

**TOWN AND COUNTRY PLANNING ACT 1990 (AS
AMENDED)**

APPEAL BY T A Fisher & Sons Ltd

Against the refusal of Full Planning Permission

by

West Berkshire Council

ON

LAND TO THE REAR OF THE HOLLIES, BURGHEFIELD

For

The erection of 32 dwellings including affordable housing,
parking and landscaping. Access via Regis Manor Road.

Application Reference no. 22/00244/FULEXT

Appendix Q

Statement of Dr Keith Pearce PhD, MBA, MSc, FEPS of Katmal Limited in
respect of reason for refusal 2

Outline of the proposal

1. The Appeal site known as land rear of the Hollies residential home, was allocated for 60 dwellings in the Adopted Housing Site Allocation Development Plan Document. One part of the site has been built out and is now occupied, having gained approval before the DEPZ change. An application for the remaining 32 dwellings was refused in June 2022, largely because of the change in the size of the DEPZ, which is now the subject of this appeal.

Reason for Refusal 2 – Impact on Public Safety

2. The Council's decision to refuse is explained within the Officer's Report and decision notice to TA Fisher dated 1st June 2022. This states that [para 2 part]:

"The application is part of an allocated housing site in the Council Local Plan [HSADPD of 2017¹]. 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 WBCS² 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 2021³ 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

¹ This document is the Housing Site Allocations Development Plan Document.

<https://www.westberks.gov.uk/hsa>

² WBC Core Strategy. <https://westberks.gov.uk/corestrategy>

³ This document is the National Planning Policy Framework

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

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”.

3. In a meeting on 5th October between the Appellant, the Council’s Planning Officer (Mr Butler) and the Emergency Planning Officer (Ms Richardson) (Appendix G), the Emergency Planning Officer referred to needing to draw a ‘*line in the sand*’ somewhere, and she 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 strategy decision makers nor was any particular rationale offered.
4. The ONR objection is given in an email dated 19th March 2022 (ONR [2022b]) which states that: *“I have consulted with the emergency planners within West Berkshire Council which is responsible for the preparation of the off-site emergency plan required by the Radiation (Emergency Preparedness and Public Information Regulations) (REPPiR) 2019. They have not been able to provide me with adequate assurance that the proposed development can be accommodated within their off-site emergency planning arrangements. Therefore, ONR advises against this development, in accordance with our Land Use Planning Policy (<http://www.onr.org.uk/land-use-planning.htm>)”.*
5. Thus, we see the local authority failing to reassure the ONR that the development can be accommodated in the current emergency plan, a short coming which the ONR accept without challenge and, on these grounds, advise against the proposal; advice which the local authority then use to help justify their own rejection of the scheme.
6. AWE also objected to the application in an email to Mr Butler dated 7th April 2022 (AWE [2022]) and an undated letter (AWE [2022b]). The email noted that the ONR and the WBC Emergency Planners had already advised against the development. Further, the objection stressed the importance of the AWE sites to the UK nuclear deterrent, being the only sites capable of providing the service they provide in assembling and maintaining warheads. It goes on to say that *“The MOD has consistently sought to ensure that any constraints on delivering the capabilities at AWE B [Burghfield] now and in the future are minimised. The proposed*

introduction of this development is directly contrary to safety and emergency planning advice and practice in light of the DEPZ required. It could have an adverse impact upon the nation's security by constraining both the current and future operation of AWE B".

7. The observation that the site is within the revised DEPZ is common to the objections from the ONR and Council. The claim that the development might constrain both the current and future operation of AWE B is repeated by the local authority.

Discussion of the objections to the application

8. The paragraph 5.43 referred to in the Local Authority's decision not to grant approval comes from a document entitled "West Berkshire Core Strategy (2006 – 2026)" (WBC [2012]) of the West Berkshire Local Plan which was adopted July 2012.
9. This states that "*The ONR has indicated that on the basis of its current model for testing the acceptability of residential developments around the AWE sites, it would advise against nearly all new residential development within the inner land use planning zones defined on the Proposals Map*" (no references are given to the work nor rationale supporting this statement). However, paragraph 5.44 goes on to say that during the plan period there is likely to be changes in the inputs to the ONR's model including the 2011 Census, the PEGASUS Project, due to complete in 2021, at AWE(A) [Aldermaston] and the MENSA project, due to end in 2016, at AWE(B) which "***may enable a less constraining population density criteria to be applied***". ONR did not suggest a permanent and total ban on development within the current DEPZ, rather a probable reluctance to approve most development, at least until improvement projects at the sites complete (and we expect that they now have).
10. The map of the Planning Zones for restrictive development shows the appeal site to be in the outer zone not the inner zone. The inner zone has a radius of 1.5 km. **It is not at all obvious that the planning constraint that the ONR recommended for the 1.5 km radius "inner zone" in 2012 would necessarily apply over the current much larger DEPZ as it was based on risk and population distributions within the 1.5 km zone sometime prior to 2012.**
11. Paragraph 5.43 is therefore based on the situation existing in 2012 and has been overtaken by events including the work packages referred to in Paragraph 9 of this section. It would be

appropriate to seek the ONR's opinion on a case-by-case basis rather than rely on an outdated general statement such as that found in the 2012 explanation of Policy CS 8.

12. Policy CS 8 states that *"In the interests of public safety, residential development in the inner land use planning consultation zones of AWE Aldermaston and AWE Burghfield is likely to be refused planning permission by the Council when the Office for Nuclear Regulation (ONR) has advised against that development"* so it is worthwhile to look at the ONR consultation process.
13. The ONR's own description of its consultation criteria (ONR [2022])⁴ states that within the DEPZ it should be consulted for:
 - *"Any new development, re-use or re-classification of an existing development that could lead to an increase in residential or non-residential populations, thus impacting on the off-site emergency plan.*
 - *Any new development, re-use or re-classification of an existing development that could pose an external hazard to the site.*
 - *Any re-use or re-classification of an existing development that could introduce vulnerable groups to the DEPZ"*
14. It goes on to state that: *"ONR ... does not advise against the proposed development on planning grounds if, in its opinion, the following statements apply:*
 - *the local authority emergency planners, if consulted, have provided adequate assurance that the proposed development can be accommodated within their existing off-site emergency planning arrangements (or an amended version); and*
 - *the development does not represent an external hazard to a nuclear site or the planning function for the site that may be affected by the development has demonstrated that it would not constitute a significant hazard with regard to safety on their site"*.
15. The ONR described themselves as a non-statutory consultee (ONR [2021]) who *"consider all planning applications on a case-by-case basis. This is in accordance with discharging our role within the government's Land Use Planning policy"* and also report that they were not, at the time, reviewing any documents *"intended to provide us with adequate assurance that a proposed development in the DEPZ of either AWE site can be accommodated within West Berkshire Council's off-site emergency planning arrangements"*. Therefore, they are happy to

⁴ Table 2

continue giving non-statutory advice against development while the local authority fail to provide them with adequate assurance that proposed developments resulting in an increase in population can be accommodated within West Berkshire Council's off-site emergency planning arrangements.

16. A spreadsheet issued under FOI (ONR [2022c]) shows the consultations that ONR have responded to. This shows that they have “advised against” 54 applications all of which are within the DEPZs of either AWE(A) or AWE(B). Across all the licensed sites except AWE(A) and AWE(B) they approve many more than they reject including an application to construct 204 dwellings within the DEPZ, in fact close to the site fence, of the Devonport Royal Dockyard⁵ which is a built-up area.
17. The reason ONR give to advise against this development is that the West Berkshire Council have not been able to provide adequate assurance that the proposed development can be accommodated within their off-site emergency planning arrangements, not that there is a presumption against development within a DEPZ. **If West Berkshire Council could express more confidence in their own off-site plan, then the ONR objection as stated would be withdrawn.**
18. The AWE statement (AWE [2022]) that *“The proposed introduction of this development is directly contrary to safety and emergency planning advice and practice in light of the DEPZ required”* could be read to say that it is the DEPZ itself that is providing the risk to safety and that this risk has somehow changed since the Adopted Housing Site Allocation Development Plan; it has not.
19. An alternative reading of this statement is a claim that this development will contribute such an additional burden to the Off-Site Emergency Plan as to render it inadequate which is similar to the ONR objection.

Summary of objections based on AWE(B)

20. The key objection from the ONR is that the local emergency planners have not provided adequate assurance that the proposed development of 32 dwellings can be accommodated within their existing off-site emergency planning arrangements (or an amended version) with

⁵ 22/00878/FUL

secondary concerns that the development may represent an external hazard to a nuclear site or the planning function for the site that may be affected by the development.

21. The objection from AWE makes the same first point as the ONR and in addition worries that the development will hamper their current and future use of the site.
22. If we can provide reassurance that:
 - (a) the people living and working in the development are not at significant risk from the AWE(B) site;
 - (b) that the people on the development will not provide a significant burden to the emergency services in the event of a Radiological Accident at the AWE(B) site such that they degrade the service offered to others; and that
 - (c) the development will not hamper current and future use of the AWE(B) site,

then the objections of the ONR and AWE and hence the objections of the local council planners fail.

The potential for the release of radioactive particles from the site

23. AWE (B) Site is located in Berkshire immediately west of the A33, approximately 5 km south of the centre of Reading. The site is within 2 km of the M4 Motorway and the service station between Junctions 11 and 12. The Reading-Basingstoke railway line passes within 1 km of the eastern site of the site. The nearest villages are Burghfield and Grazeley Green, within 1.5 km of the site. The larger village of Burghfield Common is 2 km to the south-west, while to the north of the motorway lies the outskirts of the extensive suburban area of Reading. The whole AWE (B) Site covers an area of 1.05 km². The Nuclear Licensed Site forms a small proportion of this area. The site has supported radioactive work for the UK nuclear deterrent since 1954 and contains laboratories, manufacturing facilities, radiation generators (e.g x-ray machines), buildings undergoing staged decommissioning and construction, and supporting infrastructure.
24. AWE(B) is not subject to the Control of Major Accident Hazards Regulations 2015.

25. The operators are understandably discreet about the particular activities that take place on the AWE(B) site, but some communication is required by law to allow the local authorities to prepare suitable emergency plans.
26. The Radiation (Emergency Preparedness and Public Information) Regulations 2019 (HSE [2020]) require that the operator of a nuclear site make a detailed examination of their operations in order to understand the potential for radiation accidents on their site. They then must take all reasonable steps to prevent the occurrence of a radiation emergency and to limit the consequences of any such emergency (Regulation 4). Regulation 5 requires that they investigate the potential off-site consequences of a representative range of faults and Regulation 7 requires that they communicate the findings of these investigations to the local authority in the form of a Consequences Report, the minimum contents of which are detailed in Schedule 4 of the regulations.
27. The most recent Consequence Report for AWE(B) that is publicly available is dated November 2019 (AWE [2019]). This reported the possibility of an “explosive distribution” where the material that would dominate public dose would be plutonium (which is an alpha emitting actinide) as an inhalable plutonium oxide.
28. In the very unlikely event of the “explosive distribution”, the public downwind at the time could receive radiation dose from a number of “pathways” including:
- First pass inhalation dose (breathing in the radioactive dust as it floats by on the air);
 - Cloud shine (from radiations emanating from the radioactive dust cloud as it passes by);
 - Ground shine (from radiations emanating from radioactive dusts deposited on the ground and other surfaces);
 - Resuspension dose (from inhaling activity that had been deposited on surfaces but then kicked back into the air by some process);
 - Ingestion dose from eating foods contaminated with the radioactive dust.
- First pass inhalation dose and cloud dose occur only during plume transit. Ground dose, resuspension dose and ingestion dose can continue after the event.
29. The report states that *“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"⁶.

30. The report continues: *"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"*⁷.
31. This is important. It is clear that anybody outside and downwind of such an accident would only be incurring significant dose uptake while the cloud of radioactive gas and dust produced by the explosion was passing by. Before the plume arrives and after it departs there is no significant dose uptake to be averted by protective actions and no significant risk⁸. We might suppose that the plume transit time at a point downwind might be a few minutes, certainly no more than half an hour.
32. It is worth considering the time period in which the responders have available to promulgate the alert and how little time those downwind have to respond and get themselves into shelter if they are to avert any dose.
33. The table below show the arrival time of the plume in minutes after the explosion for a range of windspeeds (the columns) and a range of downwind distance (the rows). Because it is an explosive distribution, we can assume that the air concentrations at a point downwind will reduce rapidly after the plume arrival time.

⁶ Paragraph Part 2 3.g

⁷ Paragraph Part 3 1.b

⁸ The radioactivity is dispersed in the form of plutonium oxide which provides very little external radiation so ground dose is negligible. Resuspension provides very much lower doses than first pass doses. It is not efficiently taken up by crops so the contamination of the food chains is slight, and when ingested is not absorbed by the gut particularly well so ingestion dose is low.

Downwind distance / km	Wind speed m/s							
	1	2	3	4	5	6	7	8
0.5	8.3	4.2	2.8	2.1	1.7	1.4	1.2	1.0
1	16.7	8.3	5.6	4.2	3.3	2.8	2.4	2.1
2	33.3	16.7	11.1	8.3	6.7	5.6	4.8	4.2
3	50.0	25.0	16.7	12.5	10.0	8.3	7.1	6.3
4	66.7	33.3	22.2	16.7	13.3	11.1	9.5	8.3
5	83.3	41.7	27.8	20.8	16.7	13.9	11.9	10.4
6	100.0	50.0	33.3	25.0	20.0	16.7	14.3	12.5

Table 1 Plume arrival time in minutes for range of downwind distances and windspeed

34. The general advice is that people should thoroughly ventilate their house as soon as the release has stopped and contamination levels in the outside air have fallen (NRPB [1990])⁹. This will occur in less than an hour for the whole Urgent Protection Area in any weather conditions.
35. More energetic faults, which produce a range of fission products, are mentioned¹⁰ but not elaborated upon giving no information against which an emergency planner can scope a response.
36. It is assumed that this refers to criticality incidents that may result in a sudden emission of gamma and neutron radiation and then the release of fission products. The radiation emitted could well be fatal to people in the immediate vicinity of the incident but would represent no real threat to people as far away as the proposed development.
37. Since AWE have not expanded on this fault, it is assumed that the fission product release would cause lower off-site doses than the explosive distribution.
38. By comparing the avertable radiation dose to the public with Emergency Reference Levels of dose recommended by PHE (now the UKHSA) (PHE [2019]¹¹), the Consequence Report

⁹ Paragraph 56 on page 23

¹⁰ Paragraph Part 2, 3.d

¹¹ Table 4 on page 18.

recommends a distance of 3,160 m *“selected as the minimum geographical extent of the Detailed Emergency Planning Zone about the Burghfield Site Centre Location^{12”}*.

39. More detail can be found by reference to earlier reports.
40. The AWE Summary Response to ENSREG Stress Test¹³ [AWE 2011] provides a useful overview of the site, the hazards it contains and risks it poses.
41. ONR [2018]¹⁴ written under the REPPiR-01 requirements identifies the reference accident¹⁵ as *“a detonation within a cell. This could result in radioactive materials being dispersed into the air in a plume carried off-site by the speed and direction of the wind”*. It agreed that *“The contributions of external irradiation from the passing plume or from deposited uranium/plutonium, and ingestion dose have been assessed as negligible due to the nature of these materials. Inhaled dose as a result of resuspension of deposited uranium/plutonium material has also been assessed as negligible”*.
42. REPPiR-01 guidance advised that the downwind doses from a radiation accident be assessed using average weather conditions, a combination of Pasquill Category D and a wind speed of 5 m/s commonly denoted as D(5) (HSE [2002]¹⁶). This was consistent with REPPiR and ONR advice that probability and dose estimates should use best-estimate analysis and avoid unwarranted conservatism (ONR [2018]¹⁷).
43. REPPiR-01 guidance required the estimation of the distance downwind that a dose of 5 mSv to an unprotected person to determine the minimum extent of the DEPZ (HSE [2002]¹⁸).

¹² To clarify, the DEPZ is centred on the centre of the nuclear licensed site at OS grid reference SU 684 680 rather than being centred on the whole site.

¹³ These tests were applied to all nuclear licensed sites in the EU and provided *“A targeted reassessment of the safety margins of nuclear power plants in light of the events which occurred at Fukushima: extreme natural events challenging the plant safety functions and leading to a severe accident.”*

¹⁴ Section 5.1 on Page 6.

¹⁵ The ONR defines a reference accident as *“one of a spectrum of reasonably foreseeable radiation emergencies that gives rise to the most significant off-site consequences”*

<https://www.onr.org.uk/foi/2022/202112041-1.pdf>

¹⁶ Paragraph 62 on Page 18

¹⁷ Paragraph 5.2

¹⁸ Schedule 1 on page 91

44. ONR [2018]¹⁹ concluded that a DEPZ of 1.252 km based on a 5 mSv avertable dose contour was appropriate claiming that the assessment for Burghfield is more precise [than that for AWE(A)] as the pessimisms in the calculations had been refined.
45. Interestingly, this ONR report²⁰ states that a Burghfield Report of Assessment (a REPIR-01 requirement) was written claiming that there were no reasonably foreseeable faults that could lead to a radiation emergency at Burghfield. If accepted, this would have removed the need for a DEPZ around Burghfield. When challenged to look harder for a potential reference accident, AWE proposed a chain of events involving earthquakes and inadvertent detonations of conventional explosives but then introduced operational restrictions such that the sequence is no longer reasonably foreseeable. They then agreed the detonation in a hot cell as the Reference Accident with ONR.
46. The reason the above paragraph is relevant is that it provides strong circumstantial evidence that the accidents used in the current Consequence Report are at the lower end of the probabilities considered for detailed planning in REPIR-19.
47. REPIR-19 guidance (HSE [2020])²¹ also requires that *“Best-estimate methods and data should be used as far as possible in the hazard evaluation for determining likelihood of the initiating events”*.
48. Schedule 3(3) of REPIR-19 (HSE [2020])²² requires that:
- (3) The calculations undertaken in order to reach the assessment must consider a range of weather conditions (if weather conditions are capable of affecting the extent of the radiation emergency) to account for—*
- (a) the likely consequences of such conditions; and*
- (b) consequences which are less likely, but with greater impact.*

¹⁹ Section 5.1 on page 6

²⁰ Section 5.2 on page 6

²¹ Paragraph 162 on page 37

²² Schedule 3(3) on Page 142

49. So, you might expect to see at least two distances published in Consequence Reports; the distance downwind of the 7.5 mSv contour in likely (average) weather conditions and the distance to the same contour under conditions that are “less likely, but with greater impact”.
50. The REPPiR-19 guidance is quiet on whether the average or upper bound result should be used to determine the minimum size of the DEPZ.
51. In fact, the AWE(B) Consequence Report just gives the value based on conditions that are less likely but with greater impact, namely Pasquill Category F weather with a wind speed of 2 m/s. **These F(2) conditions typically only occur on a cold winter night.**
52. It is interesting that the extent of the DEPZ is based on weather that only occurs during the night since the Stress Test report for the AWE sites (AWE [2011])²³ 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*”.
53. REPPiR-19 guidance (HSE [2020])²⁴ requires the consideration of “*the distances in which urgent protective action may be warranted for the different source terms when assessed against the relevant emergency reference level (ERL)*”. For shelter, this means a projected dose (unprotected dose) of 7.5 mSv (shelter is assumed to reduce inhalation dose by 40% (PHE [2019b])²⁵ so shelter, if implemented in time at this dose would avert $0.4 \times 7.5 \text{ mSv} = 3 \text{ mSv}$ which is the lower ERL for shelter).
54. The Consequence report gives this distance as 3,160 m and hence recommends this as the minimum radius of the DEPZ for AWE(B).
55. In summary, the only accident with potentially significant off-site radiological consequences that could arise at AWE Burghfield that is explained to us is one due to a chemical detonation in a hot cell with the release of plutonium (or enriched uranium) to the atmosphere. Under average weather conditions, such an accident could result in an individual effective dose of about 5 mSv at 1,252 m downwind of the centre of the AWE Burghfield site, but under

²³ Paragraph 6 on page 5

²⁴ Paragraph 196 on page 44

²⁵ Appendix B4.1 recommends a Location Factor of 0.6 on Page 23. This is equivalent to a 40% dose reduction.

adverse weather conditions that occur for about 12% of the time (and only at night), the individual effective dose could be as large as 7.5 mSv on the plume centreline at 3,160 m downwind of the centre of the site. In either case, the dose would be almost entirely due to inhalation of radioactive material from the plume by the individual while they were immersed in the passing plume. It is this fault that is used to set the scope of the off-site plan.

56. REPPIR-19 guidance (HSE [2020])²⁶ requires that *“the consequences report should include the consequences in terms of doses, timescales and relevant protective actions for the representative range of radiation emergencies identified in the consequence assessment”*. This is to aid the local authority in scoping the emergency plan and understanding the variability of events that might trigger the plan.

57. The operator is expected to estimate both the likelihood of an event and the potential impact of that event for the representative range of radiation emergencies and to plot them on the REPPIR Risk Matrix (HSE [2020])²⁷ (see extract from REPPIR-19 ACOP below). If this has been done, it does not seem to have been reported in the open literature.

²⁶ Paragraph 224 on Page 48

²⁷ Appendix 2, Figure 7,

ACOP Appendix 2
Table 2 Likelihood 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

ACOP Appendix 2
Figure 7 Risk framework

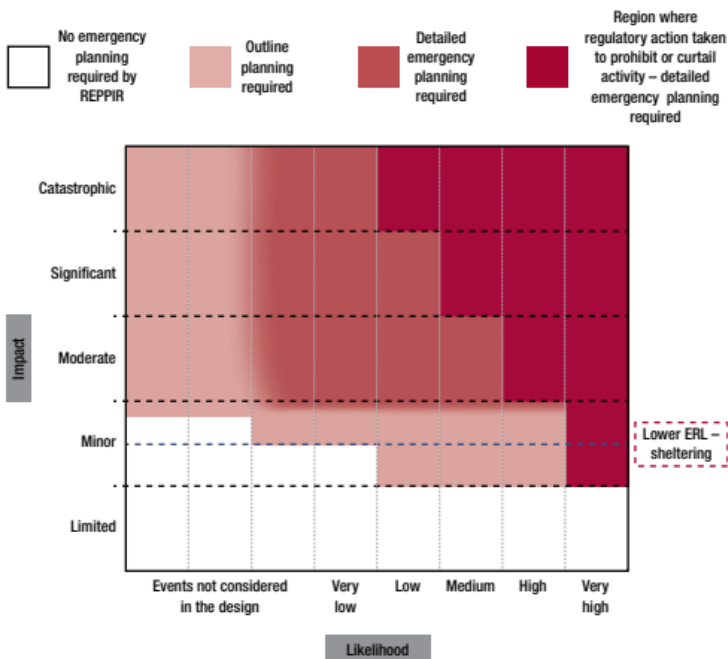


Figure 1 REPPIR-19 Risk Matrix

58. We can surmise that, because the explosive distribution fault has been used to scale the DEPZ, that it is the fault that gives the largest dose of all those faults with a likelihood of greater than 1 in 200,000 of occurring in the next five years (which is the descriptor for boundary between the need for detailed emergency planning and outline emergency planning).
59. 1 in 200,000 over five years is identical to an annual probability of $1 \times 10^{-6} \text{ yr}^{-1}$.

60. That result is consistent with AWE arguing that there were no “reasonably foreseeable” faults as the boundary of that term was taken to be about $1 \times 10^{-5} \text{ yr}^{-1}$ with checks down to $1 \times 10^{-6} \text{ yr}^{-1}$ to avoid cliff-edge effects.

The potential impact to human health of incidents at AWE(B)

61. Google Earth shows that the development site is approximately 2.4 km from the centre point of the Urgent Protection Zone at a heading of approximately 260 degrees.
62. Given the two dose estimates and the knowledge that various studies have shown that the effective dose varies approximately as x^{-n} , where x (m) is the distance downwind from the release location and n is a numerical coefficient that typically takes a value of 1.5 (Highton and Senior [2008])²⁸ we can estimate the potential doses at the proposed development site thus:
- Category F(2) $7.5 \times (2400/3160)^{-1.5} = 11.3 \text{ mSv}$
Category D(5) $5.0 \times (2400/1252)^{-1.5} = 1.9 \text{ mSv}$
63. Thus, if the accident occurs while the wind is blowing towards the site the projected dose²⁹ at the site to a member of the public would be 11.3 mSv in Category F(2) and 1.9 mSv in Category D(5).
64. Given that shelter in an average house is considered to avert 40% of inhalation dose and the lower ERL for shelter is 3 mSv, shelter is considered to be a worthwhile protective action where the projected dose from the time of achieving shelter is 7 mSv ($7 \text{ mSv} \times 0.4 = 3 \text{ mSv}$). Thus we would advise the people at the development site to shelter in Category F(2) weather conditions but shelter would not be necessary in D(5) weather conditions.
65. The REPIIR Risk Matrix describes doses in the range 1 – 10 mSv as “Minor” with no potential for deterministic effects, minimum health and safety impacts, unlikely to have life changing consequences other than a potential for self-imposed restrictive changes in normal life activities and assumed asset value depreciation.

²⁸ Page 8

²⁹ Projected dose is the dose received over the full time of exposure without protective actions as opposed to the residual dose which is the dose received over the full duration if protective actions are taken. Averted dose is the difference between projected and residual dose.

66. The range 10 – 100 mSv also has no potential for deterministic effects, a “very small” (0.5%) increased risk of cancer induction, some enforced prevention of interruption of normal life activities, asset value depreciation and restricted or temporary loss of environmental growth of produce. Note that the 11.3 mSv dose estimate is at the very low end of this range.
67. The IAEA publication *EPR-Public Communication 2012 (IAEA [2012])*³⁰ which discusses how to communicate radiation risk to the public states that *“At doses below 100 mSv there would not be any detectable cancers or other severe health effects even to the foetus. The termination of a pregnancy at foetal doses of less than 100 mSv is NOT justified based upon the radiation risk. An increase in the cancer rate has not been detected in any group of people who received a whole-body dose from external exposure below about 100 mSv”*.
68. The average annual effective dose in the UK, mainly from naturally occurring radioactivity, is around 2.7 mSv. This means that the effective dose from the reference accident, if it occurs under adverse weather conditions, corresponds to just over four years³¹ of background exposure. Useful comparisons can also be made with medical exposures. For example, a Computed Tomography (CT) scan of the chest typically delivers 6.6 mSv and a whole-body CT scan typically delivers 10 mSv³². There are also regional variations in natural background, with the average annual radon dose to the people of Cornwall being 7.8 mSv, compared with a UK-wide average value of 1.3 mSv (radon gives rise to about half of the average annual effective dose in the UK due naturally occurring radioactivity).
69. This is not to argue that such exposures are of no importance. Indeed, substantial efforts are being made to reduce high regional exposures to radon and the use of CT scanning in medicine is subject to a requirement for justification and optimisation on a case-by-case basis. However, **it does show that the radiation doses that could arise if a major accident occurred at the AWE Burghfield site are within the range commonly experienced by members of the public during their everyday life.**

³⁰ Page 36

³¹ 11.3 mSv/ 2.7 mSv = 4.2

³² All the cited values are from HMG [2011].

70. The estimated dose for people at the site of the proposed development are relatively small and are within the range of doses for which the “linear dose response with no threshold” (LNT) model is generally applied in radiological protection (ICRP [2007])³³. The LNT model considers the risk from radiation exposure to be directly proportional to the dose received. Furthermore, it assumes that there is no threshold to this response. This means that even a very small increment of dose is associated with a corresponding increment of risk. In application, ICRP [2007] assigns detriment-adjusted health risk coefficients of 5.5×10^{-5} per mSv for all fatal and non-fatal cancers and 2.0×10^{-6} per mSv for heritable effects in the whole population (including infants, children and adults). The ICRP [2007] does not identify any other adverse health effects that are of significance at doses of this size and the overall risk factor (summing those for cancer in the irradiated individual and hereditary effects in their descendants) is 5.7×10^{-5} per mSv, which may be thought of as equivalent to the risk of death arising from the irradiation. For an effective dose of 11.3 mSv (our supposed upper bound for doses at the proposed development site) the probability of an adverse health effect being induced in the exposed individual or their descendants is $11.3 \times 5.7 \times 10^{-5} = 6.4 \times 10^{-4}$ per exposure.
71. We have seen that the probability of the explosive distribution event upon which the off-site plan is scoped is probably in the range 10^{-5} to 10^{-6} per year (Paragraphs 58 – 60).
72. However, in order to be exposed to radiation dose at the proposed development site, the wind has to be blowing in the right direction. We can look at the wind rose for nearby RAF Benson (Benson, Ewelme, Wallingford OX10 6AA) (see below) which suggests that the wind blows in the appropriate direction less than 3% of the time and in the relevant low windspeed range ($1 - 2 \text{ m.s}^{-1}$) for less than 1% of the time.

³³ Paragraph 36



Windrose Plot for [EGUB] Benson
Obs Between: 01 Jan 1973 12:00 AM - 22 Nov 2022 11:50 PM Europe/London

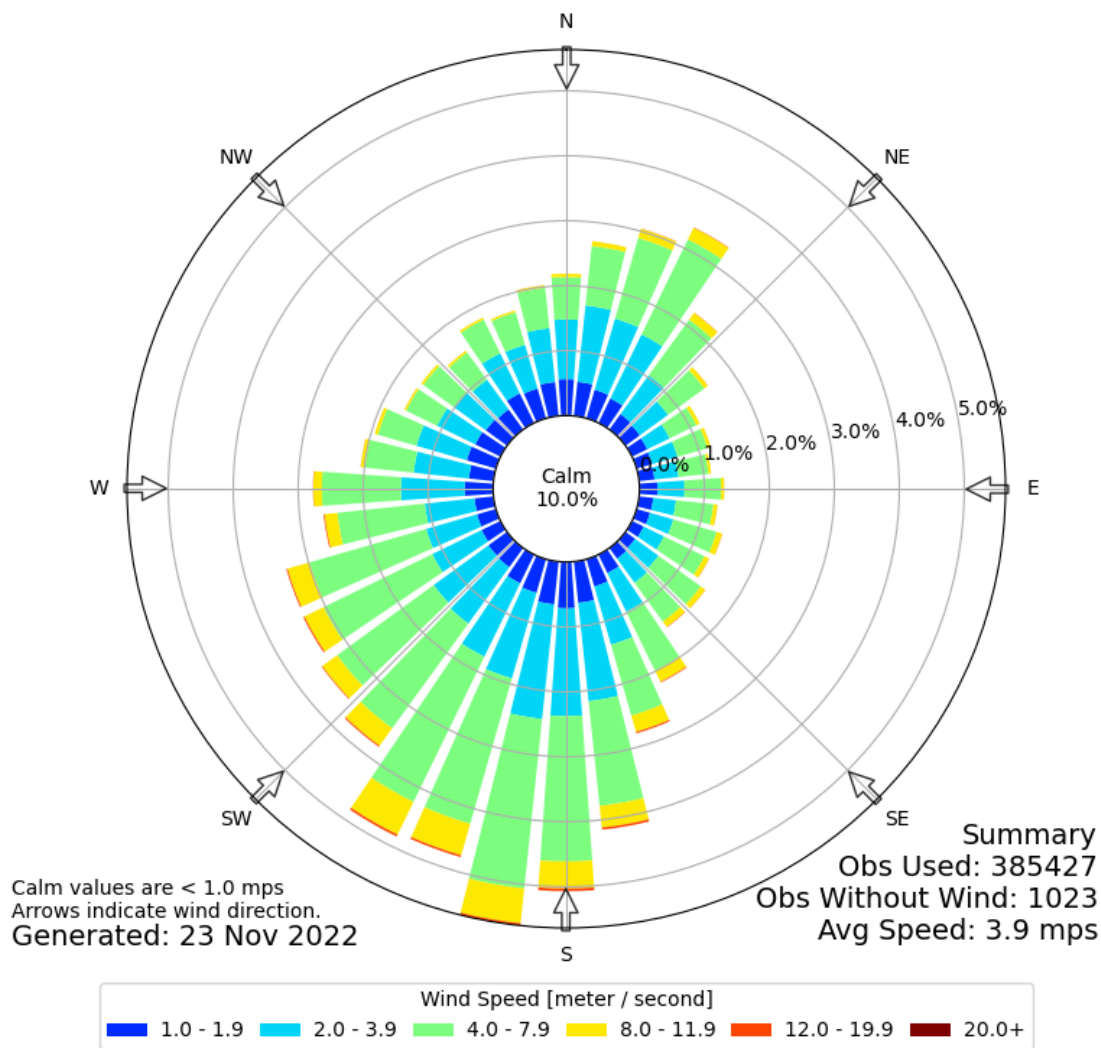


Figure 2 Windrose for RAF Benson – From the Iowa Environmental Mesonet of Iowa State University

73. Thus, the risk of harm to people living at the proposed development site from AWE(B) can be estimated as less than the product of the following values:

- 1 x 10⁻⁵ yr⁻¹ (the likely upper bound probability of the accident)
- 0.03 (the probability of the wind blowing towards the development site (at any speed))
- 11.3 mSv (an upper bound dose estimate for an individual at the development site)
- 5.7 x 10⁻⁵ mSv⁻¹ (the radiation risk factor)

= 2 x 10⁻¹⁰ per year, about 1 in 5,000 million years.

This estimate is subject to considerable uncertainty and a variety of other assumptions could have been made but it is certainly adequate to make the point that the risk of death resulting from living this close to the AWE(B) site is miniscule.

74. To put this figure in context the HSE [2001]³⁴ states that *“HSE believes that an individual risk of death of one in a million per annum for both workers and the public corresponds to a very low level of risk and should be used as a guideline for the boundary between the broadly acceptable and tolerable regions”*.
75. The annual probability of an effect on health for an individual on the proposed development due to an accident at AWE Burghfield is more than three orders of magnitude below the boundary of the tolerable region, i.e. it is well within the region where the risk would be judged broadly acceptable by the HSE.
76. If we imagined 10,000 people living in an area subject to the maximum dose that people at the proposed development might get (11.3 mSv) then the number of people experiencing later health effects could be estimated as $10,000 \times 11.3 \text{ mSv} \times 5.7 \times 10^{-5} \text{ mSv}^{-1}$ which is less than 7. Clearly the additional cancer cases that the local health services may have to manage in the long term because of an accident affecting the proposed development site are miniscule³⁵.
77. The Consequence Report does not discuss the possibility of a significantly more severe fault than the explosive distribution event upon which the off-site emergency plan is prepared but, since we are told that the site works on a batch system (AWE [2011])³⁶ we can infer that the amount of radioactive material outside the strong and secure stores at any one time are strictly limited by work protocols. Thus, we can suppose that significantly more severe accidents are even more unlikely than the one we plan against if not inconceivable.
78. It is not at all likely that there will be a real need for any significant decontamination of the area around the proposed development in the aftermath of an emergency at AWE(B). We

³⁴ Paragraph 130

³⁵ According to Cancer Research UK Cancer causes more than one in four of all deaths in the UK <https://www.cancerresearchuk.org/health-professional/cancer-statistics/mortality> an added 7 in 10,000 would not be detectable.

³⁶ Paragraph 6 on Page 5

have already seen that the radiation doses received on the site during plume transit are likely to be less than 11.3 mSv and that the additional dose after plume transit would be a small fraction of this value (and well below natural background levels). PHE advice is that *“For the longer-term recovery phase (constituting an existing exposure situation), PHE considers it appropriate in planning to select a Reference Level of 20 mSv y⁻¹ or less”*. Where a Reference Level is defined as *“are constraints on overall dose (that is, a level of ambition to keep below)”*. Thus, the radiation levels predicted would be below the levels that remedial action might be expected.

79. That is not to claim that there will not be a public clamour for decontamination activity but it could be limited to closer to the site.

The Requirements of the Off-site Plan (Concept of Operations)

80. An important difference between the requirements of REPPiR-01 and REPPiR-19 is that in the former, the ONR set the DEPZ, while in the latter that responsibility has moved to the local authority.
81. The Consequence Report for AWE(B) (AWE [2019])³⁷ stated that the minimum distance to which urgent protective actions should be taken corresponds to an area with a radial distance of 3,160 m. The only protective action it recommends is shelter, it makes no mention at all about evacuation.
82. It further recommends³⁸ 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)”*.
83. On the subject of urgency, it states³⁹ *“from the event site, there will be an average of approximately 1500 seconds (25 minutes) from the initiation of the event until the leading*

³⁷ Paragraph 2b

³⁸ Paragraph 2c

³⁹ Paragraph 2e

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 action⁴⁰.

84. The local authority discussed the Consequence Report on 12th March 2020 with recommendations to note the implications of REPPiR-19 and authorise the Head of Public Protection and Culture determine the DEPZ on the basis of the Consequence Report. The briefing paper (Richardson and Anstey, [2020]) noted that *“people living in the proposed DEPZ will have the benefit of appropriate mitigation measures identified in the off-site plan”* but did not note any impact on planning and development in the enlarged DEPZ, certainly not that, *“in order to be consistent with ONR advice, nearly all new housing will be rejected”* (from Policy CS8). The proposed DEPZs were discussed and agreed.
85. The off-site plan is triggered when it is believed a site emergency might or will cause an impact off-site to the public and/or environment regardless of the incident category. AWE will notify the Thames Valley Police and, in the event of an off-site emergency⁴¹ the full plan will be activated.
86. AWE will notify key responders (triggering a call-down chain that alerts many more responding organisations) and this includes triggering the Public Telephone Alerting System which goes to all not opted out lines in the area stating that there is an incident in progress and advising shelter and that people should listen to local media for updates.
87. The prior information to the public leaflet (WBC [2020]) explains that *“Every household and business in the area will automatically receive a pre-recorded telephone message (landline only) from the AWE Alerting System. Local radio and TV stations will broadcast messages.*

⁴⁰ The August 2022 version of the off-site plan (Section 5.3 a) suggests that AWE will initiate the automatic telephone alerting system to the public around the affected site, which is much more sensible than them telling the local authority who then initiate the alert.

⁴¹ A significant incident where the hazard extends beyond the site boundary and poses a potential risk and/or causes significant disruption to the public outside the site.

Alongside this emergency service responders will use news websites and social media to issue advice to the public. Please follow the advice IMMEDIATELY”.

88. A weakness of this system is that it only goes to landline phones and so does not directly reach people outside, who are the very people that would benefit most from the advice. The government have recently announced the launch of a new public emergency text alert system for the UK which will send a message to all mobile phones within reach of the chosen phone mast or masts [HMG 2022]. *“These alerts will be sent direct to people’s mobiles giving details of the emergency – such as local flooding – explaining what to do and how to seek help”⁴²*. It is likely that this system will be run in parallel to the landline system and will probably replace it in the fullness of time.
89. West Berkshire Council (WBC [2020]) notes that, as a precautionary measure, the advice on sheltering may be sent to the entire DEPZ in the initial response stages of a radiation emergency. Thus, this advice could apply to about 7000 households. Monitoring will then be used to confirm where sheltering needs to remain for longer and to identify those areas where it is no longer required.
90. AWE will prepare and promulgate a situation report.
91. Command and Control Centres will be set up including the site Control Centre and the local authority’s Strategic Coordination Centre at which will gather the key decision makers (the Strategic Coordination Group (SCG)) and key technical and expert input (Science and Technology Advisor Cell (STAC)).
92. Monitoring of the situation, including radiation levels on and off-site, will commence and there will be a cycle of discussions in STAC and SCG about the course of the event, the on-site actions to bring it to a close and the off-site actions, notably protective action advice and other communications with the public.
93. The Command and Control system used, and regularly exercised, reaches up into government departments including the government crisis management and scientific advice processes

⁴² Quote from <https://www.gov.uk/government/news/minister-announces-new-measures-to-bolster-uks-resilience>

COBR and SAGE as required. Help can be obtained from other local authorities and emergency services regions under mutual aid agreements as required.

Shelter as a Protective Action

94. Shelter is the recommended protective action for members of the public within the DEPZ because it is a relatively simple protective action to communicate and is reasonably effective if achieved in a timely manner.
95. The full advice given in the REPIR prior information leaflet is:
- *Go indoors immediately and stay there. Contamination levels are likely to be higher outside buildings than inside. Staying inside is the most important advice because the fabric of the building will provide a layer of protection against any ionising radiation and will reduce exposure to any radioactive particles. If you are not at home, go into the nearest permanent building.*
 - *Keep your pets inside if they were not outside at the time of the emergency; those that have been outside could be kept in a separate room or building.*
 - *Close all windows and doors to stop radioactive particles from entering buildings.*
 - *Turn off boilers and air conditioning units and put out fires and wood-burners. Fans, heating systems, boilers, gas fires and air conditioning all draw in air from outside so these should be shut down to minimise radioactive particles entering buildings.*
96. The AWE(B) Consequence Report states that *“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 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)”*. This is a bit puzzling. For the explosive distribution fault, we 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. It should be possible to advise people that they can break shelter and return to normal life within an hour or two of the alarm. Radiation monitoring, which would largely be for reassurance, could continue after the event had been stood down.

97. 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. The government advice on the use of sheltering states 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’* (PHE [2019]) and earlier advice included *“To a large extent, these adverse effects of the countermeasure [Shelter] are small, particularly if the sheltering period is kept to a few hours. Significant problems can be reduced by advising individuals that short periods out of doors, for necessary activities, will not, in many situations, result in very high exposures. External exposures to people inside a building will not be significantly affected by opening and closing of outside doors, nor will occasional opening and closing of outside doors have a major impact on the radionuclide concentrations in air in the building, and hence on doses by inhalation.”* (NRPB [1990]).

Evacuation as a Protective Action

98. Evacuation is unlikely to be recommended for the proposed development site because the predicted levels of radiation dose off-site are predicted to be below the lower Emergency Reference Level (ERL) for evacuation which is set at 30 mSv [PHE 2019].
99. The Consequence Report written by AWE and upon which the local authority scales the off-site plan makes no mention of evacuation so you might assume that it would form no part of the emergency plan. However, the off-site plan (JEPU [2022]) does include the provision for evacuation.
100. Section 2.5 of the off-site plan provides a review of a risk assessment which states that evacuation might be required for events involving explosives, inert gases, pressurised cylinders, toxic chemicals and smoke.
101. It also states that *“Release of radioactive material from a facility may result in contamination of downwind areas outside the site boundary”* and *“Sheltering and evacuation (as well as temporary or permanent relocation) of potentially contaminated areas may be required, involving the displacement of potentially large numbers of members of the public for an*

extended period". This last statement is not supported by the Consequence Report nor on the understanding of the fault upon which the plan is scoped.

102. As previously stated (paragraph 77) it is very unlikely that the site will suffer a significantly more serious fault than that upon which the plan is scoped and the fault considered will not leave enough contamination to require evacuation.
103. Section 11AA of the off-site plan⁴³ states that "***The closer to the site boundary the greater the risk for the need for urgent evacuation particularly out to approximately 150m with subsequent evacuation needed out to 600m***" and "*Vulnerable sites are more likely to need evacuation*".
104. Thus, it is extremely unlikely that the proposed development site (2.4 km from AWE(B)) will need to be evacuated because of an event on the AWE(B) site.

Strain on the emergency plan resulting from the proposed development

105. The local authority objection to the proposed development is, in part, based on their view "*that future public safety would be compromised if the development were to proceed*".
106. Taking a typical occupancy of 2.4 residents per unit, as determined from 2011 census data, the total number of residents of the Proposed Development would be about 80 people. The proposed development of 32 dwellings is a small increment compared to the estimated 6,651 residential and 2,887 "other" properties in the DEPZ (Richardson and Anstey, [2020]).
107. It has clearly been shown that the AWE(B) site does not pose a significant risk to those living or working in the area of the proposed development (Paragraphs 73– 74).
108. Since the alerting mechanism is a telephone system that sends a single message out to all landlines that are not deliberately de-registered, and the continuing provision of information is via local and social media lines, the addition of more properties to alert and inform adds a negligible addition burden on the current system.

⁴³ Page 135

109. It is certainly true that the people asked to shelter may suffer the normal run of emergencies such as medical emergencies, fire alarms or reports of gas etc and may require in-home support for medical or personal reasons, but these should not be an intolerable burden. The radioactive plume will only be overhead for a few minutes (30 at most) (Paragraph 31) and the risks to health of a resident being in that plume are not overwhelming.
110. The emergency services and social services should be able to judge each case on its merits and go in to provide urgent assistance or delay entry for a few minutes until the plume will have passed.
111. The Approved Code of Practice for REPP19 includes (Paragraph 334):

The local authority should prepare the plan in accordance with the requirements of regulation 11 and the associated Schedules and should ensure the plan:

- (a) is a written document, or set of documents; and*
- (b) can be put into effect without delay when required by ensuring that prior information has been supplied in accordance with regulation 21 and by seeking confirmation, so far as reasonably practicable, from responding organisations that:*
 - (i) the necessary information, instruction and training have been provided and the necessary equipment for restricting exposure has been made available, in accordance with regulation 11(6); and*
 - (ii) any other underpinning capabilities required to implement the plan are in place and readily available*

Paragraph 340 (Guidance) suggests that the confirmation that the underpinning capabilities should ideally be obtained in writing. This would include getting assurances from the emergency services and social services that they have the training, equipment and decision-making processes to provide reasonable support those sheltered in the DEPZ.

112. The ONR objection was largely based on the fact that the local authority were not able to provide them with adequate assurance that the proposed development can be accommodated within the off-site emergency arrangements.
113. **The same off-site plan serves both the AWE(A) and AWE(B) sites.** A quick examination of a map of the area shows that the town of Tadley is immediately to the south of the AWE(A) site

and that if an accident were to occur on this site while the wind was blowing from the North to the North-East then a significantly greater and closer population would be affected than by an accident at AWE(B) with the wind blowing towards the development site. If the plan is adequate for Tadley it is surely adequate for the proposed development site.

114. ONR (ONR [2022]) state that *“it does not advise against the proposed development on planning grounds if, in its opinion, the following statements apply:*

- *the local authority emergency planners, if consulted, have provided adequate assurance that the proposed development can be accommodated within their existing off-site emergency planning arrangements (**or an amended version**); and*
- *the development does not represent an external hazard to a nuclear site or the planning function for the site that may be affected by the development has demonstrated that it would not constitute a significant hazard with regard to safety on their site”.*

115. The underlined phrase suggests that the ONR should be more challenging when seeking confirmation from a local authority that the off-site plan can cope. If it is a question of an incremental increase in population straining the plan then can the plan be “amended”; can more resource be deployed to enable the plan to function adequately?

116. Note that a plan can be reviewed and amended at any time. Paragraph 378(c) of the REPPIR-19 guidance (HSE [2022])⁴⁴ states *“reviewing is a fundamental process, examining the adequacy and effectiveness of the components of the emergency plan and how they function together”* ...and that a review should take into account *“any changes in the detailed emergency planning zone or outline planning zone; for example, a new school or hospital”*.

The development as a threat to the current and future operation of AWE(B)

117. The second string of concern from the ONR process is the possibility that the development site may represent an external hazard to the nuclear site or hamper any emergency response. External hazards are those natural or human-induced hazards to a nuclear site and facilities that originate externally to both the site and its processes, such that the site operator may have very little or no control over the initiating event. They include for example fire, toxic

⁴⁴ Page 70

release, missiles, electromagnetic interference and flooding.

118. It is clear that an incremental increase in the local housing stock does not represent such an external hazard.
119. Another possible objection is that the addition of more housing increases the number of vehicles on the road and that these may hamper the emergency services either heading towards the site or away from the site in pursuit of emergency response objectives.
120. The development site is located away from the main through roads leading to and from the AWE(B) site. The nearby main road that the residents would have to use is the Reading Road which can be avoided by using alternative roads if it is blocked for any reason⁴⁵.
121. It seems unlikely that the addition of these 32 homes will make a noticeable difference to the time it takes for emergency services under blue lights to travel to or from the AWE(B) site.
122. AWE objected to the proposed development echoing the views of the local authority and ONR and adding that *“It could have an adverse impact upon the nation’s security by constraining both the current and future operation of AWE B”*.
123. In a letter objecting to the proposed development (AWE [2022b]) AWE state that *“AWE will be unable under REPPIR 2019 to work with ionising radiation if, amongst other matters, the Council is unable to comply with its duties in connection with the off-site emergency plan”*. For which they cite REPPIR-19 Regulation 10(4)b.
124. This regulation states that *“10(4) The operator must not require any person to carry out work with ionising radiation, and no person shall carry out such work unless—*

(a) the operator has complied with the requirements of paragraph (1); and

⁴⁵ The Case Officer’s (MBB) Report (WBC [2022]) states that *“the expected traffic generation from the site once completed and fully occupied is expected to be about 175 vehicle movements on a daily basis. Given the relatively sustainable location of the site and good road network around, this will not have a severe impact on the network, so the application is accepted on this basis”*. Which suggests they do not share any concern on this matter.

(b) the local authority has complied with its duties in connection with the off-site emergency plan as set out in regulation 11, and has confirmed this to the operator in writing”

125. We may suppose that this is suggesting that development around the site has already reached, or might in the future reach, the stage where the current off-site emergency plan is adjudged woefully inadequate by the ONR leading them to impose a site shutdown or to object to future developments of either site.
126. This does not seem particularly likely. Long before that stage is reached the ONR would be noting its dissatisfaction with the plan, allowing the local authority the opportunity to amend the plan to accommodate additional development and to address any inadequacies identified.
127. Cost should not be an issue to the local authority because REPPiR-19 regulation 16 allows “(1) *A local authority may 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 operator’s premises under regulations 8, 11, 12 and 21”*.
128. These regulations are (8) setting the Detailed emergency planning zone, (11) the local authorities (off-site) emergency plan, (12) Review and testing of emergency plan and (21) prior information to the public.
129. If the ONR warnings of dissatisfaction did not work then they may give a formal improvement notice under the Energy Act (HMG [2013])⁴⁶ to the local authority⁴⁷ and the AWE “*requiring the person to remedy—*
(a) the contravention, or
(b) as the case may be, the matters giving rise to the notice,
within the period specified in the notice”.
130. This could escalate to a prohibition notice which is applicable where “*an inspector is of the opinion that—*

⁴⁶ Part 2 of Schedule 8 “Appointment and Powers of Inspectors”

⁴⁷ I’m not sure that the ONR can place improvement or prohibition notices on the local authority but they can put them on the AWE as the operator of a licensed site.

(a) relevant activities, as they are being carried on by or under the control of a person, involve a risk of serious personal injury, or

(b) relevant activities which are likely to be carried on by or under the control of a person will, as so carried on, involve a risk of serious personal injury”.

131. It is an offence to contravene any requirement or prohibition imposed by an improvement notice or a prohibition notice.

132. Only when their patience is exhausted would ONR consider curtailing activity on the site with a prohibition notice.

133. We can then imagine the Secretary of State invoking REPPIR regulation 25(2):

252) The Secretary of State for Defence may, in the interests of national security, by a certificate in writing, exempt—

(a) Her Majesty’s Forces;

(b) visiting forces;

(c) any member of a visiting force working in or attached to any headquarters or organisation; or

*(d) **any person engaged in work with ionising radiation for, or on behalf of, the Secretary of State for Defence,***

from all or any of the requirements or prohibitions imposed by these Regulations and any such exemption may be granted subject to conditions and a limit of time and may be revoked at any time by a certificate in writing.

134. Or Paragraph 111(2) of the Energy Act which states that “*Part 2 of Schedule 8 (inspectors: improvement and prohibition notices) does not bind the Crown*”.

135. It therefore seems farfetched to believe that inadequate emergency preparedness from the local authority would be allowed to result in any threat to the operations of an AWE site. The site and local authority would be given ample opportunity to remedy any deficiency and even if they failed in that and ONR wished to curtail activity on the site they could be overruled in the interests of national security.

Summary and conclusion

136. It has been shown that contrary to the fears of the local authority and AWE:

- The AWE(B) site does not represent a great risk to health or life for those living in or near the proposed development site;
- The increased number of inhabitants of the DEPZ will not put an overwhelming strain on the resources of the off-site plan, either for warning and informing or for providing medical and quality of life support to those in an area subject to shelter advice; and
- The increased number of people living in the area are unlikely to interfere with the emergency services' ability to provide support to the site in an emergency.

Moreover, contrary to the fears of AWE it is extremely unlikely that the current off-site plan cannot be amended to cope with additional properties in the DEPZ if it has reached, or is in danger of reaching, some kind of breaking point.

Furthermore, even if it were to reach this point the local authority and operator would have opportunity to amend the plan before the ONR decided to try restricting the site, despite the MOD's powers to disapply both REPIR and the Energy Act.

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