

OFFICIAL

WESTINGHOUSE UK FUELS SPRINGFIELDS – RADIATION (EMERGENCY PREPAREDNESS AND PUBLIC INFORMATION) REGULATIONS 2019 – Reg 7 CONSEQUENCES REPORT

1. Westinghouse UK Fuels, Springfields has made an assessment pursuant to Regulation 5(1) of the Radiation (Emergency Preparedness and Public Information) Regulations 2019 (REPPIR), considering and evaluating a full range of the possible consequences of the identified radiation emergencies, at Springfields. In accordance with Regulation 7(3) a report setting out the consequences identified by that assessment is attached with this letter.
2. The operations considered when undertaking the hazard evaluation were:
 - a. Production of Nuclear Fuel and intermediate Products
 - b. Operation and maintenance of the facilities, including associated systems;
 - c. Decommissioning of facilities
 - d. Movement of radioactive materials on the Authorised Site.

The hazard evaluation identified all hazards arising from the work undertaken which have the potential to cause a radiation emergency.

3. Springfields formally invites the Local Authority to discuss the attached consequences report, in accordance with Regulation 7(4).

Paul Eyre
Head of Infrastructure

Consequences Report

Part 1 – Factual Information

1. **Clause 1(a) - Name and address of the operator:**
 - a. Westinghouse UK Fuels, Springfields Preston PR4 0XJ
2. **Clause 1(b) - Postal address of the premises where the radioactive substance will be processed, manufactured, used or stored, or where the facilities for processing, manufacture, use of storage exist:**
 - a. Westinghouse UK Fuels, Springfields Preston PR4 0XJ
3. **Clause 1(c) - The date on which it is anticipated that the work with ionising radiation will commence or, if it has already commenced, a statement to that effect:**
 - a. Springfields has worked work with ionising radiation since the 1950's in the capacity of producing finished nuclear fuel, preparing fuel intermediates and decommissioning nuclear facilities

Part 2 – Recommendations

1. **Clause 2(a) - The proposed minimum geographical extent from the premises to be covered by the local authority's off-site emergency plan:**
 - a. The proposed minimum geographical extent from the premises to be covered by the local authority's detailed emergency plan is detailed in Appendix 1. This Detailed Emergency Planning Zone (DEPZ) was determined by the ONR in 2017 to cover both the radiological and chemotoxic hazards posed by Springfields (**Note:** Springfields is also an Upper tier COMAH site). This and supporting assessments have verified that this determination remains adequate
 - b. An outline planning zone of 5 km has been determined for Springfields in accordance with Regulation 9(1)(c). This 5 km outline planning zone should be centred on the centre of site.
2. **Clause 2(b) – The minimum distances to which urgent protective actions may need to be taken, marking against each distance the timescale for implementation of the relevant action; and Clause 3(a) – The recommended urgent protective actions to be taken within that zone, if any, together with timescales for the implementation of those actions:**

The following distances are recommended for the urgent protective actions of sheltering. These distances are based on analysis of a range of source terms and include consideration of a range of weather conditions:

- a. Area define in the DEPZ Appendix 1 from the centre of site - sheltering indoors.

It is recommended that the declaration of an Off-Site Nuclear Emergency by the operator to the Local Authority is the trigger for implementing the off-site emergency plan and initiating all of the above recommended urgent protective actions.

3. Clause 3(b) – Details of the environmental pathways at risk in order to support the determination of food and water restrictions in the event of a radiation emergency:

- a. A Criticality at Springfields is unlikely to create requirements for food and water restrictions. This is because a criticality is a pulse on ionising radiation energy and not a 'traditional' release of radioactive airborne material.

Part 3 - Rationale

1. Clause 4 – The rationale supporting each recommendation made:

- a. Sheltering within the DEPZ Appendix 1 is to protect against addition ionisation from a criticality in accordance with the lower ERL for shelter of 3 mSv.
- b. It is not feasible for the effects of a criticality at Springfields to be seen at 5km

2. Clause 5(a) – The rationale for its recommendation on the minimum distances for which urgent protective action may need to be taken:

- a. The minimum distances recommended are based on a full range of possible consequences of the identified radiation emergencies evaluated in the consequence assessment made in accordance with Regulation 5(1). These consequences were subsequently compared with the ERLs listed in PHE-CRCE-049 May 2019.

3. Clause 5(b) – The rationale for agreement that no off-site planning is required.

- a. This clause does not apply to Springfields.

Appendix 1 Springfields DEPZ

