

LLWR Waste Acceptance Criteria (WAC)

Springfields Fuels Ltd

1 Introduction

This document defines the Waste Acceptance Criteria (WAC) for the acceptance of contaminated metal items from third parties within the UK to the Springfields Fuels Ltd Nuclear Licensed Site.

If a 3rd party requires decontamination of metallic wastes which are outside of the criteria set out in section 2 below, these may still be considered, however these will require prior approval from Springfields Fuels Ltd Waste Manager.

Any non-compliant waste may require return to the third party consignor at their expense, under the terms and conditions of the contract.

2 Waste Acceptance Criteria

General

Waste acceptance will be subject to a signed contract or receipt of a purchase order.

Waste will be accepted at Springfields Site typically in an approved transport containers, such as ½ height iso containers, 20' and 40' ISO containers.

Transport of individual items can also be arranged with in certain circumstances if approved in advance by Westinghouse.

Items must have external dimensions not exceeding 5.5m x 1.9m x 1.4m

All wastes must be from a UK site and consigned for treatment in accordance with The Carriage of Dangerous Goods and Transportable Pressure Equipment Regulations, 2009.

Individual items must be less than 5 metric tonnes.

Material Characteristics

- General metallic waste must only contain directly treatable items. It must not include items which require disassembly, unless by prior arrangement.
- Metal wastes shall be limited to carbon and stainless steel, monel, inconel, cast iron, copper or brass. (Lead is not permitted)
- Metals wastes should be unpainted, where practicable, however galvanised, and painted metals can be accepted but must not include any epoxy, resin, wax, tar or other

organic coatings, such as bitumen oils and greases, which may cause an unfavourable reaction in nitric or citric acids.

- Cements are not permitted to be adhered to the metals for treatment.
- Any taping / wrappings must be kept to a minimum and Springfields have the right to return any secondary materials to the consignor or consign as appropriate to a permitted facility (Landfill, LLWR, Incineration, etc) at the cost of the consignor.
- Cabling is not permitted nor are closed loop pipework or systems.

Radioactive Characteristics

The Springfields site is working towards developing its waste processing capabilities, as such it can accept wastes conforming to three categories;

- Category A – Uranic Decontamination.
- Category B – Confirmatory Loads.

Note: Category A waste can be combined into Category B waste to allow the confirmatory load to also contain Uranic contaminate waste conforming to the limitations of category A.

Below captures the limitations and radioactive characteristics attributed to each;

Category A – Uranic contaminated waste

- Total quantity limit – none specified.
- The current facility has a safety case for accepting non-irradiated uranium at 0.711% Enrichment (natural).
- The waste must only contain the following isotopes of uranium:
 - U-235.
 - U-238.
 - Minor Uranium isotopes (U-232, U-234, U-236) - Abundance is to be in proportion to U-235 and U-238 at levels expected for the processing history of the material.
- The waste must not contain more than 15g of U-235.
- Loose Contamination must not exceed 4Bq/cm² (Alpha) and 4Bq/cm² (Beta). Levels above this can be accepted if approved in advance by Westinghouse.
- Fixed contamination must be confirmed but there is no upper limit.

Category B – Confirmatory Loads.

- Total quantity limit – 50 tonnes.
- Waste to be treated must be surface contaminated metals only, activated items are not permitted.
- The radiological acceptance criteria is primarily for beta gamma emitting radionuclide contaminants.
- The maximum activity for any single item must not exceed 4000Bq/g.
- Loose contamination for alpha contaminants must not exceed 40Bq/cm² and for beta gamma emitting nuclides should not exceed 200Bq/cm².
- The contact gamma dose rates should be no greater than 50µSv/h average and have no hotspots with contact doses not greater than 500µSv/h.

Category C – Future Processing Capability.

© 2021 Westinghouse Electric Company LLC
All Rights Reserved

Waste conforming to this category will need to be approved in advance by Westinghouse.

- Total quantity limit – none specified.
- Waste must be delivered in suitable packaging that enables it to be stored externally in a non-banded area for >12 months.
- Waste to be treated must be surface contaminated metals only, activated items are not permitted.
- The radiological acceptance criteria is primarily for beta gamma emitting radionuclide contaminants.
- Uranium contamination can be received but prior approval is required.
- The maximum activity for any single item must not exceed 4000Bq/g.
- Loose contamination for alpha contaminants must not exceed 40Bq/cm² and for beta gamma emitting nuclides should not exceed 200Bq/cm².
- The contact gamma dose rates should be no greater than 50µSv/h average and have no hotspots with contact doses not greater than 500µSv/h.



Prohibited Items (Applicable to all categories)

The following list provides examples of materials which cannot be accepted by Springfields Fuels Ltd. (this list is not exhaustive)

Waste small quantities of the prohibited items could be accepted if approved in advance by Westinghouse.

- Ion Exchange Resins
- Oils
- Grease
- Liquids
- Hazardous wastes
- Pressurised containers
- Any items with a corrosive, oxidising or toxic nature,
- Asbestos,
- Explosives
- Aluminium and Magnesium Metals
- Sealed Sources

Approved

Name	Responsibility	Signature	Date
J Talbot	SFL Waste Manager		14/10/2021
K Davies	Head of Environment & Radiological Protection		14/10/2021

For all inquiries, please contact Westinghouse Government Services:

Aneesa Ahmad
Metals Waste Service Manager
Westinghouse Government Services
aneesa.ahmad@westinghouse.com



Document Reference
10063893-WAC-0001
Issue 0
Date 23 July 2020

07925399524

© 2021 Westinghouse Electric Company LLC
All Rights Reserved