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# AWE Detailed Emergency Planning Zone

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

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## 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  |
|------------------------|---|
| <b>Financial:</b>      | <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> |
| <b>Human Resource:</b> | <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>  |
| <b>Legal:</b>          | <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>   |

|  |   |                |  |
|--|---|----------------|--|
| <b>Risk Management:</b>  | <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> |                |  |
| <b>Property:</b>   | No direct implications.   |                |  |
| <b>Policy:</b>   | No  |                |  |
|  | <b>Positive</b>   | <b>Neutral</b> | <b>Negative</b>  |
|  |   |                | <b>Commentary</b>  |
| <b>Equalities Impact:</b>  |   |                |  |
| <b>A</b> 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>B</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.   |
| <b>Environmental Impact:</b>   |   | X              | There is no greater risk as a result of the DEPZ changes being put in place.   |
| <b>Health Impact:</b>  |   | X              | People living in the proposed DEPZ will have the benefit of appropriate mitigation measures identified in the Off-Site Emergency Plan. |
| <b>ICT or Digital Services Impact:</b>   |   | X              |  |
| <b>Council Strategy Priorities or Business as Usual:</b>   |   | X              | Business as Usual.   |
| <b>Data Impact:</b>  |   | X              |  |
| <b>Consultation and Engagement:</b>  | 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 21<sup>st</sup> 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 22<sup>nd</sup> 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 21<sup>st</sup> 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 21<sup>st</sup> 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 21<sup>st</sup> September 2019. Due to governance processes within AWE and the MoD, they were not however released to the Council until 21<sup>st</sup> 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 21<sup>st</sup> 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 10<sup>th</sup> 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 6<sup>th</sup> 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 13<sup>th</sup> January 2020 to 27<sup>th</sup> 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 17<sup>th</sup> 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.

|                         | <b>AWE B DEPZ</b> | <b>AWE A DEPZ</b> |
|-------------------------|-------------------|-------------------|
| Residential properties  | 6651              | 7154              |
| Other (everything else) | 2887              | 1819              |
| <b>TOTAL</b>            | <b>9538</b>       | <b>8973</b>       |



- 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 21<sup>st</sup> 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

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### Officer details:

Name: Carolyn Richardson

Job Title: Service Manager – Emergency Planning

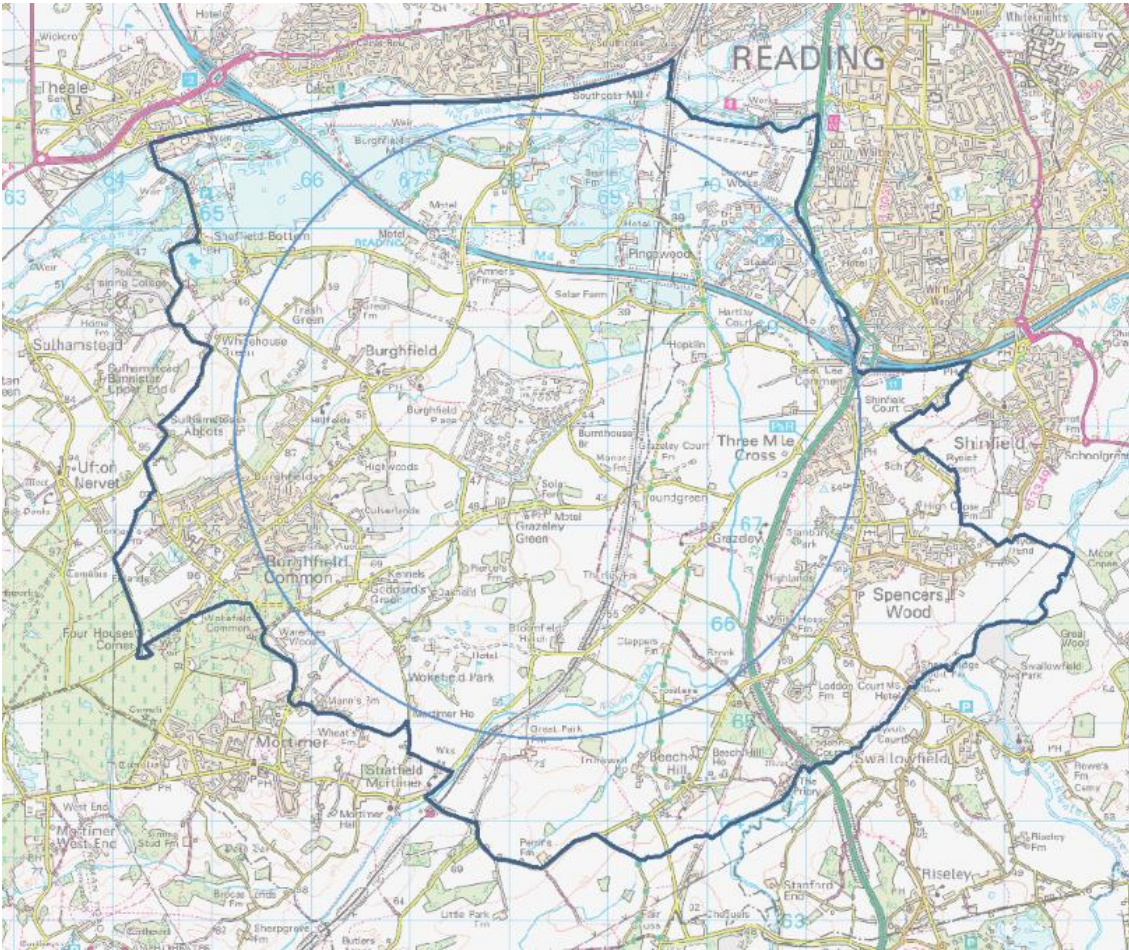
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# Appendix A - DEPZ Determination

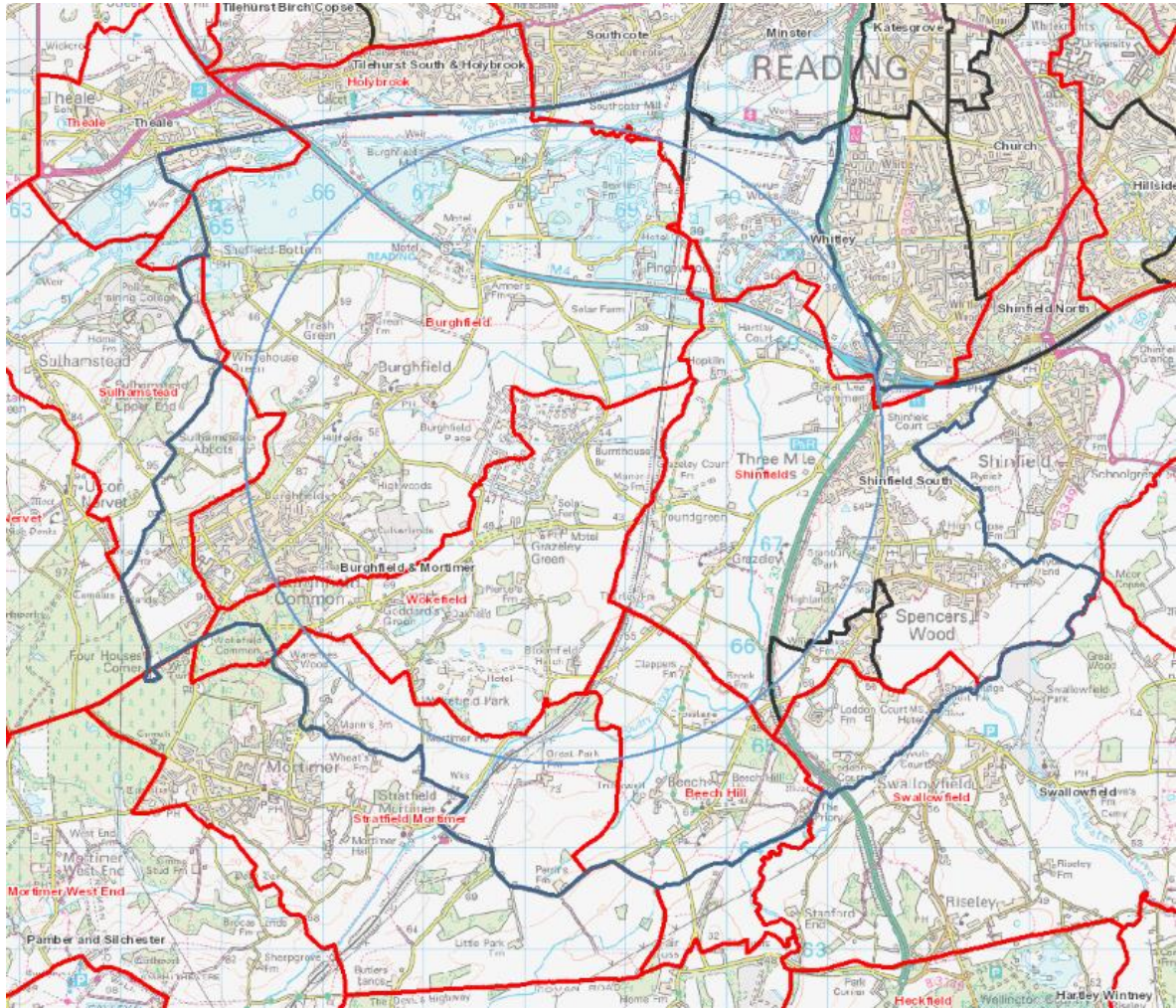
## AWE Aldermaston DEPZ



**AWE Burghfield DEPZ**



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



# Appendix B - Outline Planning Zones

