

STANBURY HOUSE

DEVELOPMENT SPECIFIC EMERGENCY PLAN for RESIDENTIAL ACCOMMODATION

1.1. Considerations

- a. The Stanbury House site is located just under 3km from AWE(B) and just within the UPAZ. This means that were a radiation emergency of the type envisaged by the AWE(B) Consequence Report to occur while the wind blowing towards the development site and the weather was Pasquill Category F with wind speed 2 m/s then the total radiation dose to someone outdoors for the full duration of plume transit could be slightly above 7.5 mSv. This is the threshold value for taking the protective action of sheltering. It should be noted that the fault described in the Consequence Report is the most severe fault that is sufficiently likely (although still very unlikely) to require detailed emergency planning.
- b. Sheltering works because, for a short-term atmospheric release, the airborne concentrations inside a house remain lower than those outside for a period depending on a number of factors. After the passage of the initial plume, concentrations within a house can be higher than those outside. Thus, continued sheltering may increase rather than reducing the radiation dose received and it is recommended to increase ventilation within the house once the plume has passed.
- c. The OSEP is designed to promulgate an alert to warn people of the radiation emergency and to recommend that they take shelter in a good building and remain there until advised that it is safe to leave.
- d. Prior information is sent to each household and business in the area to increase understanding of the potential for a radiation emergency, to ensure that the alarms are recognized as requiring urgent action, and to describe the correct actions to take (which are reinforced in the alerting message on the day).
- e. There is a concern that any additional population in the DEPZ and UPAZ will dilute the resources available to protect the public and thus reduce the effectiveness of the OSEP and so endanger members of the public within the DEPZ.
- f. We aim to reduce the load of the additional public on the DEPZ and thus support the OSEP through information and communication. We will do this by:
 - Ensuring that every house has a landline phone while that remains the Council's preferred method of promulgating the alarm.¹
 - Ensuring that every house has a copy of the local authority's prior information pack.

¹ It is important to note that although landline phone call is the communication of choice of AWE Burghfield, landlines in the UK are being phased out in general.

- Ensuring that every house has a copy of “How to Survive a Nuclear Emergency” by Dr K.I.Pearce.
- Supporting annual presentations in local facilities about personal resilience (possibly open to anyone living in the area) while the estate is within the DEPZ. For example, renting a village community hall or similar venue to invite residents to a presentation about the radiological risks arising from AWE(B), the purpose of the OSEP, the prior information and providing further information about the deleterious health effects of radiation exposure. AWE and the local authority would be consulted about the content of these events, and invited to attend/present, but they could be run without any support.
- Installing a robust research-grade weather station in a secure enclosure capable of measuring wind speed and direction and writing it to a web-site – including export to the Met. Office’s citizen science website. This is to provide confirmation of the wind speed and direction during and after any AWE(B) radiation emergency to determine if the development site is under the plume.
- Providing an area with mains power and internet links for AWE to install an air monitor and weather station should they want to or financing the provision and maintenance of an air monitor (specified and installed by AWE) for a period of up to 10 years or until the site is taken out of the DEPZ, whichever is the sooner.
- Sponsoring radiation knowledge in local medical services and schools.

1.2. Introduction

- a. This is a draft of the Development Specific Emergency Plan (“DSEP”) for Stanbury House Phase 2 development of sixty-three dwellings. This draft DSEP sets out an approach to build resilience within the establishing community which we are happy to discuss with the JEPU by way of pre-application discussions.
- b. The intention is to prepare the new community as much as possible to be briefed and informed of what to do in the event of a radiation emergency at AWE(B) as the estate is established and residents move in, in order to support and amplify the work of the Local Authority (LA) Off-Site Emergency Plan (OSEP and prior information).
- c. Focusing on briefing, information sharing and training (as required) residents within this community is primarily the most appropriate and effective way of increasing resilience and effectiveness of response if a radiation emergency were to arise.
- d. The proposed estate is within the Detailed Emergency Planning Zone of AWE Burghfield set by the local authority and just inside the Urgent Protection Action Zone (UPAZ) determined by the site operator (AWE plc). Should the explosive distribution event in which a high explosive component detonates near to a plutonium component occur while the wind is blowing from the AWE site towards the proposed development site then respirable

plutonium dust will be carried across the development site. This will lead to an inhalation dose to anyone within the radioactive plume as it passes.

- e. As the site is close to the outer edge of the UPAZ the projected dose to an individual on the plume centre line for the duration of the plume transit would be just above 7.5 mSv (as this criterion defines the UPAZ boundary) and therefore it would benefit them to shelter if they can for the full duration of the transit, which is likely to take between a few minutes and a few hours. This is because the anticipated 40% dose reduction from sheltering equates to just over 3mSv averted dose. The likelihood of this combination of accident (likelihood of event probably below 1 in 10,000 years) and the wind blowing towards the site (less than 4% for any wind speed – and only a proportion of which represents category F/G weather which is the basis for the UPAZ calculation) is less than 4 in 1,000,000 years.
- f. This puts it in the lowest likelihood band of the Community Risk Register of < 0.2% over a two-year period (<0.1% per year). This likelihood could be multiplied by 250 and still be in the low likelihood band. However, the current Off-site Emergency Plan (OSEP) recommends sheltering and states that this may be needed for up to 48 hours.

1.3. Management

- a. A Management Company (MC) is appointed to maintain communal areas of the site and support the community with initial briefing and information provision on moving into the estate, with recurring (annual or biannual) briefing or training while the site is within the DEPZ of AWE B.
- b. Should the site be removed from the DEPZ when AWE reviews the UPAZ on moving relevant operations to the facilities which are currently under construction (or in any other circumstances), the MC can agree with the LA or AWE which parts of this DSEP could be maintained, it being anticipated that retention would apply to the fixed air monitoring and weather stations, given the benefits of these elements even where the site is outside the DEPZ.

Table 1 Planning Role

Role	Responsibility
MC pre-event activities (to support community in preparing site for radiation emergency)	• Build relationships with residents to establish communications and initial awareness of the AWE OSEP. • Provide information guides to all residential units. • Deliver training and briefings to residents annually or biannually about advance preparations. • Encourage residents to maintain emergency contact details and personal emergency plan, especially of those most vulnerable.

MC general maintenance activities (i.e., not related to emergency planning or response)	• Maintenance of all common areas
---	---

2.Pre-Event

2.1. Pre-Event Principles

- a. This section focuses on the preparation of resources, fixed assets, people, communications, information, and briefing.

2.2. Establishing the estate

- a. As residents move into the estate, effectively establishing the community, the MC can use this opportunity to present the welcome pack and offer radiation emergency briefing to them.
- b. The welcome pack will include recommendations for personal protection equipment, face masks, how to write a Personal/Family Emergency Plan, a copy of How to Survive a Nuclear Emergency”, quick-read leaflet which can be placed on a fridge door for example,

2.3. Maintenance

- a. Once residents have moved in and the community is established, the MC can continue support by offering annual or biannual briefing/training on responding to radiation emergencies.
- b. In addition, the MC can issue physical leaflet reminders in line with what the LA issue on an annual basis.

2.4. Assets and Physical Resources

2.4.1. Masks

- a. MC to distribute face masks to homes periodically with the recommendation that they keep them in a safe place in case of need.

2.4.2. Weather Monitoring Station

- a. If the local authority agree that a local weather station will enable quicker decisions to remove shelter advice from the estate when it is upwind of any release, we propose to provide the location, plinth, power and internet for the LA/AWE to install an automatic weather station in a secure enclosure on site to measure the direction and speed of the wind at the site of the proposed development. Such stations are available from various suppliers and are usually customised to requirements. Typically, measurements include

wind speed and direction, air temperature, relative humidity, barometric pressure and precipitation.

- b. An illustrative example is the MesoPRO™. This is a highly accurate, durable, research-grade meteorological monitoring station, designed for a wide variety of demanding environmental applications. Remote monitoring and data collection are implemented via an industrial 4G LTE cellular network modem (see <https://www.campbellsci.eu/mesopro>).
- c. This would provide real time wind speed and direction and enhance understanding of where the plume may be (and importantly where it is not).

2.4.3. Telecommunications

- a. All properties on site to be fitted with landlines, which can receive the alert call from the local authority, unless/until some alternative alerting system is required by the LA.
- b. All properties to be fitted with high-speed internet access.

2.4.4. Food and Supplies

- a. All residents will be advised to store up to three days of food and essential supplies including medications in their Personal Emergency Plan as drafted in the Emergency Leaflet as good practice for responding to all emergencies.

2.4.5. Personal Protective Equipment

The following are suggestions of PPE that can be acquired and distributed to the community in preparation for an emergency.

- a. Masks such as FFP3/N95 for example Fold Flat Individually Wrapped Mask
<https://www.protectivemasksdirect.co.uk/protective-masks/ffp3-masks-respirators>
- b. Gloves – single use disposal (Nitrile or Neoprene Gloves) (Use multiple layers with blue inner)
- c. Overshoes – for if anyone has to go outside before the area has been declared free of ground contamination. (Teach overshoe protocols)
- d. Portable Decontamination Kits - decontamination wipes and binbags to help responders clean off surface contamination after working in affected areas.
- e. Soft Brushes and Cloths - use for scrubbing surfaces gently to avoid damaging PPE or irritating skin.
- f. Absorbent Mats or Trays: Place these at exit points to catch any residual contamination.
- g. Instructional Guides and Training Resources - clear protocols and guides for how to use, dispose of, or clean each item, as well as when to change or remove PPE.

2.5. Communications & Information

2.5.1. Emergency Leaflet (Welcome Pack)

- a. Each household will have information provided with their welcome pack on establishment of the estate.
- b. The MC will design an emergency leaflet for residents which complements and supplements the LA emergency handbook and “How to Survive a Nuclear Emergency” by Dr K.I. Pearce.
- c. This will have critical information on what actions to take during emergency, how to prepare a Personal Emergency Plan, and where to go for further information (URL and QR code for AWE and LA website). This is particularly helpful if a resident is not IT literate, or cannot access the internet, as it suffices as a backup hard copy of baseline information that businesses and residents can reach for in the event of emergency. Leaflet to be designed so it can be placed on resident’s fridge or otherwise pinned in prominent location within home.
- d. MC will issue reminder leaflets to residents out of phase with the distribution of the local authority prior information to remind them of what was delivered in their briefing and how to keep their personal/family emergency plans up to date.

2.5.2. Personal Emergency Plan (PEP)

- a. MC will encourage all residents to develop a Personal Emergency Plan (PEP) as set out in the briefing pack and reiterated at any verbal/in person training or briefing sessions. More information can be found in Appendix F Home Resilience Plan in How to Survive a Nuclear Emergency book.
- b. Plan to include considerations for preparing emergency contact details, preparing written contact lists, ensuring sufficient food, water and medications for shelter period, initial action list on activation of radiation emergency, home first aid/emergency kit etc.
- c. Planning for other emergencies including flooding, power cut, extreme weather, fire etc. to include battery power supplies, temporary lighting, controlling home utilities, agreeing safe place to meet family, personal documents (passport, insurance etc.), emergency kit “go bag”, paper road map, blankets/sleeping bags, change of clothing etc.
- d. Consider if displaced at time of emergency and unable to get into the DEPZ, what advanced preparation can be made for alternative accommodation with friends or family.
- e. Identification of any “vulnerability”, defined as something that would prevent or significantly impair a person/household being able to get themselves successfully through a two-day shelter period at home.
- f. Residents encouraged to update their PEP annually.

2.6. Resident Briefing and Training

- a. This programme can be designed to provide a baseline briefing for all residents on what to do in a radiation emergency, what to look out for in line with how it will be managed by the LA/Emergency Services and any other preparations they can do in advance.

- b. The briefing can be delivered by organisations such as Communities Prepared and emergency planning consultants on an annual or biannual basis.
- c. It includes community specific briefing which goes through step by step of what happens during an emergency, what actions are being done, what they want the community to do, what actions they need to take, what expected behaviours e.g. “please don’t self-evacuate as you will block the roads and prevent emergency services, we need to work together to ensure those who need help get it the quickest”.
- d. It also includes, but is not limited to, the following elements:
 - e. Radiation briefing.
 - a. Personal protection in nuclear emergency.
 - b. Emergency planning and development of Personal Emergency Plans.
 - c. Working with and supporting people in crisis.
 - d. Briefing on AWE Burghfield risk assessment (Consequence report and prior information explained).
 - e. Value of protective actions – shelter and evacuation.
 - f. Knowledge of risks of personal contamination and self-decontamination processes.
 - g. Good knowledge of the area and population.
 - h. Understanding the roles of and how to liaise with agencies and stakeholders including local authority, emergency services and AWE Burghfield.
 - i. Impact of wind and weather and how to interpret weather data when there is an emergency at AWE.

3.Event & Post-Event

3.1. Activation of “Shelter in Place”

- a. In the event of a radiation emergency, AWE will alert all residents via telephone.
- b. Based on resident briefing and training, all residents should have a good understanding on the appropriate actions to take.

3.2. Post-Event Principles

- a. Once the shelter-in-place advisory is lifted, the MC can provide support by disseminating LA/AWE guidance to residents, and conducting a welfare status check.
- b. Monitoring and analysis of the information being distributed by the local authority and other responders will continue until the Strategic Coordination Centre stands down so that the local residents can be kept informed and helped to understand the messages being

given out while filtering out misinformation. At this point focus is likely to switch to the recovery stage and the team will cover that in the same way.

3.3. Decontamination

- a. Once the LA have confirmed the shelter in place period is over and decontamination following the advice of the authorities can begin the MC will help the residents follow the Council's advice.
- b. Following the transit of a plume of plutonium bearing dust across the site there may be a desire, but not a real need or urgency, for "decontamination"
- c. This may include:
 - a. personal decontamination following government advice
https://assets.publishing.service.gov.uk/media/6565cb6e1524e6000da101c5/Radiation_self_decontamination_guidance__5_.pdf
 - b. decontamination of vehicles and hard surfaces by standard cleaning processes, e.g. hosing down.
- d. Care would be taken to follow and promulgate extant advice with the intention to "first cause no harm".

4. Conclusion

- a. The approach in this plan is to prepare and brief residents as they move into the estate, and refresh their knowledge and understanding of how to respond to a radiation emergency in line with the LA OSEP. The intent is to support the OSEP by supporting, as reasonably practicable, the residents to become trained and aware of what to do in an emergency, increasing their personal and family resilience and reducing any undue burden on the LA and emergency services through resident demands that could have been mitigated by good planning.