

- (a) Amend the DEPZ for AWE Burghfield as detailed in Appendix A.

- (b) Make no changes to the DEPZ for AWE Aldermaston. This decision was taken having regard to the details in Appendix A and in particular the potential further extension to the south of Baughurst as a result of more properties south of that area. Therefore the proportionate decision was to make no changes to the DEPZ for AWE Aldermaston.

7 Next Steps

7.1 As a result of the DEPZ determination the following steps will be undertaken:

- (a) Revising the AWE Off-Site Emergency Plan in order to mitigate the impact for those people/properties now included in the DEPZ.
- (b) Informing the new properties within the DEPZ that they are in the DEPZ and what they should do in the event of an incident at either of the sites. A multi-agency Communications Plan lead by WBDC has already been developed to contact these properties, as well as the wider communities of the changes.
- (c) The DEPZ leaflet and website will also be updated and sent to all residents within the DEPZ before the 31st March 2023.

8 Conclusion

8.1 The proposed changes to the DEPZs for both AWE sites as required have received careful consideration, with due consideration to the legislation, ACOP and guidance.

9 Appendices

9.1 Appendix A – DEPZ options

Officer details:

Name: Jonah Maddocks
Job Title: Senior Emergency Planning Officer
Tel No: 01635 503535
E-mail: jonah.maddocks@westberks.gov.uk

Document Control

Document Ref:		Date Created:	
Version:		Date Modified:	
Author:			
Owning Service			

Change History

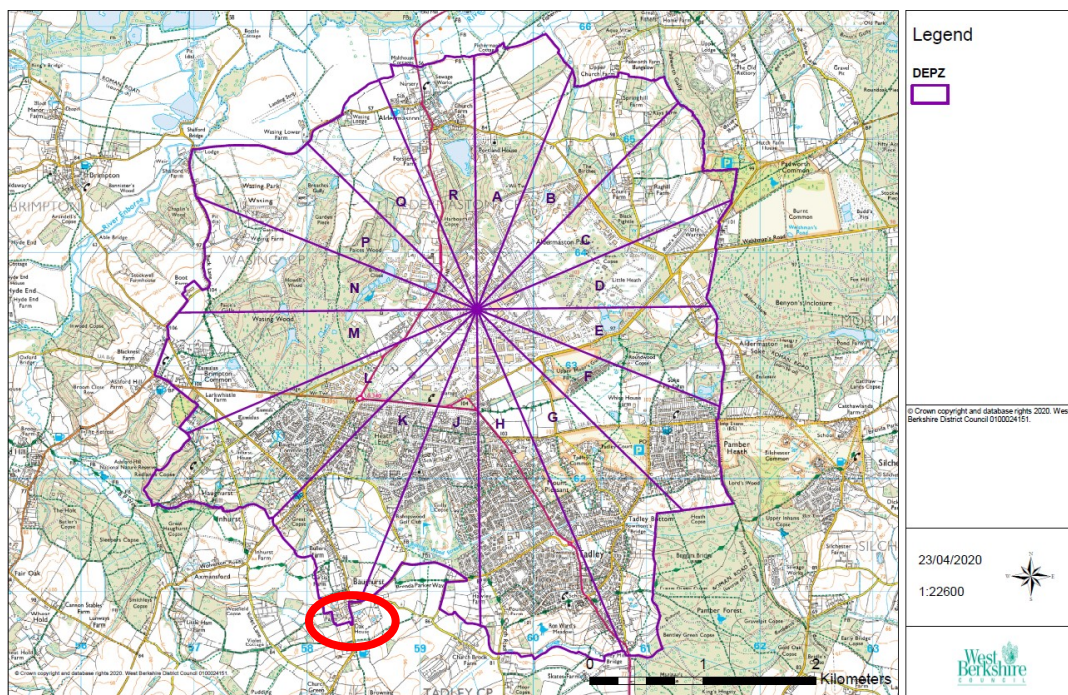
AWE Detailed Emergency Planning Zone

Version	Date	Description	Change ID
1			
2			

Appendix A DEPZ Amendment Options (Regulation 8 (2))

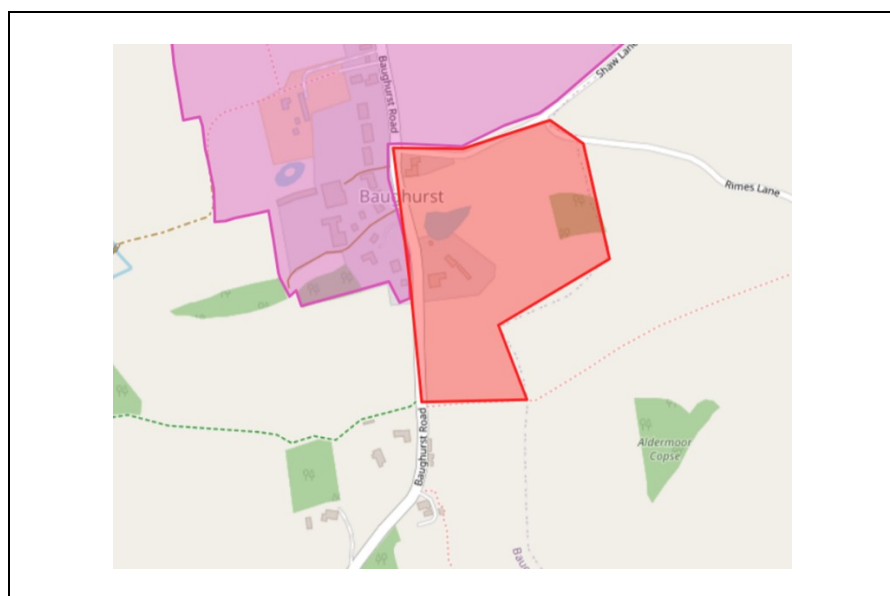
Set out in this appendix are the existing and proposed changes to the AWE Aldermaston and Burghfield DEPZs with relevant justifications. These are based on the requirements of the legislation, ACoP and guidance, site visits and consultation.

Existing AWE Aldermaston site DEPZ (Mar 2020 – Jan 2023):



Potential Changes to AWE Aldermaston site

On reviewing one area of the existing AWE Aldermaston DEPZ there was the potential for changes at the southern end as shown on the map below and as shown by the circle on the map above in the area of: Baughurst Rd, Tadley RG26 5LP



Justification Comments:

The map shows the bisection of the Baughurst community on the eastern side of the road.

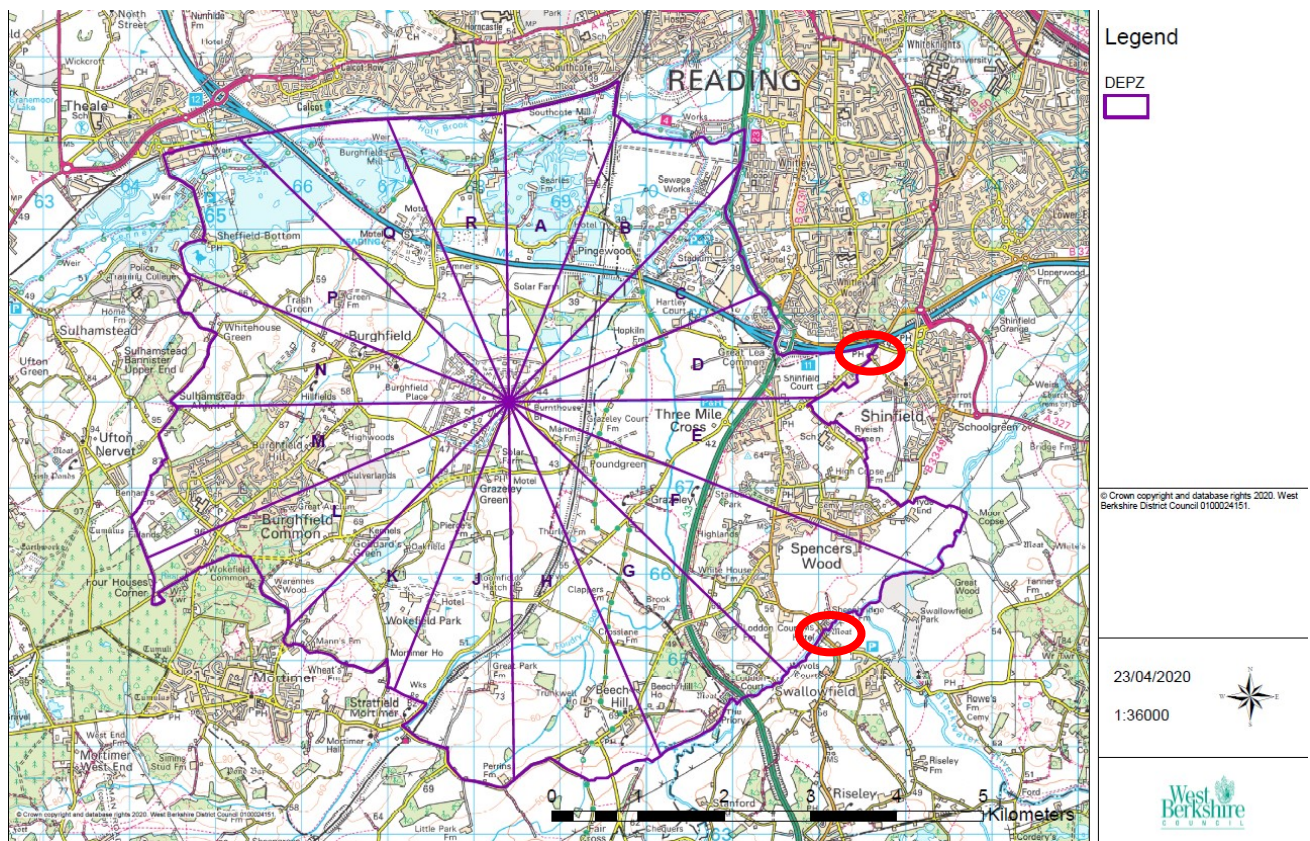
The potential option is to extend the DEPZ by following a public footpath which would act as a clearly visible defining feature.

Factors to consider are that:

- (a) The road, as per the DEPZ, acts as a clear boundary for the DEPZ.
- (b) The number of additional properties would be five.
- (c) Any additional developments proposed in the area would impact on the DEPZ for the future, should all other considerations remain the same, therefore the potential for additional significant development in the area would likely be advised against. Consideration to any such application would however be considered on a case by case basis.
- (d) It does not cut off any additional access routes to surrounding areas, though it would remove an alternative route of access to the area outside the DEPZ. The road may need to have a closure on it and therefore access in and out will be limited.
- (e) The 3 yearly booklet and the quarterly AWE Connect Newsletter is already distributed to the addresses so they could currently be considered to be part of the DEPZ.
- (f) The telephone alerting will also already include the properties within this area since it is based on postcodes.
- (g) There are however additional properties to the south of the potential extension of the DEPZ which could result in a further expansion to include these properties. This would mean expanding the DEPZ at some distance from the Urgent Protective Action area.

Decision: On balance it was considered appropriate **not to include the above option with the DEPZ for AWE Aldermaston remaining the same.**

Existing DEPZ for AWE Burghfield site (Mar 2020 – Jan 2023)

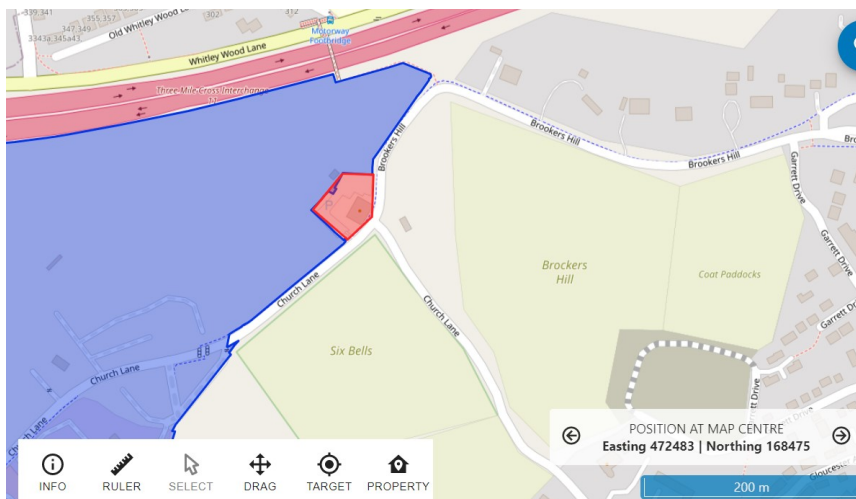


Potential Changes to AWE Burghfield site

On reviewing the area around the existing AWE Burghfield DEPZ there were 2 areas which were considered to be amended to correct minor areas of ambiguity as shown in the map above and sections of the maps below

AWE Detailed Emergency Planning Zone

1. The Six Bells Shinfield, Church Lane, Shinfield, Reading, RG2 9DA - Easting 472593 | Northing 168524



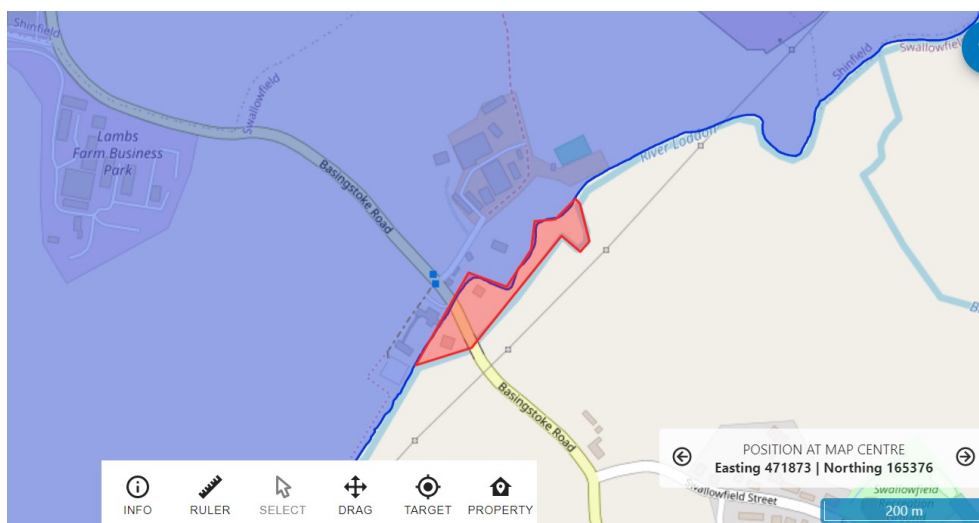
Justification Comments

- a. Previously the site had been excluded since the building identifies with the Shinfield 'Community' and not Spencers Wood which is the rest of the area included in the DEPZ.
- b. This change would therefore use the full length of the road as the boundary rather than go around one property.
- c. The road, as per the DEPZ, acts as a clear boundary for the DEPZ.
- d. Any additional houses proposed in the area would impact on the DEPZ for the future, should all other considerations remain the same, therefore the potential for additional significant development in the area would likely be advised against. Consideration to any such application would however be considered on a case by case basis.
- e. The road may need to have a closure on it and therefore access in and out of the property will be limited.
- f. The 3 yearly booklet and the quarterly AWE Connect Newsletter is already distributed to the addresses so they could currently be considered to be part of the DEPZ.
- g. The telephone alerting will also already include the properties within this area since it is based on postcodes.

Decision: On balance it was considered appropriate to include the above change to the DEPZ for AWE Burghfield.

AWE Detailed Emergency Planning Zone

2. Near Basingstoke Road, Swallowfield, Reading RG7 1PT - Easting 472105 | Northing 165364



Justification Comments

- a. This change would redefine the DEPZ fully along the River Loddon and correct a mapping error as a result of a split in the flow of the river.
- b. The river acts as a clear boundary for the DEPZ.
- c. The change would result in the addition of two properties.
- d. Expanding the DEPZ to bring in the 2 properties would better identify them with the properties adjacent to them in their community, and improve the warning and informing in the event of an incident at AWE.
- e. Expanding the DEPZ will prevent the properties receiving different advice over sheltering in the event of an incident, which are in close proximity to each other, that differing advice could undermine their confidence and therefore safety in the warning messages.
- f. The 3 yearly booklet and the quarterly AWE Connect Newsletter is already distributed to the addresses so they could currently be considered to be part of the DEPZ.
- g. The telephone alerting will also already include the properties within this area since it is based on postcodes.
- h. Any additional houses proposed in the area would impact on the DEPZ for the future, should all other considerations remain the same, therefore the potential for additional significant development in the area would likely be advised against. Consideration to any such application would however be considered on a case by case basis.

Decision: On balance it was considered appropriate to include the above change to the DEPZ for AWE Burghfield.

Appendix 2

AWE Planning Consultation Considerations

Consideration	Details																																			
Planning Application No	22/00244/FULEXT reviewed for PREAPP																																			
Site Location:	Land Rear Of The Hollies, Reading Road, Burghfield Common, Reading																																			
Description of development:	Erection of 32 dwellings including affordable housing, parking, and landscaping. Access via Regis Manor Road																																			
Is the proposed development within the relevant site Detailed Emergency Planning Zone (DEPZ) or area of Outline Planning Zone (OPZ)?	DEPZ																																			
If yes, within which sites DEPZ or area of extendibility does the application fall within (Aldermaston/Burghfield):	AWE Burghfield																																			
If yes which Sector is the proposal within?	M																																			
Current Demographic Information within Sector the sector and 2 adjacent sectors.	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th><i>Residential Units in DEPZ by Sector</i></th> <th><i>Residents In DEPZ by sector</i></th> <th><i>Numbers of residential units out UPA</i></th> <th><i>No of Res units to UPA</i></th> <th><i>Commercial</i></th> <th><i>Vulnerable (care homes /schools)</i></th> </tr> </thead> <tbody> <tr> <td><i>L</i></td> <td>77</td> <td>185</td> <td>41</td> <td>98</td> <td>23</td> <td>9</td> </tr> <tr> <td><i>M</i></td> <td>2566</td> <td>6158</td> <td>397</td> <td>953</td> <td>42</td> <td>3</td> </tr> <tr> <td><i>N</i></td> <td>250</td> <td>600</td> <td>166</td> <td>398</td> <td>31</td> <td>0</td> </tr> <tr> <td><i>Totals</i></td> <td>2893</td> <td>6943</td> <td>604</td> <td>1449</td> <td>122</td> <td>11</td> </tr> </tbody> </table>		<i>Residential Units in DEPZ by Sector</i>	<i>Residents In DEPZ by sector</i>	<i>Numbers of residential units out UPA</i>	<i>No of Res units to UPA</i>	<i>Commercial</i>	<i>Vulnerable (care homes /schools)</i>	<i>L</i>	77	185	41	98	23	9	<i>M</i>	2566	6158	397	953	42	3	<i>N</i>	250	600	166	398	31	0	<i>Totals</i>	2893	6943	604	1449	122	11
	<i>Residential Units in DEPZ by Sector</i>	<i>Residents In DEPZ by sector</i>	<i>Numbers of residential units out UPA</i>	<i>No of Res units to UPA</i>	<i>Commercial</i>	<i>Vulnerable (care homes /schools)</i>																														
<i>L</i>	77	185	41	98	23	9																														
<i>M</i>	2566	6158	397	953	42	3																														
<i>N</i>	250	600	166	398	31	0																														
<i>Totals</i>	2893	6943	604	1449	122	11																														
Is the proposal for:																																				
Residential	Yes																																			
What is the increase in Population Density within the Sector (Based on the average household size to be 2.4 persons per household and details in application relating to employees for business developments)	<p>32 residential dwellings = 32 x 2.4 = increase average of 76.8 (77) people within the area.</p> <p>Total for Sector M in DEPZ with increase: 6235 Total for Sector M in UPA: with increase: 1030</p> <p>NOTE this does not include 100 homes in sector M (Clay Hill Road) which are approved prior to the changes in the DEPZ in 2020 and is still valid – therefore an increase of 240 residents to add to both totals.</p> <p>Everything out to 3160m from the centre point at AWE must be taken account of, and not just the distance to the development, since this is the area where Urgent Protective Actions are required as per the AWE Consequence Report of 2019.</p>																																			
Commercial	No																																			
Mixed:	No																																			
Are there any vulnerable developments proposed?	Not a specific closed vulnerable community e.g. care home/school etc.																																			

Off-Site Plan Considerations

	Consideration	Impact on AWE Off-site Emergency Plan
1	Within DEPZ area or OPZ	DEPZ and within area requiring Urgent Protective Actions (UPA) as per Consequence Report
2	Proximity to Site Boundary	1337m
3	Impact on short term Sheltering – 24 – 48hrs	<p>The proposal is at a distance which should not require immediate evacuation and therefore shelter is the recommended mitigation. With the proviso that everyone does as requested i.e. go in, stay in and tune in then no specific issues in relation to this proposal in that both should have accommodation and suitable amenities to shelter for 24-48hrs</p> <p>However the site is within the UPA (see AWE Consequence Report) therefore taking into account the residential units alone to the edge of the UPA alone there are 397 +100 (Pondhouse Farm) = 497 in sector M alone, totalling 704 when the adjacent too sectors are included. Therefore a total of approximately 1449 + 100 (Pondhouse Farm) + 77 (from this development) a total of 1626 people. Within that population there will be people who need support since they were not in the area at the time and those within the area who are vulnerable and may need support.</p>
4	Impact if requirement for Medium/Long term Sheltering 48hrs+	<p>It is not recommended for shelter beyond 48hrs as a result regardless of the usage – either current or proposed the occupants would need to be ‘evacuated’.</p> <p>The longer people are advised to be under shelter, the greater the potential impact with residents requiring support.</p> <p>If they were not in at the time of the event, then support in alternative accommodation would be necessary which would have an impact on the Local Authority and responders.</p>
5	Requirement for Immediate Evacuation & Impact –including reception and rest centre	<p>This is unlikely although not impossible, due to the distance from the AWE B site and therefore impact on responders to provide support for those within a reception / reset centre would be increased. Those that were not home and outside the DEPZ at the time of an incident would also require support when unable to return home due to cordons, where as those within a hotel could return home.</p>
6	Impact if requirement for subsequent Evacuation–including reception and rest centre	<p>The effect on responders to support an additional 32 dwellings (average increase of 76.8 people) either through shelter or accommodation (reception and rest centres or alike) would have a bearing impact on responders in an already densely populated area, and as a result would have an impact on the off-site emergency plan.</p> <p>This is based on:</p> <p>Some residents will move to friends and family but it is expected based on other evacuations that a. this is not a long term option and b. a significant number of the population may not have that option. Therefore the impact on rest centres and staffing would be significant. It is also a planning assumption that all will need support, a</p>

	Consideration	Impact on AWE Off-site Emergency Plan
		<p>worst case scenario which would mean in the order of 4 emergency rest centres of approx. 450 people. This would need in the order of 40 staff for 2 x 8hr day shifts, and 20 at each 8hr night shift. Therefore for all the rest centres a total of 160 staff per 8hr day shift and 80 for overnight which is a significant number of staff. In addition the resources to support this number of people would also need to be found.</p> <p>Should the development not go ahead the rest centre numbers could be reduced by 1 and the staffing accordingly.</p> <p>It should also be noted this does not account for the vulnerable sites and the commercial units.</p> <p>Therefore this development in an already densely populated area would place the plan at significant risk of failure.</p>
7	Impact on Warning & Informing processes	With the proviso that all homes have a live landline then there should be no adverse issues and/or Cell Broadcasting is in place then the impact would be limited.
8	Day time or night time impact	No difference between day or night time impact.
9	Vulnerable People considerations	Any increase in population normally results in an increase in vulnerable people requiring support in their homes. This development adding 77 new people will be no different. It should not the vulnerabilities can vary from long term physical to mental health issues, to broken legs, pregnancies etc which will vary more over time.
10	Impact on plan from External issues e.g. parents wanting access to children etc.	None specifically – however those not in the area at the time and not allowed into the area will therefore require support in relation to family and friends in the area at the time. As a result another 77 people will add to this issue.
11	Access and Egress Routes	The development site is on one of the main arterial routes through Burghfield and therefore one of the main routes for emergency services too. As a result should they decide to self-evacuate then there may be an impact.
12	Recovery implications	<p>This proposal will provide recovery issues in that they are residential and as a result should they would not be able to remain in their homes or have to move out for the clean up to take place would result in an additional 32 homes to find homes for a period of time – the timescale of which cannot be specified. These homes would only add to the impact which would cause additional strain on the recovery facilities of the Local Authority</p> <p>This would be an additional 32 homes on top of all those already in the area and who would potentially need support.</p> <p>It is clear from flooding events in the area that many had to go out of the district area to get private rental whilst their homes were recovered, in addition other emergencies such as Grenfell resulted in many living in temporary accommodation for over 2 years.</p>

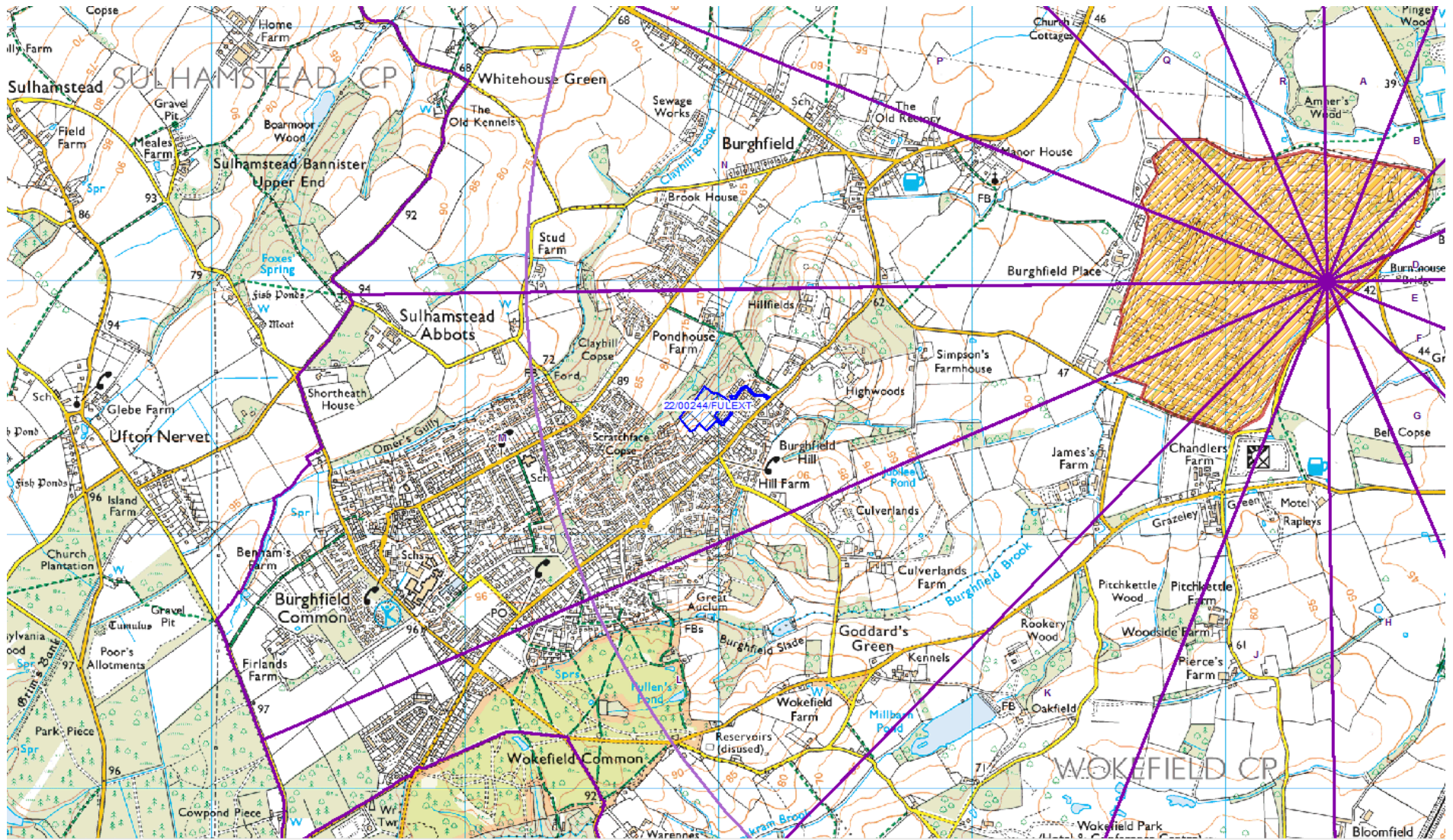
	Consideration	Impact on AWE Off-site Emergency Plan
		<p>It should also be noted that no insurance policies cover for radiation emergencies therefore the home owners options are limited.</p> <p>All of which mean that recovery would be slow and very disruptive to the residents affected which has been shown from other emergencies to result in negative health and wellbeing affects.</p>

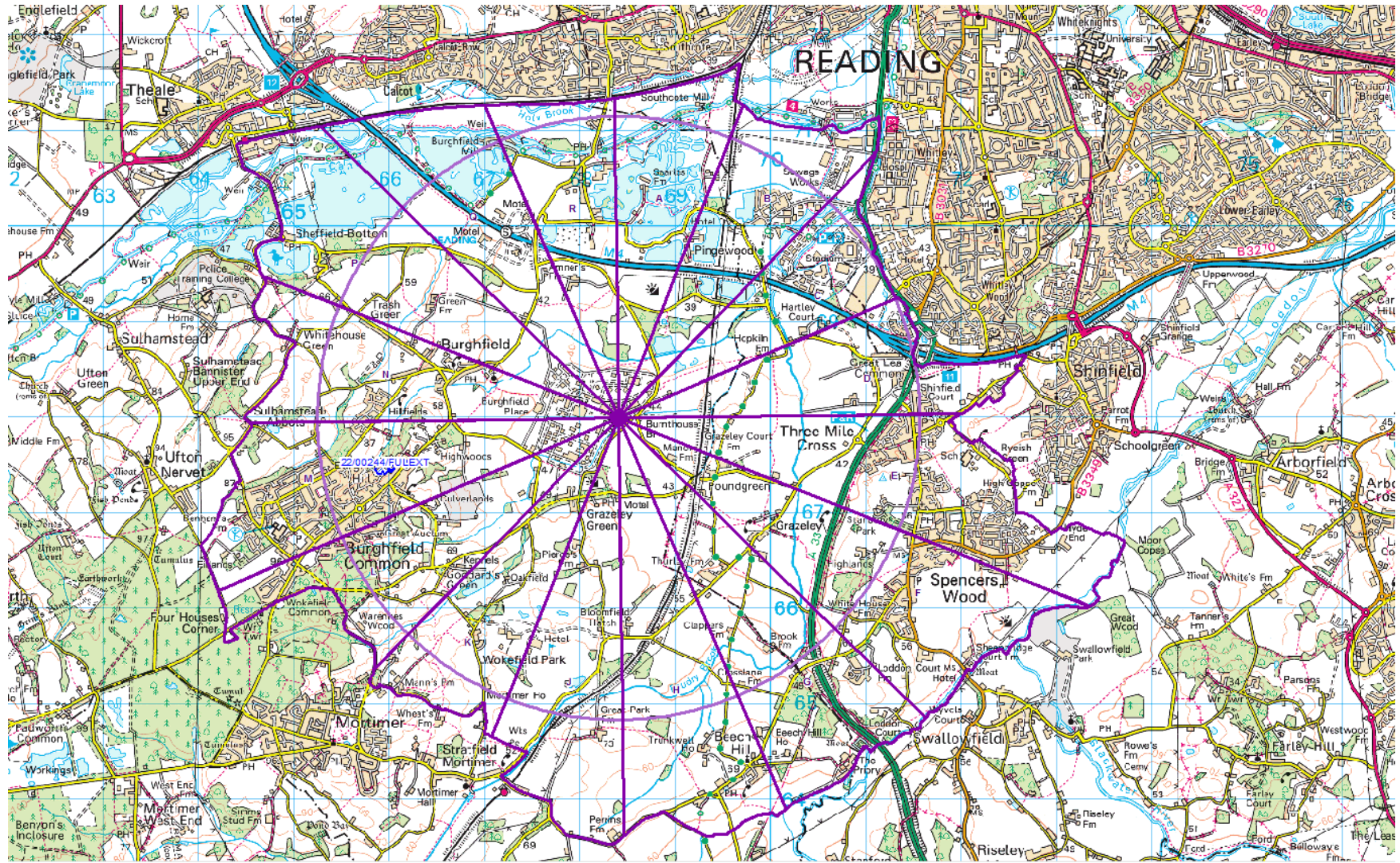
Summary of Considerations:

Whilst it is recognised that the likelihood of a Radiation Emergency from an AWE site is low the risk is there. There are therefore legal requirements including having an adequate Off-Site Emergency Plan. Significantly we cannot assume the contamination will stop before it gets to the proposed development, we cannot also assume the wind would take the contamination in a different direction and we also cannot assume it will be a short emergency and contamination negligible. If we could then the requirements would not be necessary.

It is noted that the site was an allocated site under the West Berkshire Councils Local Plan of 2017. However, a planning application did not come forward until after the redetermination of the DEPZ in March 2020 therefore the data associated with it, unlike the Pond House Farm site have not been included in the annual monitoring. Therefore this would be seen as an additional 32 dwellings, 77 people potentially being placed in harms way in the Urgent Protective Actions area of the Detailed Emergency Planning Zone of AWE Burghfield.

As a result having consulted again with the AWE Off-Site Planning Group the recommendation is to ADVISE AGAINST this application being approved.





Appendix 3

Nigel Lynn
Chief Executive Officer,
West Berkshire Council
Council Offices
Market Street
Newbury
West Berkshire
RG14 5LD
United Kingdom
(by email)

Robert Dakin
Principal Inspector, Nuclear Safety
Redgrave Court
Merton Road
Bootle
Merseyside L20 7HS

Telephone: 0203 028 0344
Email: rob.dakin@onr.gov.uk

Our Reference: 2023/61771
Unique Number:
ONR-TD-EPR-23-034

Date: 29th November 2023

Dear Mr Lynn

Off-Site Emergency Plan for the AWE Nuclear Licensed Sites

I am writing as an Inspector appointed by the Office for Nuclear Regulation (ONR), the statutory regulator for the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPiR'19). These regulations require that West Berkshire Council prepares an adequate off-site emergency plan (OSEP) for the AWE nuclear licensed sites at Aldermaston and Burghfield and that the plan is capable of being put into effect without delay when required.

As part of the ALDEX-23 exercise programme, the Council has recently completed its statutory duties in accordance with REPPiR' 19 to test the plan. The purpose of the test has been to demonstrate that the plan can be practicably implemented and will be effective in the response to a radiation emergency to secure, so far as reasonably practicable, the restriction of exposures to ionising radiation and the health and safety of workers and members of the public.

I consider that the Council has met the legal requirement to test the plan and report the outcomes. ALDEX-23 fulfilled its purpose of testing the OSEP and identifying lessons learned. I recognise that as a result the Council has identified actions across a number of areas of the plan. These supplement outstanding actions from previous tests and exercises, including from the modular tests which concluded in 2022 as part of ALDEX-19.

The significant expansion of the Burghfield detailed emergency planning zone in 2019 (to accommodate changes introduced in REPPiR'19), together with proposals for development of land surrounding the AWE sites, has substantially increased the number of people requiring protection in the event of a radiation emergency. This is resulting in pressures that impact on the practical implementation of the OSEP. ONR is concerned that apparent issues with the delivery of the plan will be exacerbated by further increases in population and improvements are required to address these.

In ONR's opinion, the ALDEX exercises have highlighted that key areas for improvement relate to the management of people displaced by the response to the radiation emergency, either by urgent evacuation or subsequent relocation after the period of sheltering (the protective action during the early phase of an emergency). This relates to the movement of people and the provision of monitoring and personal decontamination, in addition to welfare support.

Noting the pressures indicated, I request that the Council provides a formal response to this letter setting out the proposed actions that it will undertake to implement improvements to the OSEP to address any capacity or capability-related concerns. It should clearly identify any improvements needed for the current level of population and also identify those improvements that may be needed for any future population increases that are already committed. I would ask that a response is provided by 31st January 2024.

To provide the relevant level of regulatory oversight moving forward, we intend to carry out a series of targeted formal regulatory interventions involving the Joint Emergency Planning Unit. The purpose of these will be to gain confidence that the necessary OSEP improvements have been correctly identified and scoped, are being managed and progressed, and that these will deliver the reasonably practicable improvements to the OSEP required to satisfactorily address and mitigate current concerns.

Please contact me if you have any questions about this request.

Yours faithfully



R Dakin
Principal Inspector, Nuclear Safety

Distribution

Carolyn Richardson, Service Manager - Joint Emergency Planning Unit
Michael Redmond, ONR Delivery Lead, Emergency Preparedness & Response
ONR file 5.1.3.10822. & 4.10.2.248.

Appendix 4

6 February 2024

Robert Dakin
Principal Inspector, Nuclear Safety
Office for Nuclear Regulation
Redgrave Court
Merton Road
Bootle
Merseyside
L20 7HS

Chief Executive
West Berkshire District Council
Council Offices
Market Street
Newbury
RG14 5LD

Our Ref: nl/rae
Your Ref:

Tel: 01635 519101
e-mail: nigel.lynn1@westberks.gov.uk

By email: rob.dakin@onr.gov.uk

Dear Mr Dakin

Offsite Emergency Plan for the AWE Nuclear Licensed Sites

Thank you for your feedback in relation to Aldex 23 and I am pleased that the authority met the legal requirements as set out in REPP19. The officers from this authority and indeed from the AWE Off-Site Planning Group undertook a great deal of work to put the exercise in place and deliver not only on the day but ensuring the debrief and recommendations for improvement were identified.

Your points in relation to the pressure on the AWE Off-Site Emergency Plan are well made and is something that we too fully recognise. We do have a detailed work plan which officers from the Joint Emergency Planning Unit (JEPU) and other responders are working to. It is extensive but I would summarise it as follows:

1. Overhaul of the AWE Off-Site Emergency Plan to include a public version to assist the public to understand what the responders will be doing therefore closing an information gap.
2. Development of 'handbooks' in order to make it easier for responders to navigate their way around the specific sections. These are being progressed as subgroups and include:
 - Communication
 - Transport
 - Displaced People & Evacuation and Shelter
 - Early Scientific Advice
 - Monitoring (Environmental & People)
 - Recovery
 - Educational Establishments

3. Revision and development of specific advice to vulnerable sites such as schools, care homes and event organisers.
4. Revision of the development control process which when including information in relation to evacuation and shelter, and the current numbers will ensure the responses to applications within the Detailed Emergency Planning Zone will be more robust therefore protecting further the health and wellbeing of the current residents and businesses in the area but also ensuring as far as possible that no new development will go ahead where the plan cannot accommodate it therefore protecting any proposed new residents or businesses.

We do not underestimate the amount of work in relation to the above with at least 1.5 FTE from JEPU, along with the many other responding agencies, working on this project. The intention to have the final draft versions of documents will be in place by 30th May 2024 when there is an AWE Plan and Handbook workshop in place to ratify the documents in advance of any final changes and formal sign off which should be in June 2024.

We acknowledge this is a few months away, but the intention is to move the plan on to a more robust status and along with the other workstreams identified above place us, and other agencies in a better place to respond, recovery in order to protect the existing population and indeed defend more robustly decisions in relation to any proposed future developments within the DEPZ.

We also note the intention to undertake regular targeted formal regulatory interventions and welcome them not only to satisfy yourselves we are progressing the activities as set out below but we trust as an opportunity for us to raise areas of concern that we may not be able to address if it is outside the scope of the Council to resolve.

I trust the above is satisfactory, but if you have any queries please let me know.

Yours sincerely



Nigel Lynn
Chief Executive

Appendix 5



Appeal Decision

Hearing held on 21 November 2023

Site visit made on 20/21 November 2023

by Ben Plenty BSc (Hons) DipTP MRTPI

an Inspector appointed by the Secretary of State

Decision date: 8 December 2023

Appeal Ref: APP/H1705/W/23/3326959

Land at 1-9 Shyshack Lane, Baughurst, Tadley, RG26 5NH

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
 - The appeal is made by Riseley Heritage Holdings Ltd against the decision of Basingstoke and Deane Borough Council.
 - The application Ref 22/02905/FUL, dated 21 October 2022, was refused by notice dated 7 June 2023.
 - The development proposed is the erection of 3no. detached dwellings and associated access and parking.
-

Decision

1. The appeal is dismissed.

Main Issue

2. The main issue is the effect of the proposed development on public safety, with particular regard to the Aldermaston Atomic Weapons Establishment (AWE) off-site emergency planning arrangements.

Reasons

3. The site comprises a large field to the rear of existing housing, with some parts extending towards Shyshack Lane. The proposal is to erect three dwellings to the rear of housing, creating a backland development within a residential area.
4. Policy SS7 of the Basingstoke and Deane Local Plan 2011-2029 [adopted 2016](LP) requires development in the land use planning consultation zones surrounding the AWE to be managed in the interests of public safety. The policy only permits development where the Off Site Nuclear Emergency Plan (OSEP) can accommodate the needs of the population in the event of an emergency. The policy states that consultation replies from the Office for Nuclear Regulation's (ONR) Directorate will be considered having regard to the following: (a) the proposed use, (b) the scale of development proposed, (c) the location of the development, and (d) the impact of the development on the functioning of the emergency plan through appropriate consultation with the multi agencies who have duties under the Radiation Emergency Preparedness and Public Information Regulations (REPPIR).
5. The REPPIR states that the OSEP should be designed to secure, so far as is reasonably practical, the restriction of exposure to ionising radiation and the health and safety of persons who might be affected by such reasonably foreseeable emergencies as identified in that assessment. The REPPIR plan recommends sheltering within buildings during an event as the primary method

of protection to human health. A building (with closed doors and windows) acting as a barrier would afford the greatest and most immediate and accessible type of protection in the event of the type described above. Measures for potential evacuation, are also advised either during or after the event, although this may not be necessary if the public is advised to shelter-in-place.

6. The proposal would introduce three additional dwellings around 468 metres from the AWE site boundary. The site is between Sectors K and L, which are densely populated sectors within the DEPZ, and are adjacent to other comparatively densely populated areas.
7. West Berkshire Council (WBC) is required to produce an OSEP for a zone around the site that the regulations define as a Detailed Emergency Planning Zone (DEPZ), and for it to be able to implement this plan effectively. I am cognizant that the ONR has 'advised against' the development on the basis that there is uncertainty that the OSEP can accommodate further housing as it stands.
8. ONR has advised that further development may have the potential to impact upon the adequate implementation of the OSEP. It has arrived at this view following assessment of evidence collected through its regulatory oversight under REPPiR, modular exercises, a live test and wider engagements with WBC. The live test confirmed shortfalls that were identified through the previous exercises and suggests uncertainty that a population increase can be accommodated by the OSEP as it stands. I understand that the ONR's position predates the current appeal scheme as in August 2021 it contacted the affected local councils expressing this concern.
9. The objection of the ONR is consistent with the position expressed by WBC. WBC's Emergency Planning Officer has been unable to give assurance that the additional households proposed could be accommodated within the existing OSEP. It has explained that the AWE area presents a complex situation in the event of an emergency event and the OSEP is at a "cliff edge" when considering its ability to accommodate additional households.
10. WBC identifies that the proposed scheme would result in an increase of total dwellings within the DEPZ to 7321 dwellings, and a population increase of around 7 residents. Although such an increase would be comparatively small, it is recognised that the plan is not infinitely scaleable. An increase in population would increase the need for, and demand placed upon, emergency responders, reception centres, rest centres and radiation monitoring exacerbating the difficulties of delivery emergency care in a complex multi-agency emergency. Given the specific area of expertise of the WBC's Emergency Planning function, its concern with respect to the deliverability of the OSEP carries considerable weight.
11. Although relatively small-scale, the proposal would increase demand on the resources available to implement the OSEP in the event of a radiation emergency. This demand would be above the needs of existing people requiring assistance in the event of an evacuation and would put increased pressure on rest centres. Furthermore, increased demand would increase the requirement for any long-term accommodation required for evacuated members of the public. Therefore, placing people in an area where there is a known risk would contribute to the complicated response required from

emergency services. Increased demand on services, at such a time, could jeopardise the effectiveness of the plan as a whole in contradiction of the objective of policy SS7.

12. The suggestion that individual development could be justified on the basis that it alone would be small in scale and have a negligible, if any, effect on the preparation and delivery of the OSEP is an argument that could be easily repeated. This approach would result in incremental development that would over time significantly erode the effective management of the land use planning consultation zones surrounding the AWE to the disbenefit of public safety. The proposed development would place a greater burden on the OSEP, which is already under pressure based on the comments of the ONR.
13. The National Risk Register [2023] identifies that the risk of a radiation emergency at a Civil Nuclear Site is less than 0.2%, but if an emergency were occur, the impact would be 'catastrophic'. Although the Aldermaston AWE is not a Civil Nuclear Site, the evidence suggests that the identified likelihood and impact would be similar. As stated by WBC's Emergency Planners, the likelihood of an incident remains credible and would have an adversely high impact on the public. I concur with this view and, even if unlikely to occur, such an emergency would require extensive resources and create significant effects in the local area.
14. Dr Pearce explained that radiation causes an ionisation of chemicals in the body, causing injury and cancer, with millisieverts (mSv) being a measure of the harm to an organism. His evidence states that daily background levels are around 1.3 mSv, increasing to 7.8 mSv in Cornwall¹ due to the predominance of granite which releases radon. The REPPIR explains, at appendix 2, that doses in the range of 1-10 mSv as "minor" with minimal health and safety effects. If an incident were to occur at the AWE, a person at the appeal site might be exposed to a radiation dose of 7.5 mSv, in shelter this would be reduced by around 3 mSv. Accordingly, Dr Pearce was content that even if a major incident were to occur the effects would be within the range commonly experienced by members of the public in everyday life.
15. Consequently, the chance of a release of radioactive material is low and if it were to happen the level of exposure would also be low. However, whilst comforting, this does not take into account the key purpose of the REPPIR to reduce exposure during a radiation emergency through the effective deployment of the OSEP. Furthermore, it is noted that ONR identifies that "there must be robust emergency preparedness and response arrangements in place for radiological emergencies, however unlikely they may be"².
16. Also, these points do not account for the effect of an emergency event to the emergency services and the local population. The demands on emergency resources would be substantial creating short term and possibly long-term efforts to effectively manage such an emergency. This would need to take into account social, economic and environmental affects, that could require the local environment and community many years to fully recover. Furthermore, the anticipated low emission and exposure effects of any release would not diminish the statutory requirement for a robust OSEP to be in place, or the

¹ Appeal Statement by Dr Pearce, para 70

² Office for Nuclear Regulation, Statement, para 64

need for such a plan to be of sufficient rigor to ensure it can be delivered effectively in the interests of protecting public safety.

17. Accordingly, I find that the proposal would adversely impact on the functioning of the OSEP contrary to the interests of public safety. Hence, it would conflict with LP policy SS7 and paragraph 97 of the National Planning Policy Framework (the Framework) which, among other matters, states that planning decisions should promote public safety and take into account wider security and defence requirements.

Other Matters

18. The Appellant asserts that the size and shape of the DEPZ is arbitrary, and the OSEP could be more effectively delivered if a smaller population was affected by its measures. The Council has informed that boundary lines were decided taking into consideration community boundaries to assist in evacuation and sheltering strategies. The size of the DEPZ is dictated by legislation and it is for the responsible authority to adjust this if required by taking into account local geographic, demographic and practical implementation issues. Moreover, the definition of the area of the DEPZ is not straight forward and its conception includes an extensive consultation process, involving a range of specialist stakeholders. It is reviewed every three years, and this review process presents an appropriate forum to make any required adjustments. Therefore, it is not the place of this appeal to interrogate the size or shape of the DEPZ.
19. An appeal was allowed, in November 2022, for 49 houses within the DEPZ of Burghfield AWE at Kingfisher Grove. I have limited details of this scheme, but I have noted from the Decision Letter that the scheme was for affordable dwellings and was within the jurisdiction of Wokingham Borough Council. Also, the site was a substantially greater distance from the AWE, at around 2.8 kilometres. As such, this was subject to different policies and had different characteristics to the scheme proposed in this appeal. For these reasons, whilst each case must be considered on its own merits, the appeal decision at Kingfisher Grove describes a scheme with bespoke circumstances that cannot be readily applied elsewhere.
20. The Council has also submitted a range of planning appeals that have been dismissed for open market dwellings where siting within the DEPZ have been factors in their dismissal. As such, these are of greater relevance to the proposal before me and attract more weight. My approach is broadly consistent with those decisions.
21. The Council cannot demonstrate it has a 5-year Housing Land Supply, as identified in the Council's Authority Monitoring Report [2023] demonstrating it has a supply of 4.7 years. This figure has been subsequently reduced by the Council following an appeal decision, where the Inspector found a supply of 4.1 years. This was further reviewed by the Council to 4.2 years given the release of more recent affordability data.
22. Based on the evidence submitted I see no reason to disagree with this position. Where a local planning authority is unable to demonstrate a 5-year supply of deliverable housing sites, footnote 8 of paragraph 11 of the Framework, indicates that relevant policies for the supply of housing should not be considered up-to-date. Paragraph 11 of the Framework explains that where relevant policies are out-of-date permission should be granted, unless any

adverse impacts of doing so would significantly and demonstrably outweigh the benefits when assessed against the policies in the Framework taken as a whole.

Planning Balance and Conclusion

23. The Framework seeks to boost the supply of housing and highlights the important contribution small sites can make. The proposal would deliver three family houses, making a modest contribution to the housing needs of the district. These could be delivered relatively quickly, making a rapid positive contribution to the local supply of housing in the settlement. The appeal site is within the defined settlement of Baughurst and has good access to goods and services. There would be some economic benefits during the construction phase when the development would provide jobs and opportunities for local companies and once occupied when future residents support services in Baughurst and the surrounding area. The proposal would introduce new planting that would provide enhanced biodiversity benefits. These benefits are of modest weight in favour of the proposal.
24. Weighed against these benefits is the issue that the appeal scheme would not comply with the Council's policy with respect to development close to nuclear installations. The weight to be given to this conflict should be reduced by the Council's inability to demonstrate it has a 5-year supply of deliverable housing sites, although three new houses would only make a limited contribution to the district's housing supply.
25. Nonetheless, the proposal has failed to demonstrate that the OSEP can accommodate the proposal without compromising the needs of the existing and extended population within the DEPZ. The additional burden would place pressure on the delivery of the Emergency Plan within a site which is close to the centre of the DEPZ and in an area that is densely populated. The additional demand for emergency services, at the time of an incident, would exacerbate an Emergency Plan already under tension resulting in substantial threat to its delivery affecting the safety of the public. This conflict accords with the objectives of the Framework for planning decisions to promote public safety and take into account wider security and defence requirements by, among other matters, proportionate steps to increase resilience and ensure public safety and security.
26. Therefore, the adverse impact of the development on the delivery of an effective OSEP would significantly and demonstrably outweigh the benefits, when assessed against the policies in the Framework taken as a whole and therefore the presumption in favour of sustainable development does not apply.
27. For the reasons given above, the proposal would conflict with the development plan as a whole and there are no material considerations, including the Framework, that would outweigh that conflict. Therefore, the appeal is dismissed.

Ben Plenty

INSPECTOR

APPEARANCES

For the Appellant:

Mr Neil Davis - Planning Consultant
Dr Keith Pearce - Principal Consultant, Katmal Limited

For the Council:

Miss Bethan Wallington - Senior Planning Officer, Basingstoke and Dean Council
Mr Stuart Fox - Head of Emergency Planning, Hampshire County Council
Mrs Carolyn Richardson - Emergency Planning, West Berkshire Council
Mr Eamonn Guilfoyle - Office for Nuclear Regulation
Mr Sean Bashforth - Planning Consultant, Quod, acting for the MOD and Aldermaston AWE

Interested parties:

Ms Jacky Berry - Resident
Mr Ian Jackson - Resident

Additional documents

Doc A: Council's suggested additional condition

Appendix 6



Appeal Decision

Hearing held on 22 September 2009

Site visit made on the same day

by **Isobel McCretton BA(Hons) MRTPI**

an Inspector appointed by the Secretary of State
for Communities and Local Government

The Planning Inspectorate
4/11 Eagle Wing
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN

☎ 0117 372 6372
email: enquiries@pins.gsi.gov.uk

Decision date:
10 November 2009

Appeal Ref: APP/H1705/A/09/2102664

12, 14, 16 & 20 Shyshack Lane, Baughurst, Tadley RG26 5NH

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on an application for planning permission.
- The appeal is made by Thomas Homes against Basingstoke & Deane Borough Council.
- The application Ref. BDB/60349 is dated 7 August 2008.
- The development proposed is erection of 9 dwellings (4no. four bed, 2no. three bed and 3no. two bed) following demolition of no. 20 Shyshack Lane with associated access, landscaping and diversion of public right of way (amended to 2 x 4-bed, 4 x 3 bed and 3 x 2 bed).

Application for costs

1. Prior to the Hearing an application for costs was made by Thomas Homes against Basingstoke & Deane Borough Council. This application is the subject of a separate Decision.

Preliminary Matters

2. The appellants have submitted a Unilateral Undertaking which would secure financial contributions towards open space, play areas/recreation, playing fields, community facilities and highways, specifically the implementation of the Basingstoke Environmental Strategy for Transport (BEST). This overcomes the Council's concerns in respect of the additional pressure on such facilities which would result from the proposal. The Council did not pursue this matter further at the Hearing other than to confirm that it considered the submitted Unilateral Undertaking to be acceptable. In my view the Undertaking is necessary to accord with the Council's adopted Interim Planning Guidance *Section 106 Planning Obligations and Community Infrastructure* (2006).

Decision

3. I dismiss the appeal and refuse planning permission for the erection of 9 dwellings following the demolition of 20 Shyshack Lane with associated access, landscaping and diversion of public right of way.

Main Issues

4. The main issues are the effect of the proposed development on the character and appearance of the area, and whether or not the development would be acceptable in terms of risk to the public within the Detailed Emergency Planning Zone surrounding the Aldermaston Atomic Weapons Establishment in

the event of an off-site release of radioactive material following a significant plant fault.

Reasons

5. The appeal site comprises a detached house and garage and other outbuildings situated on a large plot on the north-western side of Shyshack Lane. A public footpath runs diagonally through the site. There have been a number of proposals for the development. Two schemes for 9 dwellings have been refused planning permission and dismissed on appeal¹ and there is an extant planning permission for 6 houses granted in September 2007. These are material considerations in my determination of this appeal.

Character and Appearance

6. The dwellings in Shyshack Lane vary in age and design and there is also considerable variation in the spacing between them. However, to my mind, there is an overall feeling of informality and spaciousness to the loose-knit layout of the road which differs from some of the more planned and densely developed estates in the wider area. The proposed scheme would entail a pair of semi-detached houses on the frontage between the new access and a relocated public footpath (moved to the southern boundary of the site) and a row of 7 houses to the rear - a pair of semidetached houses at the southern end, 2 detached houses at the northern end and a terrace of 3 houses in the middle.
7. The Council takes no issue with the pair of semi-detached houses on the frontage of the site and I agree that this would be in keeping with the character and appearance of Shyshack Lane. The issue is with the houses at the rear of the site. The principal of development in this part of the site was established in the 2007 appeal where the Inspector found that backland development was already a feature of the area (a view with which the subsequent Inspector concurred). That appeal failed because of a lack of provision for local infrastructure. The 2008 appeal failed, principally, because of the minimal spaces between the dwellings at the rear of the site. The proposed design and layout of the scheme in this appeal is an attempt to overcome those concerns. The dwellings have been designed with hipped roofs and the space between them eased, the appellants estimating the gaps to be 1.4m, 2.9m and 3m.
8. The appellants argue that this is comparable to the spacing shown in the extant scheme and more generous than that in the 2007 appeal scheme where character and appearance was not a determining issue. However, both those schemes showed single storey garages at the side of the dwellings in addition, in most cases, to a gap between the properties. In my opinion such a treatment would create more of an impression of space within the development than that proposed in this case where the buildings would all be 2-storey. With the lack of distinctive variation in design of the units and the dominance of hardstandings and turning areas in the within the site, I agree with the Council that the proposed layout would appear regimented and cramped in the context of the varied development in the area when seen in the views into the site from Shyshack Lane and from adjoining properties.

¹ APP/H1705/A/07/2049967 dated 5 November 2007 & APP/H1705/A/08/2078887 dated 8 December 2008

9. The additional hardstanding for refuse collection at the front of the site adds to my concerns about the proposal. Whether or not occupiers would only leave bins there for a minimal amount of time on collection day (and I do not see that this could be guaranteed, for instance bins may well be left during holidays) it would be an unattractive feature at the entrance to the development and in the street scene. I note that the appellants would be willing to consider an alternative location but, given the tight layout, it seems to me that this would be achieved only with further loss of the already minimal landscaping.
10. I accept that Government advice in PPS3² advocates the effective use of urban land. However the guidance, along with that in PPS1³, also stresses the need for respect for the character and local distinctiveness of the area in which development is to take place which I do not consider to be achieved by this proposal. Overall I conclude that the proposal would be detrimental to the character and appearance of the area. As such it would not accord with Local Plan policy E1 which requires, among other things, that development responds to the local context in terms of design, siting, density and spacing, and reinforces attractive qualities of local distinctiveness.

Aldermaston Atomic Weapons Establishment (AAWE) Detailed Emergency Planning Zone (DEPZ)

11. The site is within the 0-3km DEPZ surrounding the AAWE. The general strategy is to prevent a long term net increase in the residential population density within the DEPZ. Such a situation would potentially increase the overall risk to the public in the event of an off-site release of radioactive material following a significant plant fault. A controlled low population zone serves to both mitigate against the consequences of an off-site release, and facilitates emergency preparedness. These are key elements of the defence-in-depth philosophy adopted by the nuclear community world wide. Developments within 8km of the AAWE are subject to consultation with the HSE/NII due to their proximity to a Hazardous Installation under the HSE's Planning Advice for Development near Hazardous Installations (PADHI) regulations. In this case the HSE/NII has responded to 'advise against'⁴ the proposed development because it would result in an increase in population.
12. The demographics of the area were assessed by consultants when the AAWE was licensed in 1997. In line with Government policy on siting at the time, a cautious approach was taken so that it was decided that the Aldermaston site should be treated as a 'remote site' because of the unique nature of the operational activities. A pragmatic approach was taken to the population distribution around the site given the existing population, with the application of 'semi-urban' rather than 'remote site' density criteria to estimate the residual demographic margins for development in the safeguarding zone. The consultation arrangements put in place were that the HSE/NII would be consulted on, among other things, residential applications which resulted in an increase in population of 20 or more people. As I understand the situation, it was not stated, but understood by the HSE/NII, that Council's would monitor

² Planning Policy Statement 3: Housing (2005) (PPS3)

³ Planning Policy Statement 1: Delivering Sustainable Development (2006) (PPS1)

⁴ I note that this constitutes a formal objection on the grounds of nuclear safety and protection of the public.

- the grant of permissions for smaller developments in the context of the low population zone.
13. Following the announcement of the Nuclear Warhead Capability Sustainment Programme by the Government in 2005, a review of the demographics around the AAWE site was undertaken in 2006 and, in 2007, revised consultation procedures were advised, all applications which would result in an increase in population needing to be notified to the HSE/NII. The Council acknowledges that up to May 2008 the revised consultation procedures were not properly implemented in the Borough. It was during this time that 3 applications relating to the appeal site were determined, including the extant planning permission. The Council failed to consult the HSE/NII on any of these proposals or on a number of other applications in the locality where planning permission was subsequently granted for new residential development.
 14. The HSE/NII is concerned that the demographic margins within the DEPZ are approaching unacceptable limits. Comparing the 1995 base data with the National Population Database in 2008, the HSE/NII has found that it is apparent that there has been a significant erosion of the available demographic margins since the site was licensed. It estimates that there has been an overall increase of population in the DEPZ of around 200% in the southern sectors, while in the 30° sector within which the appeal site is situated this increase is nearer 300%. While, at the Hearing, the appellants questioned whether the data had been subject to sensitivity testing e.g. whether it accorded with the Hampshire small area forecasts, there is no substantiated evidence before me to demonstrate that the HSE/NII's view is incorrect. The HSE/NII considers that that the maintenance of a low population zone is the only effective non-engineered means of restricting exposure of the local population to radiation in the event of a potential release of radioactive material into the environment following a significant plant fault, and that it should be maintained for the lifetime of the licensed facility.
 15. I find it somewhat surprising that the issue of restricting population in the DEPZ around the AAWE is not reflected in Development Plan policy which allows for new development in the area. From my questions at the Hearing it appears that the HSE considered that the consultation arrangements would be effective and that their concerns would take precedence over Local Plan policy. However I have seen no evidence, aside from any failure in the consultation procedure which has occurred in the past, that there is systematic monitoring of the smaller developments so that an informed assessment of the overall situation can be made.
 16. New development in the area may not necessarily involve a significant increase in population (e.g. because of the provision of more units but for smaller households), but from the evidence before me it is clear that there has been a material increase in population in the DEPZ. While the appellants argue that the proposed development provides for only 3 more units or an increase in the population of 5 over and above the extant permission, or 18 over the existing situation, it seems to me that it is the cumulative effect of such small proposals which has led to what the HSE now considers to be an unacceptable erosion of the demographic margins.

17. The appellants point out that the Council's decision on this proposal is inconsistent with its approach to the Boundary Hall site where, in July 2009, it was resolved that planning permission should be granted for over 100 houses. As this resolution goes against the advice of the HSE/NII, in accordance with the advice in Circular 04/2000⁵ the application has been referred to the Government Office, though I understand that, as yet, no decision has been made as to whether the application will be called in. At the Hearing it was explained that Members considered the Boundary Hall proposal acceptable, contrary to the Officers' recommendation, for a number of reasons, mainly that it was an allocated site in the Local Plan, there had previously been residential accommodation on the site, and there were significant environmental and community benefits. Moreover the Committee had been informed that, although the HSE/NII had objected to the proposal, the Off-Site Emergency Plan for the area could accommodate the increase in population.
18. The appellants contend that if the Emergency Plan could accommodate the population from that much larger development, then the same must be the case for the appeal proposal which would involve significantly fewer additional people. However, as yet planning permission has not been granted for the Boundary Hall site and the HSE/NII maintains its objection to the proposal. Moreover, in the evidence before me there is no information in respect of the impact of the appeal proposal on the likely functioning of the Off-Site Emergency Plan.
19. The full details of the Boundary Hall scheme are not before me and there may well be other material considerations to be taken into account in that case of which I am not aware. However the need for proper emergency planning is an important material consideration in both that case and in this current appeal. The appellants have argued that the Secretary of State's decision on the scheme for The Oval was a landmark case which shows that the HSE's objections can be set aside if it is demonstrated that the Emergency Plan could cope with the increase in population. Having seen some of the consultation responses on the Boundary Hall application, I note that not all the various parties involved in the management and implementation of the Off-Site Emergency Plan were unequivocal in their support⁶ of that scheme, while others pointed out the additional resource implications of the development but gave no indication as to whether these would be met.
20. In conclusion, while the Local Plan does not preclude new development in this area, there are clearly other material considerations. On the basis of the evidence before me, I am not convinced that there would not be an additional risk to the public within the Detailed Emergency Planning Zone surrounding the Aldermaston Atomic Weapons Establishment in the event of an off-site release of radioactive material following a significant plant fault or that there is good reason to set aside the HSE/NII advice in this instance.

Other Matters

21. Local residents have objected to the additional traffic which would result from the development and have expressed concerns about the level of parking

⁵ Circular 04/2000: Planning Controls for Hazardous Substances

⁶ E.g. email from Hampshire County Council Emergency Planning Officer dated 24 June 2008 and Deputy Contingency Planning Officer, Thames Valley Police dated 17 June 2008

- provision within the development. Their main concern is that additional parking in Shyshack Lane would cause a highway hazard which would be detrimental to highway safety, this being a popular route used by children walking and cycling to and from local schools.
22. 17 parking spaces are shown. This more than complies with the Council's adopted standard when the application was submitted (which would have required 15.5 spaces), and falls just below the newly adopted standard which requires 17.75 spaces. The Highway has raised no objection in terms of parking provision or safety subject to conditions regarding the access and adequate sight lines being provided and retained. I also note that this is not a matter which has been of concern to Inspectors who have considered appeals for similar numbers of houses on the site. There is no substantiated evidence to show that the parking provision would not be adequate, or that the traffic generated by 3 additional houses over and above that which have previously been permitted would have a material adverse effect on on-street parking and or highway safety in Shyshack Lane.
23. Although residents have raised issues about drainage, there is no evidence to show that there is insufficient capacity in the local system: at the Hearing the appellants pointed out that arrangements were already in place for 6 houses. In any event, approval of the drainage would be required to comply with Building Regulations.
24. Natural England initially commented that there would not be a significant effect on the nearby Site of Special Scientific Interest but, after slow worms, a protected species, had been found in the adjoining garden, further consultation took place. Normally a full survey of the impact of the development on biodiversity and any necessary schemes for mitigation would be required prior to planning permission being granted. However there is an extant permission for redevelopment of the site where such a survey/mitigation is not required (though the slow worms would still be legally protected). Therefore Natural England recommended that a condition requiring submission, prior to ground works being commenced, of details of a mitigation strategy based on a recent survey be imposed. While this would not strictly comply with the advice in PPS9⁷, it seems to me to be the most pragmatic approach given the extant planning permission which would mean the site could be developed without any such mitigation strategy.
25. While I do not consider that the appeal should fail in term of parking/traffic, drainage and biodiversity this does not outweigh my conclusions on the main issues.

Conclusion

26. For the reasons given above I conclude that the appeal should be dismissed.

Isobel McCretton

INSPECTOR

⁷ Planning Policy Statement 9 : Biodiversity and geological Conservation

APPEARANCES

FOR THE APPELLANT:

Nik Lyzba Dip TP, Dip CP, MRTPI	The John Phillips Planning Consultancy
Emily Sparrow BA(Hons), MSc, MRTPI	The John Phillips Planning Consultancy
Hugh Thomas	Appellant

FOR THE LOCAL PLANNING AUTHORITY:

Rebecca Fenn-Tripp MSc	Planning Officer B & D BC
Georgio Framalico	Development Control Manager B & D BC

INTERESTED PERSONS:

Dr John Highton	Principal Inspector, Nuclear Installations Inspectorate (Health and Safety Executive)
Cllr Mike Bound	B & D BC
Cllr Graham Round	B& D BC
Phillip Cooper	Local resident
Mr Jones	Local resident

DOCUMENTS SUBMITTED AFTER THE HEARING:

Document 1 Bundle of emails/consultation responses relating to the Boundary Hall application.

DRAWINGS:

A1-6 Drawings submitted with the planning application (Location Plan, 754.01-05)
B1-2 Tree Constraints Plan and Tree Protection Plan (6852/01-02)
C1 Drawings showing other developments with close gaps submitted by the appellants

Appendix 7



Appeal Decision

Site visit made on 7 January 2020

by M Aqbal BA (Hons) DipTP MRTPI

an Inspector appointed by the Secretary of State

Decision date: 16 April 2020

Appeal Ref: APP/H1705/W/19/3225175

1 Hillcrest, Tadley, Hampshire RG26 3JB

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
 - The appeal is made by Mr Ash Tankaria against the decision of Basingstoke & Deane Borough Council.
 - The application Ref 19/00027/FUL, dated 29 December 2018, was refused by notice dated 27 February 2019.
 - The development proposed is described as 'Demolish existing conservatory construct attached one bedroom dwelling'.
-

Decision

1. The appeal is dismissed.

Main Issues

2. The main issues are the effect of the proposal on: i) public safety, particularly having regard to the Aldermaston off-site emergency planning arrangements; and ii) the character and appearance of the area.

Reasons

Public safety

3. The appeal site ('the Site') comprises land associated with and to the west of 1 Hillcrest ('No 1') a three-storey, end-terrace dwelling. No 1 and the Site are situated within the Detailed Emergency Planning Zone (DEPZ) surrounding the Aldermaston Atomic Weapons Establishment (AWE).
4. Policy SS7 of the Basingstoke and Deane Local Plan (2011 to 2029) (adopted 2016) (LP) requires development in the land use planning consultation zones surrounding the AWE to be managed in the interests of public safety. The policy is clear that development will only be permitted where the Off Site Nuclear Emergency Plan (Emergency Plan) can accommodate the needs of the population in the event of an emergency. The policy requires consultation replies from the Office for Nuclear Regulation's (ONR) to be considered. In this case the statutory consultee ONR advised against the development unless written confirmation was provided that the proposed development could be accommodated within the existing Emergency Plan. That is not forthcoming. West Berkshire Emergency Planners and Hampshire County Council Planning and Resilience team both recommended that the application be refused as a result of the impact on the Emergency Plan. The former has duties for the

functioning of the Emergency Plan under the Radiation Emergency Preparedness and Public Information Regulations.

5. The production of the Emergency Plan is a statutory requirement of the Radiation Emergency Preparedness and Public Information Regulations 2001 and sets out the contingency arrangements for a multi-agency response should a radiation emergency occur at AWE and pose a hazard to the public outside the site boundary.
6. Despite the existence of nearby commercial uses, the Council has confirmed that the site is located approximately 865m from the AWE site boundary and is within Sector H which is the most densely populated sector. This location determines that the site is more likely to be subject to urgent evacuation as well as having an increased requirement for short, medium and potentially long-term accommodation, which could also include meeting the needs of vulnerable people. With an increase in the number of dwelling units there is a corresponding increase in pressure upon the Emergency Plan and the resources available to implement this plan in the event of an emergency.
7. Notwithstanding its modest scale (a single one-bedroom dwelling) the development would result in an uplift in residents in an already densely populated area of Tadley which would need to be supported in shelter conditions, or if having to be evacuated, would add to the number of people requiring support in a locality which the Council already considers to be a busy area.
8. My attention has been drawn to other sites that have been granted planning permission for housing within the AWE Zone. Most of these sites are for single dwellings (net increase). Whilst each application is determined on its individual merits, on the available information, in these cases either no objection from ONR or no objection from ONR and West Berkshire Council was recorded. In addition, the Council advises that some of these applications were considered under a different policy context, and that the Emergency Plan has also been updated overtime. In respect of the approvals relating to more than one dwelling these are different to the scheme before me. Furthermore, I have insufficient information to draw any conclusions as to why those schemes were supported by the Council.
9. Moreover, Policy SS7 of the LP requires weight to be given to the opinions of consultees and it is clear that the number of dwellings, and any increase to this, is a relevant consideration.
10. For the above reasons, the proposal would affect public safety, particularly with regard to the Aldermaston off-site emergency planning arrangements. It would therefore be in conflict with LP Policy SS7. The proposal would also be in conflict with Paragraph 95 of the National Planning Policy Framework ('the Framework') which, amongst other matters, is concerned with the promotion of public safety. Accordingly, such conflict carries significant weight.

Character and appearance

11. The Site is on a corner plot with Mulfords Hill and forms part of a substantial terrace of similar dwellings, which are orientated to address Hillcrest. No 1 is nearest to Mulfords Hill and therefore is visually prominent. It is also viewed in the context of other commercial buildings to the south which are generally set-

back from the highway broadly in-line or further back from the flank elevation of the host dwelling.

12. Although a large part of the Site is occupied by a conservatory, this is single-storey, subordinate in scale to the host property and is largely screened by a boundary wall. Consequently, the Site provides some relief and space from the three-storey elevation of No 1 and Mulfords Hill.
13. In contrast, despite the considered approach to its detailing, including a set-back from the existing principal elevation of No 1 and a lower roof height, the proposal would introduce a substantial building in a prominent corner location. Furthermore, the massing of the proposed dwelling would erode the openness associated with the Site. This, along with the largely blank three-storey elevation close to the highway would appear particularly incongruent, thereby failing to respond positively to the local context of the built environment.
14. I have taken account of the block of commercial units to the north of the Site. This block with its active frontage is designed to address Mulfords Hill, unlike the terrace which the appeal site forms part of. Furthermore, this block is lower in height due to its two-storey flat roof design. Also, its scale and presence within the streetscene are mitigated by the mature landscaping to its south, the largely open driveway and parking areas to the north along with an open frontage. Therefore, this block is settled within the streetscene and not comparable to the proposal.
15. Based on the foregoing reasons, the proposal would harm the character and appearance of the area, contrary to Policy EM10 of the LP which amongst other things requires that development respects the local environment and positively contributes to the streetscene.

Planning Balance

16. The Council cannot demonstrate a five-year supply of deliverable housing sites, and so paragraph 11 of the Framework is engaged. The proposal would provide an additional dwelling with amenity space in a location well served by shops, services, facilities and public transport. Nonetheless, it would only make a very modest contribution towards the housing shortfall locally and nationally, so the benefits of the proposal carry only limited weight in favour. On the other hand, along with the significant public safety issue I have identified, the proposal by harming the character and appearance of the area also conflicts with the Framework which places emphasis on the creation of high-quality buildings and places. Therefore, the adverse impacts would significantly and demonstrably outweigh the benefits.

Conclusion

17. For the above reasons, I conclude that the appeal should be dismissed.

M Aqbal
INSPECTOR

Appendix 8



Appeal Decision

Hearing held on 22 September 2009

Site visit made on the same day

by **Isobel McCretton BA(Hons) MRTPI**

an Inspector appointed by the Secretary of State
for Communities and Local Government

The Planning Inspectorate
4/11 Eagle Wing
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN

☎ 0117 372 6372
email: enquiries@pins.gsi.gov.uk

Decision date:
10 November 2009

Appeal Ref: APP/H1705/A/09/2102664

12, 14, 16 & 20 Shyshack Lane, Baughurst, Tadley RG26 5NH

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on an application for planning permission.
- The appeal is made by Thomas Homes against Basingstoke & Deane Borough Council.
- The application Ref. BDB/60349 is dated 7 August 2008.
- The development proposed is erection of 9 dwellings (4no. four bed, 2no. three bed and 3no. two bed) following demolition of no. 20 Shyshack Lane with associated access, landscaping and diversion of public right of way (amended to 2 x 4-bed, 4 x 3 bed and 3 x 2 bed).

Application for costs

1. Prior to the Hearing an application for costs was made by Thomas Homes against Basingstoke & Deane Borough Council. This application is the subject of a separate Decision.

Preliminary Matters

2. The appellants have submitted a Unilateral Undertaking which would secure financial contributions towards open space, play areas/recreation, playing fields, community facilities and highways, specifically the implementation of the Basingstoke Environmental Strategy for Transport (BEST). This overcomes the Council's concerns in respect of the additional pressure on such facilities which would result from the proposal. The Council did not pursue this matter further at the Hearing other than to confirm that it considered the submitted Unilateral Undertaking to be acceptable. In my view the Undertaking is necessary to accord with the Council's adopted Interim Planning Guidance *Section 106 Planning Obligations and Community Infrastructure* (2006).

Decision

3. I dismiss the appeal and refuse planning permission for the erection of 9 dwellings following the demolition of 20 Shyshack Lane with associated access, landscaping and diversion of public right of way.

Main Issues

4. The main issues are the effect of the proposed development on the character and appearance of the area, and whether or not the development would be acceptable in terms of risk to the public within the Detailed Emergency Planning Zone surrounding the Aldermaston Atomic Weapons Establishment in

the event of an off-site release of radioactive material following a significant plant fault.

Reasons

5. The appeal site comprises a detached house and garage and other outbuildings situated on a large plot on the north-western side of Shyshack Lane. A public footpath runs diagonally through the site. There have been a number of proposals for the development. Two schemes for 9 dwellings have been refused planning permission and dismissed on appeal¹ and there is an extant planning permission for 6 houses granted in September 2007. These are material considerations in my determination of this appeal.

Character and Appearance

6. The dwellings in Shyshack Lane vary in age and design and there is also considerable variation in the spacing between them. However, to my mind, there is an overall feeling of informality and spaciousness to the loose-knit layout of the road which differs from some of the more planned and densely developed estates in the wider area. The proposed scheme would entail a pair of semi-detached houses on the frontage between the new access and a relocated public footpath (moved to the southern boundary of the site) and a row of 7 houses to the rear - a pair of semidetached houses at the southern end, 2 detached houses at the northern end and a terrace of 3 houses in the middle.
7. The Council takes no issue with the pair of semi-detached houses on the frontage of the site and I agree that this would be in keeping with the character and appearance of Shyshack Lane. The issue is with the houses at the rear of the site. The principal of development in this part of the site was established in the 2007 appeal where the Inspector found that backland development was already a feature of the area (a view with which the subsequent Inspector concurred). That appeal failed because of a lack of provision for local infrastructure. The 2008 appeal failed, principally, because of the minimal spaces between the dwellings at the rear of the site. The proposed design and layout of the scheme in this appeal is an attempt to overcome those concerns. The dwellings have been designed with hipped roofs and the space between them eased, the appellants estimating the gaps to be 1.4m, 2.9m and 3m.
8. The appellants argue that this is comparable to the spacing shown in the extant scheme and more generous than that in the 2007 appeal scheme where character and appearance was not a determining issue. However, both those schemes showed single storey garages at the side of the dwellings in addition, in most cases, to a gap between the properties. In my opinion such a treatment would create more of an impression of space within the development than that proposed in this case where the buildings would all be 2-storey. With the lack of distinctive variation in design of the units and the dominance of hardstandings and turning areas in the within the site, I agree with the Council that the proposed layout would appear regimented and cramped in the context of the varied development in the area when seen in the views into the site from Shyshack Lane and from adjoining properties.

¹ APP/H1705/A/07/2049967 dated 5 November 2007 & APP/H1705/A/08/2078887 dated 8 December 2008

9. The additional hardstanding for refuse collection at the front of the site adds to my concerns about the proposal. Whether or not occupiers would only leave bins there for a minimal amount of time on collection day (and I do not see that this could be guaranteed, for instance bins may well be left during holidays) it would be an unattractive feature at the entrance to the development and in the street scene. I note that the appellants would be willing to consider an alternative location but, given the tight layout, it seems to me that this would be achieved only with further loss of the already minimal landscaping.
10. I accept that Government advice in PPS3² advocates the effective use of urban land. However the guidance, along with that in PPS1³, also stresses the need for respect for the character and local distinctiveness of the area in which development is to take place which I do not consider to be achieved by this proposal. Overall I conclude that the proposal would be detrimental to the character and appearance of the area. As such it would not accord with Local Plan policy E1 which requires, among other things, that development responds to the local context in terms of design, siting, density and spacing, and reinforces attractive qualities of local distinctiveness.

Aldermaston Atomic Weapons Establishment (AAWE) Detailed Emergency Planning Zone (DEPZ)

11. The site is within the 0-3km DEPZ surrounding the AAWE. The general strategy is to prevent a long term net increase in the residential population density within the DEPZ. Such a situation would potentially increase the overall risk to the public in the event of an off-site release of radioactive material following a significant plant fault. A controlled low population zone serves to both mitigate against the consequences of an off-site release, and facilitates emergency preparedness. These are key elements of the defence-in-depth philosophy adopted by the nuclear community world wide. Developments within 8km of the AAWE are subject to consultation with the HSE/NII due to their proximity to a Hazardous Installation under the HSE's Planning Advice for Development near Hazardous Installations (PADHI) regulations. In this case the HSE/NII has responded to 'advise against'⁴ the proposed development because it would result in an increase in population.
12. The demographics of the area were assessed by consultants when the AAWE was licensed in 1997. In line with Government policy on siting at the time, a cautious approach was taken so that it was decided that the Aldermaston site should be treated as a 'remote site' because of the unique nature of the operational activities. A pragmatic approach was taken to the population distribution around the site given the existing population, with the application of 'semi-urban' rather than 'remote site' density criteria to estimate the residual demographic margins for development in the safeguarding zone. The consultation arrangements put in place were that the HSE/NII would be consulted on, among other things, residential applications which resulted in an increase in population of 20 or more people. As I understand the situation, it was not stated, but understood by the HSE/NII, that Council's would monitor

² Planning Policy Statement 3: Housing (2005) (PPS3)

³ Planning Policy Statement 1: Delivering Sustainable Development (2006) (PPS1)

⁴ I note that this constitutes a formal objection on the grounds of nuclear safety and protection of the public.

- the grant of permissions for smaller developments in the context of the low population zone.
13. Following the announcement of the Nuclear Warhead Capability Sustainment Programme by the Government in 2005, a review of the demographics around the AAWE site was undertaken in 2006 and, in 2007, revised consultation procedures were advised, all applications which would result in an increase in population needing to be notified to the HSE/NII. The Council acknowledges that up to May 2008 the revised consultation procedures were not properly implemented in the Borough. It was during this time that 3 applications relating to the appeal site were determined, including the extant planning permission. The Council failed to consult the HSE/NII on any of these proposals or on a number of other applications in the locality where planning permission was subsequently granted for new residential development.
 14. The HSE/NII is concerned that the demographic margins within the DEPZ are approaching unacceptable limits. Comparing the 1995 base data with the National Population Database in 2008, the HSE/NII has found that it is apparent that there has been a significant erosion of the available demographic margins since the site was licensed. It estimates that there has been an overall increase of population in the DEPZ of around 200% in the southern sectors, while in the 30° sector within which the appeal site is situated this increase is nearer 300%. While, at the Hearing, the appellants questioned whether the data had been subject to sensitivity testing e.g. whether it accorded with the Hampshire small area forecasts, there is no substantiated evidence before me to demonstrate that the HSE/NII's view is incorrect. The HSE/NII considers that that the maintenance of a low population zone is the only effective non-engineered means of restricting exposure of the local population to radiation in the event of a potential release of radioactive material into the environment following a significant plant fault, and that it should be maintained for the lifetime of the licensed facility.
 15. I find it somewhat surprising that the issue of restricting population in the DEPZ around the AAWE is not reflected in Development Plan policy which allows for new development in the area. From my questions at the Hearing it appears that the HSE considered that the consultation arrangements would be effective and that their concerns would take precedence over Local Plan policy. However I have seen no evidence, aside from any failure in the consultation procedure which has occurred in the past, that there is systematic monitoring of the smaller developments so that an informed assessment of the overall situation can be made.
 16. New development in the area may not necessarily involve a significant increase in population (e.g. because of the provision of more units but for smaller households), but from the evidence before me it is clear that there has been a material increase in population in the DEPZ. While the appellants argue that the proposed development provides for only 3 more units or an increase in the population of 5 over and above the extant permission, or 18 over the existing situation, it seems to me that it is the cumulative effect of such small proposals which has led to what the HSE now considers to be an unacceptable erosion of the demographic margins.

17. The appellants point out that the Council's decision on this proposal is inconsistent with its approach to the Boundary Hall site where, in July 2009, it was resolved that planning permission should be granted for over 100 houses. As this resolution goes against the advice of the HSE/NII, in accordance with the advice in Circular 04/2000⁵ the application has been referred to the Government Office, though I understand that, as yet, no decision has been made as to whether the application will be called in. At the Hearing it was explained that Members considered the Boundary Hall proposal acceptable, contrary to the Officers' recommendation, for a number of reasons, mainly that it was an allocated site in the Local Plan, there had previously been residential accommodation on the site, and there were significant environmental and community benefits. Moreover the Committee had been informed that, although the HSE/NII had objected to the proposal, the Off-Site Emergency Plan for the area could accommodate the increase in population.
18. The appellants contend that if the Emergency Plan could accommodate the population from that much larger development, then the same must be the case for the appeal proposal which would involve significantly fewer additional people. However, as yet planning permission has not been granted for the Boundary Hall site and the HSE/NII maintains its objection to the proposal. Moreover, in the evidence before me there is no information in respect of the impact of the appeal proposal on the likely functioning of the Off-Site Emergency Plan.
19. The full details of the Boundary Hall scheme are not before me and there may well be other material considerations to be taken into account in that case of which I am not aware. However the need for proper emergency planning is an important material consideration in both that case and in this current appeal. The appellants have argued that the Secretary of State's decision on the scheme for The Oval was a landmark case which shows that the HSE's objections can be set aside if it is demonstrated that the Emergency Plan could cope with the increase in population. Having seen some of the consultation responses on the Boundary Hall application, I note that not all the various parties involved in the management and implementation of the Off-Site Emergency Plan were unequivocal in their support⁶ of that scheme, while others pointed out the additional resource implications of the development but gave no indication as to whether these would be met.
20. In conclusion, while the Local Plan does not preclude new development in this area, there are clearly other material considerations. On the basis of the evidence before me, I am not convinced that there would not be an additional risk to the public within the Detailed Emergency Planning Zone surrounding the Aldermaston Atomic Weapons Establishment in the event of an off-site release of radioactive material following a significant plant fault or that there is good reason to set aside the HSE/NII advice in this instance.

Other Matters

21. Local residents have objected to the additional traffic which would result from the development and have expressed concerns about the level of parking

⁵ Circular 04/2000: Planning Controls for Hazardous Substances

⁶ E.g. email from Hampshire County Council Emergency Planning Officer dated 24 June 2008 and Deputy Contingency Planning Officer, Thames Valley Police dated 17 June 2008

provision within the development. Their main concern is that additional parking in Shyshack Lane would cause a highway hazard which would be detrimental to highway safety, this being a popular route used by children walking and cycling to and from local schools.

22. 17 parking spaces are shown. This more than complies with the Council's adopted standard when the application was submitted (which would have required 15.5 spaces), and falls just below the newly adopted standard which requires 17.75 spaces. The Highway has raised no objection in terms of parking provision or safety subject to conditions regarding the access and adequate sight lines being provided and retained. I also note that this is not a matter which has been of concern to Inspectors who have considered appeals for similar numbers of houses on the site. There is no substantiated evidence to show that the parking provision would not be adequate, or that the traffic generated by 3 additional houses over and above that which have previously been permitted would have a material adverse effect on on-street parking and or highway safety in Shyshack Lane.
23. Although residents have raised issues about drainage, there is no evidence to show that there is insufficient capacity in the local system: at the Hearing the appellants pointed out that arrangements were already in place for 6 houses. In any event, approval of the drainage would be required to comply with Building Regulations.
24. Natural England initially commented that there would not be a significant effect on the nearby Site of Special Scientific Interest but, after slow worms, a protected species, had been found in the adjoining garden, further consultation took place. Normally a full survey of the impact of the development on biodiversity and any necessary schemes for mitigation would be required prior to planning permission being granted. However there is an extant permission for redevelopment of the site where such a survey/mitigation is not required (though the slow worms would still be legally protected). Therefore Natural England recommended that a condition requiring submission, prior to ground works being commenced, of details of a mitigation strategy based on a recent survey be imposed. While this would not strictly comply with the advice in PPS9⁷, it seems to me to be the most pragmatic approach given the extant planning permission which would mean the site could be developed without any such mitigation strategy.
25. While I do not consider that the appeal should fail in term of parking/traffic, drainage and biodiversity this does not outweigh my conclusions on the main issues.

Conclusion

26. For the reasons given above I conclude that the appeal should be dismissed.

Isobel McCretton

INSPECTOR

⁷ Planning Policy Statement 9 : Biodiversity and geological Conservation

APPEARANCES

FOR THE APPELLANT:

Nik Lyzba Dip TP, Dip CP, MRTPI	The John Phillips Planning Consultancy
Emily Sparrow BA(Hons), MSc, MRTPI	The John Phillips Planning Consultancy
Hugh Thomas	Appellant

FOR THE LOCAL PLANNING AUTHORITY:

Rebecca Fenn-Tripp MSc	Planning Officer B & D BC
Georgio Framalico	Development Control Manager B & D BC

INTERESTED PERSONS:

Dr John Highton	Principal Inspector, Nuclear Installations Inspectorate (Health and Safety Executive)
Cllr Mike Bound	B & D BC
Cllr Graham Round	B& D BC
Phillip Cooper	Local resident
Mr Jones	Local resident

DOCUMENTS SUBMITTED AFTER THE HEARING:

Document 1 Bundle of emails/consultation responses relating to the Boundary Hall application.

DRAWINGS:

A1-6 Drawings submitted with the planning application (Location Plan, 754.01-05)
B1-2 Tree Constraints Plan and Tree Protection Plan (6852/01-02)
C1 Drawings showing other developments with close gaps submitted by the appellants

Appendix 9

Emergency Planning Rebuttal

Town and Country Planning Act 1990
Section 78 appeal against the refusal of planning permission

Witness: Carolyn Richardson.

Subject of Evidence: Emergency Planning

Appeal: APP/W0340/W/22/3312261

Site: The Hollies Reading Road Burghfield Common Reading RG7
3BH

Proposal: Erection of 32 dwellings including affordable housing, parking,
and landscaping. Access via Regis Manor Road.

Date: May 2023

Council Reference: 22/00244/FULEXT

Rebuttal

Name: Carolyn Richardson

Title: Service Manager – Emergency Planning

Date May 2023

West Berkshire Council
Development and Planning
Market Street
Newbury
Berkshire
RG14 5LD

T: 01635 519111

E: appeals@westberks.gov.uk

www.westberks.gov.uk/planning

Rebuttal Points

- 1.1 I have reviewed the Proofs of Evidence from other parties including those provided by Katherine Miles, Director Pro-Vision and Dr Keith Pearce, Katmal Limited.
- 1.2 Throughout Katherine Miles documents she regularly refers to the evidence as provided by Dr Pearce. Therefore rather than repeat my points by way of rebutting both of their Proofs of Evidence I shall instead focus on the evidence provided by Dr Pearce.
- 1.3 In order to develop my rebuttals I have also consulted with the Emergency Planning Managers at Wokingham and Reading Borough Councils, and the Emergency Planning Manager covering both Councils in 2019/2020. In addition I have consulted with Mr Duncan Cox, MSc MRSP Radiation Emergency Response Group Leader, Radiation, Chemical and Environmental Hazards Directorate, UK Health Security Agency (UKHSA). All those whom I have consulted with are members of the AWE Off-Site Planning Group and therefore have a direct interest in this application. Their feedback ratified my concerns and are therefore reflected in this rebuttal.
- 1.4 Throughout the evidence provided by Dr Pearce there were a significant number of points made which were often inaccurate, based on assumptions which cannot be founded and in some cases could potentially place people at risk if followed by the public. I have therefore provided my rebuttal commentary in the order of Dr Pearce's Proof of Evidence as set out below.
- 1.5 **Para 13:** Dr Pearce states that he has 'helped local authorities, including Reading and Wokingham Borough Councils, understand the Consequence Report sent to them by operators; helping them understand the risk profile of the site they host and to develop appropriate off-site plans'

This statement is inaccurate and following consultation with both Councils in relation to this statement I can confirm that:

- a. it was in fact this Council, West Berkshire Council, which provided the Consequence Report to Wokingham and Reading Borough Councils and not the operator, AWE;
- b. neither Reading nor Wokingham Borough Councils 'host' the AWE sites, instead West Berkshire Council does and
- c. other than a report in relation to the Consequence Report and limited information provided in a report to the Council no assistance was provided in relation to 'develop

appropriate off-site plans' since they do not have off-site plans instead there is one AWE Off-Site Emergency Plan coordinated by West Berkshire Council.

- 1.6 **Para 19:** first point, second paragraph Dr Pearce states 'an accident at AWE (B) leading to the triggering of the OSEP and urgent protective actions could inconvenience the population without being a material threat to their health and wellbeing'

In my opinion the above statement of Mr Pearce does not take account of the impact that a radiation emergency will have on the community directly or indirectly as set out in my proof of evidence (Section 8) and therefore would be a material threat to their health and wellbeing.

- 1.7 **Para 19:** second point Dr Pearce states that 'The increased number of inhabitants of the DEPZ will not put a material additional strain on the resources of the Off-Site plan'

In my opinion, and that of the UKHSA, any increase in the number of residents in the DEPZ places additional potential burden on the requirement to monitor members of the public for radioactive contamination/intake should a release occur. The development therefore does /would impact on the off-site plan and supporting plans.

In addition in this second point, third paragraph Dr Pearce states that 'the elevated dose rates would be a short duration, (during the passing of the initial plume) with resuspension around 1% thereof and this immaterial'.

I am advised by UKHSA that whilst the instantaneous air concentration due to resuspension is lower than that during the plume phase, the duration that resuspension presents a risk is far longer and thus may well present a significant hazard which requires relocation of parts of the population from contaminated areas. This would be subject to decisions at the time of the emergency.

- 1.8 **Para 38:** Dr Pearce states 'Because of the nature of the release (plutonium dioxide powder) members of the public are only at risk while the plume is passing, once it has passed the dose uptake rate would be very much lower (around 1% of the plume passage dose). There will be no need for sheltering for more than a few hours in terms of dose avoidance (though residents may be asked to shelter for up to 2 days to allow full flexibility of operations in the local area for responders) and no need for eventual evacuation or relocation'

In my opinion to suggest that shelter may be necessary for a few hours and that residents may be asked to shelter for more time and up to 2 days to allow flexibility for responders, is not only inaccurate but also potentially such a statement could put people at risk. It is clear in the Consequence report of 2019 (Appendix 1 of my Proof of Evidence) that there may be a reason for sheltering to be required for up to 48hrs based on the radiation risk at the time and not as is suggested to accommodate the responders. The statement made by Dr Pearce also does not take into account the duration that resuspension may present which UKHSA have advised is a risk for far longer and thus may well present a significant hazard which requires relocation/evacuation of parts of the population from contaminated areas. This would be subject to decisions at the time of the emergency. In addition it does not take account of the fear factor, the reassurance needed etc by the community as set out in my Proof of Evidence.

This latter point also relates to the statement made by Dr Pearce in **Para 84: point 4 and Para 129.**

Therefore I do not agree with Dr Pearce's statement.

- 1.9 **Para 39:** Dr Pearce states towards the end that 'the doses likely to be received are comparable to those met in everyday life' and these would pose 'no material threat to the health and well-being of the occupants on the development'

In my option this is inaccurate and, as I understand it, it is accepted within the UK and by the International Commission on Radiological Protection (ICRP) that any radiation received increases the risk of stochastic effects proportionally. Again Dr Pearce's statement also ignores the impact on the community affected in relation to their health and longer term well-being in relation to a radiation emergency as set out in my Proof of Evidence.

- 1.10 **Para 40:** Dr Pearce states that 'The Proposed Development is so distant from AWE Burghfield that urgent evacuation would not be required even for extreme accidents (as is confirmed in the off-site emergency plan), and *longer-term relocation will not be necessary for those living on the site*'

I would totally disagree with the final point made in this paragraph in that it cannot be stated with any degree of certainty that relocation/evacuation would not be required.

The urgent protective actions in the off-site plan (sheltering) provide some protection from the inhalation of radioactive material in the plume. Decisions on relocation (evacuation), whether temporary or permanent, would be taken by multi-agency responders at the time of an emergency taking empirical data on what has happened into account at that time. Therefore evacuation/relocation is certainly something that may be necessary and the impact on responders and importantly those involved simply cannot be ignored.

- 1.12 Para 48:** Dr Pearce states that ‘This plan must cover the DEPZ, hence the increase in the area of the DEPZ in 2020 required the local authority and the other emergency responders to undertake detailed planning over a wider area than previously. They have now had several years to manage this. As part of this exercise, local authorities took into account the consented but not built development located within the newly expanded DEPZ.’

The above statement implies that regardless of the increase in the DEPZ geographic area along with the associated residential and commercial units plus the additional approved but not built developments the AWE Off-Site Emergency Plan can simply be rewritten. Whilst the plan has been revised in light of the changes, as stated in my Proof of Evidence Section 6 showing the scale of increase and Section 9 in particular from 9.10 onwards in relation to rest centres and evacuation in the short and long term, there is clearly a shortage of such accommodation. Therefore the implication that we ‘have now had several years to manage this’ is totally simplistic and does not take account of the impacts and learning from other incidents as set out in section 8 of my Proof of Evidence.

Therefore I would refute the comments made and the simplicity implied.

- 1.12 Para 51:** Dr Pearce highlights an action in the AWE DEPZ Determination Report 19 Jan 2023 (Appendix 3 to my Proof of Evidence and on West Berkshire Councils website) as ‘Revising the AWE Off-Site Emergency Plan in order to mitigate the impact for those people/properties now included in the DEPZ’.

In my opinion Dr Pearce has not noted a key factor that this action on fact relates to 3 properties around the AWE (B) site all of which are on the very extreme edges of the DEPZ as set out in Appendix A of that report.

Therefore unlike the subject of this appeal which is in the area requiring urgent protective actions the mitigation required and impact is significantly different.

- 1.13 Para 52:** Dr Pearce states that 'REPPIR Regulation 16 allows the local authority to charge the operator a fee for the performance of the local authority's functions in relation to the off-site emergency. Thus, the cost of the plan and its management are borne by the operator and not the local taxpayer.'

The above statement is inaccurate in that the regulation allows for the local authority to charge the operator a fee for the performance of the local authority's functions in relation to the off-site emergency plan relating to the operators premises under regulations 8, 11, 12 and 21. Not, as may be implied by the statement by Dr Pearce, in relation to the off-site emergency which suggests fee recovery from the operator in response. In addition in relation to the statement about the costs not being borne by the local taxpayer but the operator, it should be noted that this operator is AWE on behalf of the Ministry of Defence and therefore costs are ultimately borne by taxpayers.

- 1.14 Para 55:** Dr Pearce states in Para 55 that 'They do not report if this process has led to an agreed recovery plan'

In my opinion this statement is inaccurate in that REPPIR19 does not require a recovery plan, instead it requires that 'The emergency plans should also specify the action to be taken to ensure a smooth transition to the recovery phase.' This process is detailed in the Off-Site Emergency Plan.

Such a 'recovery plan' was also not requested in the letter sent to West Berkshire Council and other councils on 13th August 2021 as shown in **Appendix A**. Instead it was requested that each Council with an interest in the DEPZ for both AWE sites inform ONR should an application be approved contrary to their advice. This is the case with this Council.

Therefore the information being shared and implied by Dr Pearce is inaccurate.

- 1.15 Para 69:** Dr Pearce states that '**if West Berkshire Council had expressed more confidence in their own off-site plan, then the ONR objection as stated would be withdrawn**'

In my opinion I believe that through the long standing working relationship between the regulators, ONR, and West Berkshire Council through regular regulatory meetings, the Multi-Agency Off-Site Planning Group meetings, and observing and taking part in workshops and exercises (there have been at least 7 such events since May 2021 to Apr 23). The ONR, I believe, fully understand the issues relating to additional developments within the DEPZs of both AWE sites, hence the letter of 13 Aug 2021, **Appendix A**. The ONR also understand the AWE Off-Site Emergency Plan including its limitations, some of which are national limitations. Therefore I believe they have knowledge, confidence and trust in the Council's responses to planning applications. Therefore it is not for the Council to be more confident in the Plan capability but to offer a realistic, honest understanding of the capabilities and issues with the regulator and be on a constant cycle of improving where possible.

- 1.16 Para 74:** Dr Pearce states 'In a meeting on 5th October between the Appellant, the Council's Planning Officer (Mr Butler) and the Emergency Planning Officer (Ms Richardson) (CD 5.13) the Emergency Planning Officer referred to needing to draw a '*line in the sand*' (my emphasis) somewhere, and she therefore took a personal view and chose to draw that line so as to exclude sites which were allocated for development in the Development Plan but which did not, at the time of the review, have permission. There is no record of this important and somewhat arbitrary decision being discussed among the local authority strategic decision makers nor was any rationale offered.'

I would disagree with the 'personal view' comment but instead would advise that at the preapp discussions I offered my professional view in relation to the 'line in the sand'. It should however be noted that these issues are also considered by the AWE Off-Site Planning Group, a multi-agency group of up to 27 agencies, and is based on data and considerations relating to the AWE Off-Site Emergency Plan and therefore the public health and well-being implications and in Section 9 of my Proof of Evidence. There was, as also detailed in my Proof of Evidence, a 'material change' in the situation when the DEPZ geographic area changed. Again not undertaken as a result of my 'personal view' but based on REPPIR 19 and the supporting Approved Code of Practice and guidance, the procedures and outcome of which was upheld at the Judicial Review as detailed in January 2021. All of which is reliant on the Consequence Report and the details relating to the area where urgent protective actions are required within which this appeal site sits.

In addition a lot of work has been undertaken across the four Council to review the numbers of properties and the types of properties within the DEPZs which are in existence and, as stated in my Proof of Evidence in para 7.12, an “audit” is undertaken in relation to what applications have been approved within the DEPZs for both sites and are still valid. I should state here this is data which is available in the public domain since it is linked to the Annual Monitoring Report with the data available on the planning portal. It is used by Emergency Planning in order to consider the DEPZ determination, the AWE Off-Site Plan development and in relation to development control applications. It is not a public document but a working document as a result but the data is requested annually in order to ensure currency. **Appendix B** shows the information which was made available for around AWE B site for 2022.

- 1.17 Para 94: Dr Pearce states that** ‘The OSEP (CD 5.42) also notes the possibility of a tritium release. Tritium is of low radiological toxicity and would rapidly disperse in the environment but can cause harm if it gets inside a human body. However, the OSEP states that “an accident involving the dispersion of plutonium would present the greatest potential hazard to the public if it were to occur” *and is thus the accident to use to scope the OSEP based on the presumption that the resulting plan can cope adequately with the different faults that have been considered*’.

It should be noted that tritium is not mentioned in the Consequence Report for AWE (B) site instead it relates to AWE Aldermaston (A) site only at the moment and is therefore irrelevant to this case.

It should also be noted that the AWE Off-Site Emergency Plan is written in accordance with the REPP19 regulations and is based on regulation 11 which requires that an ‘adequate off-site emergency plan covering that zone or zones’ is developed, where the zones relate to the Detailed Emergency Planning Zone(s) and Outline Planning Zone (OPZ), which of course are based on the Consequence Report which AWE provides based on their analysis. The commentary provided by Dr Pearce therefore makes many assumptions on the hazard and faults whereas the plan is based on the facts provided by AWE and in line with the requirements of REPP19.

I have already made comments in relation to the point made that the plan ‘can cope adequately’ in my Proof of Evidence and in this document and so will not repeat it here.

There are however some assumptions and inaccuracies in Dr Pearce's document which do not reflect the reality.

1.18 Para 114 & 115: Dr Pearce has stated that (114) 'It may be considered relevant by the Inspector that the extent of the DEPZ is based on weather that only occurs during the night since the post-Fukushima "Stress Test" report for the AWE sites (CD 5.30)57 states that "*Operations are undertaken on a batch production basis, **almost wholly during standard daytime working hours** with nuclear production materials stored overnight in safes within the nuclear facilities*".'

and (115) 'It seems likely that for most of the time that the area is experiencing category F weather AWE(B) is not operational and the nuclear production materials safely stored. It is also likely that fewer people are out and about in the local area, rather than in their homes. One apparent contrast would be an evening kick-off at the Majewski stadium (capacity: 24,161), Reading FC's stadium which is located within the expanded UPZ / DEPZ'.

In my opinion this is wholly inaccurate based on my understanding of the weather conditions and the potential for 24hr/365 operation at the AWE sites. It also implies that people when they finish school and work go home and stay there which again is not accurate. It also suggests that if people are out of their home and out of the area when a radiation emergency happens then the impact is reduced. This again is not necessarily the case. Indeed it can complicate the response further since there are likely to be people who are needing support outside the area, who are potentially concerned about their home and people who are at home or in work or school in the affected area. They are also likely to be out of the house with no additional clothing, medication etc etc. As a result there will be an additional resource placed on responders by way of setting up Assistance Centres for those who are out of the DEPZ area when a radiation emergency occurs. The comments made about the Select Car Leasing Stadium (formerly Madjeski Stadium) also imply it is only used for football games; this is not the case.

Therefore, in my opinion, the information provided by Dr Pearce is inaccurate and simplistic in relation to the reality of the impact of a radiation emergency whenever it occurs.

- 1.19 Paras 146- 152:** Dr Pearce provided information about the response which is limited, inaccurate and simplistic. Much of which is referred to in my Proof of Evidence however to reinforce my concerns Dr Pearce states in:
- a. Para 146 that there are about 7000 households. This is nearly correct in that there are currently in the order of 7738 residential units, however this equates to 18,571 people, in addition there are also ~ 934 commercial units, 6 care homes and 9 children's nurseries and schools and associated children and staff.
 - b. Para 147 states that 'AWE will prepare and promulgate a situation report', repeating as necessary. AWE will only be one organisation providing information since it is recognised as the 'polluter' the community will require independent expert assurances.
 - c. Para 148. There is no such thing as a 'local authority Strategic Coordinating Centre' instead the Centre is a multi-agency coordinating arrangement.
 - d. Para 149 refers to monitoring which will take place. What this does not provide details of however are the resources required by way of equipment and specialists to undertake the work and the time required to do this work which would increase with more properties to monitor, nor does it relate to people monitoring and the resources required for that which again is a specialist role.
 - e. Para 150 refers to mutual aid. Whilst there are agreements in place the number of people potentially required is challenging in short in term 'normal' incidents but the requirements for a longer term or radiation emergency adds to the complexity of arrangements which would need to be put in place. Any mutual aid support will also need to have a degree of understanding about radiation and REPPiR, therefore support from other areas with nuclear sites is an option. There are therefore limitations in relation to mutual aid support.
 - f. Para 151 is misleading in relation to the complex nature of any recovery never mind one with radiation.
 - g. Para 152 suggests that all the above, and in general the response to an AWE radiation emergency, does not get more complicated or require more resources by way of scale with increased populations. I would dispute this statement in that there are more properties to check, there are likely to be more vulnerable people, more people either wishing or requiring radiation monitoring, more properties requiring monitoring and potentially decontamination, more people needing to be subsequently evacuated, more rehousing needs and ultimately a greater number of people having their health and well-being affected.

In summary the points made by Dr Pearce in relation to the response are misleading in their simplistic nature.

- 1.20 Para 156:** Dr Pearce states ‘The two-day duration claim is notable. *For the explosive distribution fault, I have established both that the release is of a short duration and that the deposition that might occur will not lead to a significant ground dose, resuspension dose or ingestion dose.* The OSEP has (CD 5.42)90 “The nature and extent of protective actions will be continuously reviewed by STAC. Advice on amending protective actions will be provided by STAC to SCG, based on the scientific and technical information available at the time”. *STAC will* therefore have access to expert scientific assessments. It is likely to be possible to advise people that *they can break shelter and return to near normal life* (with exceptions of not harvesting and eating food that was outside during plume transit) within an hour or two of the alarm. This would certainly be true for all those sectors that were not downwind during the release. For the downwind sectors some measurement and dispersion modelling may be required to determine if shelter should be continued near to the site but, at the distance of the proposed development, a quite quick decision to drop the shelter advice might be possible’.

I make particular note to the commentary in italics. This is not for Dr Pearce to assume since he is not the site operator and was not involved in the development of the Consequence Report. Therefore the commentary thereafter in relation to the two days sheltering is speculative.

The suggestion that residents can ‘break shelter’ and return to near normal life within an hour or two is wholly inappropriate and is alarming that this is now in the public domain. What Dr Pearce does not take account of is that the incident may not be under control within a couple of hours, monitoring and full assessment of the environmental contamination will not be completed within a couple of hours, any people monitoring by way of a Radiation Monitoring Unit will not be in place and fully operational for approximately 24hrs and based on UKHSA figures of 20mins per person to undertake contamination monitoring the time period to undertake the assessments is a prolonged, key decisions need to be made in order to ensure that it is safe for the community to come out from shelter and that must be done on evidence. Therefore in order to allow for the incident on site to be under control, environmental monitoring to be undertaken to allow for considered appropriate advice to be provided and arrangements put in place for people monitoring then the two days (48hrs) is a credible figure for any radiation emergency regardless of cause. In addition the Consequence Report contents, as agreed by UK Health Security Agency (UKHSA) in 2019, and which is referred to in the public booklet clearly state that there is a potential risk that sheltering will be required for 48hrs. This duration is used as it is considered that if sheltering is required for longer, there are additional, non-radiological, risks faced by

the population, such as access to medication and food, and that as a result there may be a need for controlled relocation.

Therefore in my opinion the comments made in para 156 by Dr Pearce should be totally discarded.

- 1.21 Para 157:** Dr Pearce states that ‘Environmental radiation monitoring, which would largely be for reassurance except near to scene (ie, much nearer to AWE than the appeal site), could continue after the event has moved into the recovery phase’

This is factually incorrect in that Environmental monitoring is needed to provide data to *inform evidence based decision making*, not only reassurance. In addition it will continue into the recovery phase in order to ensure the clean-up is effective.

It should also be noted that the people monitoring as indicated in Para 157 (iv) could also include those in the appeal site and therefore add a further day to run a Radiation Monitoring Unit based on 77 residents and 20mins/person to undertake the monitoring.

Therefore it is my opinion that Dr Pearce has not accurately reflected the requirements or complexities of monitoring strategies and their implementation.

- 1.22 Para 158:** Dr Pearce states ‘It is worth noting that the recommendation is not for strict sheltering where it is forbidden to enter or leave the building under any circumstances.’

Whilst he does go onto explain this may be in relation to vulnerable groups in planned evacuation what he neglects to advise is that people need to go into the area affected in order to do this. In addition Dr Pearce quotes from guidance which is over 32 years old which has been superseded by Health and Safety Guidance in particular the 2019 Public Health Protection in Radiation Emergencies¹. Within this document it states ‘Sheltering-in-place involves individuals going inside buildings, closing doors and windows, and turning off ventilation fans and air conditioning. The best protection is provided by solidly constructed and reasonably airtight buildings. As a stand-alone action, sheltering-in-place can Protective actions 7 be used to provide protection

1

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/805655/Advice_for_Radiation_Emergencies_2019.pdf

against external radiation from airborne gases and particles which have been deposited on the ground in inhabited areas’

The document states further that ‘The health and wellbeing of sheltered populations may be affected by restricted access to medical care or assistance. In such situations, consideration should be given to supervised entry into the sheltered area by medical professionals and carers, or planned evacuation of these vulnerable groups. Residents of hospitals and nursing homes can face additional challenges, for example, sheltering-in-place without electrical power can be fatal for those dependent on modern technology such as ventilators. Therefore, if electrical power is lost, evacuation of the vulnerable groups is likely to be essential in such situations. Similarly, specific support and advice should be provided to farmers needing to tend livestock and those managing key infrastructure. Sheltering-in-place is not a long-term option and whilst it is potentially straightforward to implement, its use should ideally only be planned to last hours, and, at most, 1 or 2 days. In order to minimise the anxiety and stress created by advice to shelter, it is important to ensure communication with those sheltering is continuously maintained through appropriate communication channels. In particular, those sheltering-inplace for prolonged periods require reassurance that the advice has not changed and that those from whom they may be separated (for example, children at school, partners at work) are being properly cared for.’

Therefore current guidance at no time suggests doors etc should be opened.

It should also be noted that the Council has access to the subject matter experts such as UKHSA who use the generic guidance as detailed in documents such as the Public Health Protection in Radiation Emergencies and using their technical knowledge of the nuclear site provide the bespoke advice specific to the hazards and risk in order that the Off-Site Emergency Plan can be developed. This is what has happened in relation to the AWE Off-Site Emergency Plan.

As a result, like Para 156, I believe this is of real concern that this is being stated in the public domain, could put the public at risk and should therefore be discarded.

- 1.23 Para 159:** Dr Pearce states that ‘people should thoroughly ventilate their houses as soon as the release has stopped and contamination levels in the outside air have fallen’ he also states ‘This will occur in less than an hour for the whole of the Urgent Protection Action Zone in any non-calm weather conditions’.

This information is taken from a 32 year old document and is factually incorrect in that there is no Urgent Protection Action 'Zone' and any advice to ventilate houses and other buildings will only be *issued based on data obtained at the time*.

- 1.24 Para 160:** This para reiterated the 'reality' to be 'unnecessary to ask people to shelter for more than an hour or so after the explosion' and that 'they should ventilate their buildings'

This para is factually incorrect in that advice would be issued to remain in shelter whilst environmental monitoring is undertaken to confirm that contamination is at levels where there is sufficiently low hazard to lift sheltering. The advice *is not only based on time*.

The inaccuracies cause the Council significant concern in that they are being placed in the public domain and are one person's view rather than the experts from a wide range of agencies involved in the AWE Off-Site Emergency Plan development and response who have detailed knowledge of the site and the response activities. There is as a result of this commentary a risk of harm to people should they follow the advice of not strictly sheltering, opening doors and ventilating their house within an hour of being notified of the incident.

I would therefore recommend that this whole section 5.5.2. from Dr Pearce is discarded.

- 1.25 Paras 164 - 166:** Dr Pearce states that 'The risk analysis behind this statement includes accidents involving chemicals.'

This is incorrect it did not include chemicals but was based on radiation emergencies.

Dr Pearce also states that 'I conclude that it is not credible that the proposed development site, 2.4km from AWE Burghfield compared to a potential urgent evacuation to 150 m and subsequent evacuation to 600 m, will need to be evacuated because of an event on the AWE Burghfield site.'

This is inaccurate in that it does not account for subsequent evacuation as a result of people not being able to shelter in the buildings they are in beyond 48hrs as per the

guidance Public Health Protection in Radiation Emergencies² and the advice given by UKHSA and the STAC at the time of the response and as demonstrated in my Proof of Evidence.

- 1.26 Paras 168:** Dr Pearce states that 'Initial interest will be in tracking the plume and *discussing the needs* for urgent protective actions such as shelter but interest will turn towards environmental monitoring to inform any decontamination strategy'

This statement is incorrect since due to the release there will be only 25mins from start of incident to when people should be under shelter therefore the default urgent protective action is to shelter there will be no time in the initial phase to *discuss the needs* but a default precautionary action to get everyone into suitable shelter.

- 1.27 Para 169:** Dr Pearce states that in relation to guidance in the 2023 booklet about removing clothing and having a shower is 'in my view this would primarily be for reassurance rather than making a material improvement in likely outcomes, particularly for those some distance from the site'.

In my opinion this is misguided in that the guidance issued in relation to self-decontamination, which is based on advice from UKHSA, follows the principle of keeping doses as Low as Reasonably Practicable (ALARP).

Therefore Dr Pearce in his statement negates the aims of removing and reducing the impact on the community in the affected area therefore reducing the risk to public health and well-being.

- 1.28 Para 170:** The statement made by Dr Pearce is factually correct but it is unclear why it is included.

It should be noted however that whilst the Fire and Rescue Service have these capabilities it is a national capability and not an unlimited supply of resources by way of equipment and fire service staff. In addition locations to undertake the decontamination need to be found, the water used removed to prevent contaminated water going into the sewer systems.

2

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/805655/Advice_for_Radiation_Emergencies_2019.pdf

Therefore again a simple statement made but the reality is a lot more complex to put in place.

- 1.29 Para 171, 172 and 173:** The statement made by Dr Pearce that ‘the radiation levels predicted at the development site in the aftermath of an accident at AWE Burghfield are likely to be below those at which remedial decontamination action is likely to be required’

In my opinion, and that of UKHSA, this statement is flawed in that until the day a radiation emergency happens and the monitoring is undertaken the remedial/recovery actions cannot be fully predicted. In addition as stated in my Proof of Evidence what is not taken fully into account in the evidence provided by Dr Pearce is the ‘fear’ factor and assurances required from the community affected.

In addition as stated in Para 173 by Dr Pearce ‘Some self-help decontamination, such as hosing of cars, pathways and garden furniture might be advised by the government. This would largely be for reassurance rather than making a real difference to dose uptake. External dose rates will be low as will doses due to resuspension and contamination of foodstuffs’.

In my opinion the self-help decontamination suggestions again are simplistic since any decontamination process needs to consider the knock on effects such as contaminant in the sewer system, any Personal Protective Equipment necessary to protect the people undertaking the activity. In addition, and following consultation with UKHSA, the statement in relation to residual doses cannot be stated with certainty until environmental monitoring is undertaken. The protective actions in the plan are based on a postulated scenario for planning purposes, to state ‘will’ infers that this is the scenario that ‘will’ happen. Emergency response activities will use pre-planned protective actions as a reasonable start state and adjust advice according to the situation as it unfolds.

Therefore again Dr Pearce is over simplifying what would be a complex data based response to a radiation emergency.

- 1.30 Para 174:** Dr Pearce states that ‘Monitoring of local residents themselves is not time critical’

I would totally disagree with this, as do UKHSA. There is a risk of mental health and wellbeing impacts due to the worry of being contaminated which can, in part, be mitigated by undertaking personal monitoring. Delaying this unnecessarily adds to these impacts.

- 1.31 Para 175:** Dr Pearce refers to some options for decontamination but suggests that 'The above relates to land nearer to AWE (B) than the appeal site.'

In my opinion, and that of the experts at UKHSA, this is factually incorrect in that Dr Pearce does not know what the levels of contamination will be and therefore what decontamination will be required at the site or elsewhere within the DEPZ.

In addition in **Para 176 states that** 'the presence of ground contamination might lead to a desire of some residents of the Proposed Development to relocate. However, any such desire does not affect the plan (and therefore does not require WBC to obtain or provide accommodation).'

In my opinion this will affect the plan since those residents are very likely to need support to move out of the contaminated area, need support in their 'relocation' and assurances in relation to their property as detailed in my Proof of Evidence. Therefore I do not agree there would be no impact on the Council or other responders as a result. The comment made however does reiterate the points I have made about the 'fear' and wishing to leave the area.

Dr Pearce also states that 'the levels of ground contamination would be too low to justify relocation on a health basis.'

In my opinion this too is conjecture and does not take into account mental health implications.

- 1.32 Paras 181 & 182: Dr Pearce states in para 182 that** 'A small increment in the areas population, particularly one at 2 km from the site, would not add materially to the resources required for these steps to be taken'

In my opinion this statement is simplistic. There are many strands to be put in place to support peoples well-being as stated in Para 181 do not take into account the cumulative effect of a further 32 dwellings (77) people on top of those already in the

area by way of resources (equipment and people) and therefore the risk that peoples' health and well-being are placed at risk as a result. This is explained more in my Proof of Evidence Section 9.

- 1.33 Para 186:** It is noted that Dr Pearce quotes a recent appeal decision in Wokingham Borough Councils area and it is noted that the Inspector stated "*Although fear of contamination may prevent workers from entering the DEPZ, this could be disproportionate to the actual risk.*" He concluded that "*the proposal (for 49 affordable dwellings within the DEPZ) would not present a barrier to the ability of blue light services to safely carry out their duties, and nor would it affect the Council's ability to execute and manage its obligations under the REPPIR plan*".

I totally disagree with the comments made in that should workers not go into the contaminated area of the DEPZ then the lives of vulnerable people could be at risk. Some clients need visits up to 6 times a day with life dependency requirements and some have mental health challenges which when a routine is changed can have significant if not fatal consequences therefore for the Inspector to make such a comment is disappointing but no doubt based on the evidence provided. I would also refute the comment about an addition of 49 dwellings not presenting a barrier to the ability of the 'blue light services' to carry out their duties. The blue light services may not be so adversely affected but they will be affected and it needs to be noted that the blue light services are only 3 of at least 27 responders and therefore the implications on health services such as health workers, utility workers etc will be significant and therefore another 32 homes on top of those already there will have an adverse impact to the point that the health and wellbeing of others may be adversely affected. This will be the case regardless of the training and exercising programmes put in place due to turnover of staff within organisations.

- 1.34 Para 188:** Dr Pearce makes reference to the AWE Aldermaston DEPZ and the number of properties associated with that area.

This is noted however similar to the AWE Burghfield site many of the properties within the DEPZ were in existence prior to 2001, many of them being ex MoD sites associated with the AWE site prior to being sold into private ownership. The Boundary Hall, Tadley application and subsequent appeal resulted in processes being put in place for both sites by way of consultation and criteria. There is absolutely no doubt in my opinion

that the plan and therefore the responders will be significantly stretched should the area of Tadley be affected with a radiation emergency.

Finally I would suggest that 'two wrongs do not make a right' in that the community of Tadley as it is was largely inherited by the Emergency Planning services from 2010 onwards and just because it has more densely populated communities close to the site boundary does not and should not be the 'excuse' to build more in the AWE Burghfield DEPZ and therefore potentially placing peoples' health and wellbeing at risk.

- 1.35 Paras 190-194.** Dr Pearce's comments are noted in relation to the possibility that if everyone did as advised and sheltered then the road movements would be limited, and therefore anyone making a move would not have limited impact.

However any movement of vehicles has the additional risk of re-suspending any contamination, the main road outside the access route to the site is the main road between AWE (A) and AWE (B) and therefore it will not only be 'blue light' emergency responders but specialists from AWE who are likely to be using this main access route. In addition in there aspiration to get away from the area there is a risk that residents do not take the road towards the south and west but instead move towards the hazard.

In my opinion my arguments as to the potential impact of an additional 77 vehicles and their occupants, on top of any others which may decide to self-evacuate is a risk which should not be dismissed.

- 1.36 General Commentary:** It is noted throughout the Proof of Evidence provided by Dr Pearce he appears to 'argue' the details in the Consequence Report and therefore the risks and likelihoods associated with it. Others are better placed than me to provide detail in relation to some of this. However in my opinion the regulators have overseen the process and if there was no risk or likelihood of a radiation emergency arising from an AWE site then the requirement placed on the Council under REPPiR 19 would not be necessary.

In addition I am concerned that Dr Pearce regularly refers to REPPiR 01, documents which are over 12 years old or superseded by new documents (NRPB 1990 has been replaced by Health & Safety Executive guidance) or references from Wikipedia (page 27 of 52) which in my opinion is confusing and often inappropriate to use out of date documents.

In addition it is noted that Dr Pearce also often uses circumstantial evidence and many assumptions which do not necessarily reflect accurately the current situation and confuses matters in relation to the facts – the impact of the proposed development on the AWE Off-Site Emergency plan, supporting plans and therefore responders and importantly the impact on the community in the short, medium and long term by way of health and wellbeing.

1.37 Other Matters

The Council has been emailed by Katherine Miles dated 19/05/2023 which raised a point of clarification on 7.12 of my proof. The email asked the following;

“You refer in Para 7.12 of your Proof of Evidence in respect of this appeal to “the 2022 annual audit” of “planning applications approved but not built”, however a copy of this audit is not within your evidence.”

The 2022 annual audit referred to is an internal working document on planning permissions built and granted. It is not a public audit but an interpretation of publically available data from planning permissions and the Councils interactive mapping system. The Council accepts the name of this document could have been clearer in the proof.

This information is publically available by compiling information on permissions granted, annual monitoring reports and our interactive map information. We are providing it for ease and clarity in our evidence but is all publically available. We attached this as **Appendix B**.

Appendix 10



UK Health
Security
Agency

Advice to West Berkshire Council on radiological impact assessments

Related to planning applications around the AWE sites of Burghfield and Aldermaston

Contents

Advice to West Berkshire Council on radiological impact assessments	1
1 Purpose	3
2 Role of UKHSA in providing advice	3
3 Main Comments	5
3.1 Short-term versus longer-term doses	5
3.2 Supporting vulnerable individuals.....	7
3.3 Sheltering and relocation advice	7
3.4 Impact on emergency services.....	8
3.5 Environmental Monitoring after a radiation emergency	9
3.6 People Monitoring after a radiation emergency	9
4 References	10
About the UK Health Security Agency	11

1 Purpose

This report has been commissioned by the West Berkshire Council as the lead emergency planning Local Authority and as part of the UKHSA existing REPIR advisory service to assist them, and other Local Authorities, when they are consulted on land use development applications which contain radiation risk assessments and also when they object to planning applications or appear at planning appeals. Whilst it was commissioned by West Berkshire Council, the advice relates to radiological impact assessments submitted to West Berkshire Council, Basingstoke and Deane Borough Council and Wokingham Borough Council to support planning applications around the AWE sites of Aldermaston and Burghfield.

Although there are numerous planning applications that documents covered by this report relate to, the arguments made in the supporting assessments are similar. The purpose of this report is to draw out and discuss the main points related to the health risks from exposure to radiation into one document.

2 Role of UKHSA in providing advice

UKHSA provides advice on public health protection in the event of radiation emergencies. The Health and Social Care Act (HSCA) 2012 outlines the provisions for radiation protection functions for England (Section 11) and the devolved administrations of Scotland, Wales, and Northern Ireland (Section 58). Public Health England (PHE) was the appointed agency responsible for the Secretary of State for Health and Social Care's duties under the HSCA from 2013-2021. PHE was superseded by the UK Health Security Agency (UKHSA) in 2021. In accordance with the HSCA, UKHSA must comply with the relevant legal framework for emergency preparedness including the Civil Contingencies Act (CCA) 2004. The CCA forms the legal basis for emergency preparedness in the UK and lists UKHSA as a Category 1 responder. As such, UKHSA's responsibilities in radiation Emergency Preparedness, Response and Recovery (EPRR) extend to cover the UK in its entirety.

The Radiation, Chemical and Environmental Hazards Directorate (RCE) is one of UKHSA's Specialist Services and is the focal point for independent advice on health risks from exposure to radiation. Although RCE's expertise relates to radiation protection advice, its advice on Public Health Protection in Radiation Emergencies [1] acknowledges the importance of non-radiological issues concerning decisions on withdrawal of the urgent protective actions of sheltering-in-place and evacuation and these are also discussed.

Regulation 7 of the Radiation (Emergency Preparedness and Public Information) Regulations 2019, known as REPIR 2019, requires site operators to provide the Local Authority in which their site is based with a consequences report which sets out any minimum geographical extent from the premises, that should be covered by the Local Authority's off-site emergency plan for the site.

Local authorities may request advice from UKHSA RCE in support of their interpretation of this consequences report as an input into the process of determination of the Detailed Emergency Planning Zone (DEPZ) and other arrangements included in the Off-site Emergency Plan. Under Regulation 11, West Berkshire Council is required to consult UKHSA on the Off-site Emergency Plan (OSEP) and other matters affecting the overall public health response. UKHSA provide ongoing advice to West Berkshire Council as provided for in the REPPIR legislation.

In 2019, West Berkshire Council requested that PHE provide advice on the consequences reports for the Atomic Weapons Establishment (AWE) sites Aldermaston and Burghfield. Based on the information provided by AWE in the consequences reports for the Aldermaston and Burghfield sites and the supplementary information provided by email, PHE recommended that West Berkshire Council should consider adopting the recommendations of retaining the existing DEPZ distance for the Aldermaston site and implementing the distance of 3160 metres radially as a minimum for the Burghfield site with sheltering in both cases being the protective action. However, PHE did not have details of the dose assessment analysis on which AWE's consequences reports are based and therefore was not able to undertake any confirmatory calculations. PHE's comments were based on the contents of the Consequence Reports alone and were provided under the duties to provide advice to Local Authorities on specialist matters pertaining to public health under the Health & Social Care Act 2012.

3 Main Comments

There are many similar comments made in the various reports often called but not always 'radiation risk assessments' which have been reviewed relating to radiological health impacts. The main UKHSA comments on these documents are that any off-site nuclear emergency with a release of radioactive material cannot be considered to be of "low consequence" or "no material risk" especially for those living within the DEPZ. The documents frequently refer to sheltering only being required whilst the plume is passing, and no longer-term relocation being required. This cannot be stated as a certainty and it is likely if there is an off-site release of actinides such as plutonium, there will be a significant impact on responders providing both environmental and people monitoring even if only to provide reassurance. Decisions on extension, withdrawal or change of urgent protective actions during an off-site nuclear emergency will be taken by the multi-agency coordination groups responding to that emergency based on information available to them. This information can take time to gather and includes data on the extent and level of residual contamination, and therefore risk, once any release has been terminated. There will be a need to consider any non-radiological impacts such as on the mental health of the affected population and the need to provide reassurance to individuals in the area.

The following sections provide a more detailed response to the findings in the reports which have been reviewed; in particular, where the reports' authors have expressed findings or views which are not aligned with those of UKHSA.

3.1 Short-term versus longer-term doses

The AWE Aldermaston and Burghfield consequences reports [2], [3] both state that the primary concern for early response decision-making to radiation emergencies involving possible accidents only merits consideration of the first-pass inhalation dose for exposure to actinides. The purpose of the consequences reports is to use the results of the consequence assessments to determine the recommended minimum geographical extent for the detailed emergency planning zone, the requirements for urgent protective action, and where applicable the recommended geographical extent for the outline planning zone. However, the consequences reports do not provide information about the longer-term doses. When advising on the health protection of the local population following an emergency, UKHSA advisors will be considering risks from longer-term pathways such as resuspension (this is the inhalation of radioactive material that is resuspended into the air). It should be noted that the inhalation during the initial release is short duration whereas inhalation due to resuspension presents a much longer duration, albeit less intense, exposure situation. Doses from resuspension are a factor for decision making for the relaxation of urgent protective actions and in recovery from an emergency.

The radiological impact assessments e.g. for the construction for the 148 Dwellings at Church Lane [4] refer to these first-pass inhaled doses given AWE Aldermaston and Burghfield consequences reports and argue that the doses are of “only limited radiological significance and would not justify disruptive mitigation activities in the short or longer term”. For developments within the Detailed Emergency Planning Zone (DEPZ), it is stated that “The proposed development would also be so far from AWE Burghfield that neither urgent nor subsequent evacuation would be required, even for extreme accidents”. It is correct to say that the doses considered in the consequences report at distances greater than 3160 metres are below the levels which would correspond to the justification of urgent protective actions by application of Emergency Reference Levels (ERLs) [1]. However, ERLs are for short-term urgent protective actions and not 'longer' term actions. Decisions on protective actions for the longer term (more than a few days) would also take into consideration non-radiological criteria and therefore would be a multi-agency decision.

The consequences report is used to determine the DEPZ for the protective actions and the circumstances at the time of an emergency may differ from those within the report. It is not recommended to base the shape of the DEPZ on prevailing weather conditions, as events may occur in any weather condition or direction [5]. These differences are one of the factors which can influence the decision-making process at the time of an emergency.

In a report for the Appeal Statement against refusal of Full Planning Permission for Land Rear Of 1-9 Shyshack Lane, Baughurst, Tadley, Hampshire for 3 dwellings [6] it states that “Doses resulting from the inhalation of, or cloud dose from the resuspension of radioactivity that was previously deposited onto surfaces. It can be shown that the dose in the year following the accident is likely to be less than 1% of the initial inhalation dose.”

UKHSA does not know if this is an assumption by Katmal or based on information provided by AWE but it should be noted that resuspension factors can vary by a factor of 100 from rural conditions to urban conditions where there is regular disturbance by vehicular traffic and pedestrians [7].

In the report for Appeal against refusal of full planning permission for Land To The Rear Of The Hollies, Reading Road, Burghfield Common [8] it states that “Before the dust cloud arrives and after it departs there is no material dose uptake to be averted by protective actions and no material risk. Almost all the dose uptake occurs during plume transit.”

It should be noted that during an emergency there is a need to assess what has been released and deposited and thus what risk remains from resuspended material and other pathways of exposure. Collecting this data takes time as does the subsequent analysis and formulation of advice to decision makers. It cannot be said with certainty that, should a release occur, there is no material risk. Whilst the instantaneous air concentration due to resuspension is lower than that during the plume phase, the duration that resuspension presents a risk is far longer and thus may well present a significant hazard which requires relocation of parts of the population from contaminated areas. This would be subject to decisions at the time of the emergency.

3.2 Supporting vulnerable individuals

The radiological impact assessments e.g. construction for the 148 Dwellings at Church Lane [4] address whether the proposed development would place an additional burden on first responders and carers in respect of dealing with medical emergencies and addressing the needs of vulnerable individuals. It states that “in most accident scenarios, sheltering would either not be required at the location of the proposed development (although it might be initially advised for everyone within the DEPZ) or would only be required for between a few hours and two days. Therefore, even if visits were discouraged during the sheltering phase, this would be only a short hiatus.” “...it would be important to emphasise to carers that entry into areas with low levels of radioactive contamination would not pose a threat to their health. This is a general aspect of their training and does not have any specific implications for the acceptability of the proposed development.” It was also stated that “Because of the low doses that would arise following an initial explosive release, there should be no issue with carers visiting the proposed development soon after an accident.”

It should be noted that whilst sheltering is recommended to not exceed 48 hours, decisions about ongoing protection of the public who have been requested to shelter will be made by a multi-agency group at the time of the emergency taking non-radiological factors into consideration. Lifting of sheltering does not equate to no risk and workers entering a contaminated area post emergency will need to undertake a risk assessment. Their entry may also require the appointment of a Radiation Protection Advisor who may advise that visits should not take place. As such it cannot be stated with certainty that there would “only be a short hiatus” in service provision. The assessment of worker exposure, provision of personal protective equipment and any training would be the employer's legal responsibility and would require consultation of an appointed Radiation Protection Advisor. This report cannot be used in place of that requirement to state that there is no risk to health and no issue with carers visiting the proposed development soon after an accident. A radiation emergency will likely result in delayed service provision to vulnerable individuals which could result in them not received the required level of care.

3.3 Sheltering and relocation advice

In radiological impact assessment for the construction for the 148 Dwellings at Church Lane [4] it states that “in practice, sheltering would typically only be required until the contaminated plume had passed.”

It should be noted that advice to continue to shelter would remain in place whilst the extent and levels of residual contamination hazard are determined and for up to 48 hours. UKHSA would not advise lifting of sheltering immediately after the plume has passed. Upwind areas will still require positive confirmation that they are not contaminated as local weather

conditions do not always match prediction models. The scale of the release may be different to the one used in the consequences report so it will take time to confirm the impacts. Monitoring of residual contamination levels and assessment of risks to the public from this contamination takes hours to days to provide sufficient data to inform decision making on lifting of sheltering. As such a decision may be made to advise members of the public move out of any area that requires further monitoring and possible decontamination.

In the summary proof against the appeal against refusal 2 of full planning permission for Land To The Rear Of The Hollies, Reading Road, Burghfield Common [8] it states that “longer-term relocation will not be necessary for those living on the site.” It is also stated that “it is likely to be possible to advise people that they can break shelter and return to near normal life (with exceptions of not harvesting and eating food that was outside during plume transit) within an hour or two of the alarm”. In a footnote it stated that “It has to be recognised that the decision-making process will probably take longer to signal the end of shelter as there are issues of public perception and the natural caution of the decision makers.”

It should be noted that this cannot be stated with certainty that sheltering will only last a few hours and that no relocation would be required. The protective actions in the off-site plan (sheltering) provide some protection from the inhalation of radioactive material in the plume. Decisions on relocation, whether temporary or permanent, would be taken by multi-agency responders at the time of an emergency taking empirical data on what has happened into account.

3.4 Impact on emergency services

In the radiological impact assessment of construction for the 148 Dwellings at Church Lane [4] it states that “Furthermore, the emergency services could respond to a medical emergency at the proposed development as they would normally.” It concludes that “there is no significant impact on responders under the emergency plan; and no adverse impact on the access of emergency services to the AWE Burghfield site.”

In the statement on the appeal against refusal of full planning permission for Land To The Rear Of The Hollies [8], it states “The increased number of inhabitants of the DEPZ will not put a material additional strain on the resources of the off-site plan”.

In the report on the proposed second phase of developing Stanbury House [9] it states that “It seems reasonable to assume that the creation of more housing at the outer edge of the UAPZ does not increase the resources the local authority requires to understand the AWE(B) risk assessment and to prepare a functional specification and resource needs analysis for the off-site plan.”

It should be noted that any response in an area affected by an off-site nuclear emergency will be subject to advice issued by the appointed Radiation Protection Advisor (RPA) for the

emergency service. UKHSA is the RPA for NHS Ambulance services and we can state that 'normal' response is very unlikely. As discussed in Section 4.5 it should be noted that monitoring of any additional population for radioactive contamination in the DEPZ will add to the burden upon responders.

3.5 Environmental Monitoring after a radiation emergency

In the radiological impact assessment for the construction of 148 Dwellings at Church Lane [4] it states that “The proposed development would not increase the number of samples required because the aim would not be to provide a detailed map of contamination, but rather to demonstrate that levels were low over the whole area of interest.” It is likely that results from the dispersion modelling and limited monitoring would mean that no further monitoring would be required. At the site of the proposed development, it is projected that the dose rates that would arise after the passage of the initial plume would be so low that decontamination of the environment would not be required.”

It should be noted that UKHSA leads on monitoring coordination for radiation emergencies. Previous emergencies have demonstrated the need to have a suitably large volume of measurements to have sufficient statistical evidence of levels. If developments result in additional vulnerable sites such as schools or care homes, then this may require additional locations to be considered as part of a monitoring strategy.

Environmental monitoring is not a 'one-off' activity and monitoring would need to be continued for years after an emergency. Decisions on recovery actions are made by a multi-agency group and consider many factors other than radiological data. As such it is not correct to state that no decontamination would be required.

3.6 People Monitoring after a radiation emergency

In the radiological impact report on the construction of 148 Dwellings at Church Lane [4] it states that “the application proposal has no material impact on the resources required in the event of implementation of the off-site emergency plan for AWE Burghfield”.

It should be noted that there is no comment about the additional burden placed upon responders by the potential need to monitor any additional population for radioactive contamination. It takes approximately 20 minutes to monitor one person at a Radiation Monitoring Unit. In the case of 148 Dwellings at Church Lane [4], assuming 2 people per dwelling, this equates to an effective additional 98 hours of monitoring time.

4 References

1. PHE, *Public Health Protection in Radiation Emergencies*, in *PHE-CRCE Series*. 2019, Public Health England, Chilton (UK).
2. AWE, *AWE Aldermaston Consequences Report*. 2019.
3. AWE, *AWE Burghfield Consequence Report*. 2019.
4. Thorne, M.C. and K.I. Pearce, *Radiological Impact Assessment of the Construction of 148 Dwellings at Church Lane, Three Mile Cross, Wokingham, including implications for the Off-site Emergency Plan*. 2023.
5. Bexon, A.P., et al., *REPPiR 2019 consequence assessment methodology*, in *PHE-CRCE Series*. 2019, Public Health England: Chilton (UK).
6. Katmal, *Appeal Statement on land rear of 1-9 Shyshack Lane, Baughurst, Tadley, Hampshire for erection of 3 dwellings REF:22/02905/FUL*. 2023.
7. Wellings, J., et al., *Estimation of radiation doses from inhalation of resuspended materials in emergency situations*, in *PHE-CRCE Series*. 2019, Public Health England: Chilton (UK).
8. Pearce, K.I., *Statement on refusal 2 on land to rear of the Hollies, Reading Rd, Burghfield Common for erection of 32 dwelling*.
9. Katmal, *Resource Requirements of JEPU AWE off-site Emergency Plan with regard to the proposed second phase of developing Stanbury House*.

About the UK Health Security Agency

UKHSA is responsible for protecting every member of every community from the impact of infectious diseases, chemical, biological, radiological and nuclear incidents and other health threats. We provide intellectual, scientific and operational leadership at national and local level, as well as on the global stage, to make the nation health secure.

[UKHSA](#) is an executive agency, sponsored by the [Department of Health and Social Care](#).

www.gov.uk/government/organisations/uk-health-security-agency

© Crown copyright 2024

Version 1

Prepared by: Kelly Jones, Duncan Cox, Antony Bexon

For queries relating to this document, please contact: erg@ukhsa.gov.uk

Published: August 2024

Quality statement:

This work was undertaken under the Radiation Assessments Department's Quality Management System, which has been approved by Lloyd's Register Quality Assurance to the Quality Management Standard ISO 9001:2015, Approval No: ISO 9001 - 00002655.

This work was commissioned by West Berkshire Council

OGL

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v3.0. To view this licence, visit [OGL](#). Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.



UKHSA supports the
Sustainable Development Goals



Appendix 11

Appendix 11 Glossary of Terms

ACOP	Approved Code of Practice
AWE	Atomic Weapons Establishment
AWE A	Atomic Weapons Establishment Aldermaston
AWE B	Atomic Weapons Establishment Burghfield
AWE OSEP	AWE Off-Site Emergency Plan
AWE OSPG	AWE Off-Site Planning Group
BSSD	Basic Safety Standards Directive
CBRN	Chemical, Biological, Radiological and Nuclear
CCA	Civil Contingencies Act 2004
CIEH	Chartered Institute of Environmental Health
COMAH	Control of Major Accident Hazards Regulations 2015
CS8	Core Strategy 8
DEPZ	Detailed Emergency Planning Zone
HAC	Health Advisory Cell
HAZMAT	Hazardous Material
HSE	Health and Safety Executive
IAEA	International Atomic Energy Agency
LPR	Local Plan Review
MAGIC	Multi-Agency Gold in Command
MOD	Ministry of Defence
NPPF	National Planning Policy Framework
NRPB	National Radiological Protection Board
OCZ	Outer Consultation Zone
ONR	Office for Nuclear Regulation
OPZ	Outline Planning Zone
PHE	Public Health England (Now UKHSA)
PPE	Personal Protective Equipment
Reg.	Regulation
REPPiR	Radiation (Emergency Preparedness & Public Information) Regulations (2001 & 2019)
SP4	Strategic Policy 4
STAC	Scientific and Technical Advisory Cell
TVLRF	Thames Valley Local Resilience Forum
UKHSA	United Kingdom Health Security Agency
UPA	Urgent Protective Actions
USA	United States of America