



METAL RECYCLING FACILITY - WASTE ACCEPTANCE CRITERIA

Ref: PUK-100WAC
Revision: H





Reference: PUK-100WAC

Revision: H

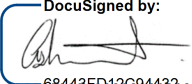
Date: April 2022

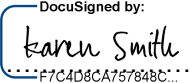
Revision Sheet

| Rev. | Description | Revised By | Checked By | Approved By |
|------|--|--------------|-------------|-------------|
| A | First Issue of combined WAC | C.Broadbent | M.Lindberg | M.McMullen |
| B | Revision of alpha surface contamination levels. Addition of beta surface contamination levels. Revision of Radiological Normal Operating Parameters. | C.Hannon | P.Redhead | M.McMullen |
| C | Minor alteration to phrasing under Table 2 on page 4 | C.Hannon | P.Redhead | M.McMullen |
| D | Included criteria for waste contaminated with Naturally Occurring Radioactive Material (NORM) | P.Redhead | C.Hannon | M.McMullen |
| E | Updated to reflect company name change and contact details | C. Broadbent | K. Beckwith | K. Rawding |
| F | Updated to reflect revised Cyclife Environmental Permit | AC Gibson | K Dodd | K Rawding |
| G | Updated with new reference number for new IMS | A Gibson | K Dodd | C Broadbent |
| H | General updates throughout and incorporation of Requirements for Consignment (RfCs). Change to contamination levels to align with designation of areas. | C Broadbent | K Smith | K Foley |

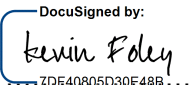


Reference: PUK-100WAC
Revision: H
Date: April 2022

Prepared By:  DocuSigned by: Date: 27/4/2022 | 8:41 AM
68448FD12G94432...
 Craig Broadbent

Checked By:  DocuSigned by: Date: 27/4/2022 | 11:41 PM
F7C4D8CA757848C...
 Karen Smith

Checking Level: Three

Approved By:  DocuSigned by: Date: 27/4/2022 | 11:49 PM
ZDF40805D30E48B...
 Kevin Foley

Contents

REVISION SHEET 1

CONTENTS 2

1 INTRODUCTION 3

2 ACCEPTANCE OF WASTE AT THE MRF 5

3 NORMAL OPERATING PARAMETERS 7

4 TREATABILITY MODEL 12

5 SECONDARY WASTE 15

6 RETURN OF NON-COMPLIANT / NON-DECLARED WASTES 15

7 TRANSPORTATION 16

8 CONSIGNMENT APPROVAL & PACKAGING 17

1 INTRODUCTION

1. This document sets out the Waste Acceptance Criteria (WAC) for the acceptance of wastes at Cyclife's Metals Recycling Facility (MRF) as well as, where applicable, the onwards acceptance of wastes at our overseas treatment facilities.
2. In developing these Waste Acceptance Criteria Cyclife has considered the facility safety case and those conditions specifically related to the safe operating envelope have been identified as Requirements for Consignment (**RfC**), together with the Safety Function they provide. We have highlighted the relevant RfC's within this WAC and ask consignors to pay particular attention to these. The identification of an RfC does not mean that any waste not conforming with the relevant RfC cannot be accepted for treatment, but it does mean that Cyclife may request additional information or be required to complete further assessments prior to any potential confirmation of acceptance.
3. This document also outlines the options for secondary waste management and physical transport of the waste. Whilst the specific arrangements will be agreed with customers on a case-by-case basis, basic criteria have been included for completeness. The arrangements specified within the Contract Documents will state which of these provisions, or alternative, apply in any particular case.
4. Cyclife's Normal Operational Parameters (NOPs) for the acceptance and treatment of wastes at the MRF are detailed within. It should be noted that the NOPs **do not** represent the upper limits of Waste Acceptance Criteria for acceptance and treatment by Cyclife. They are intended to provide a simple, usable and basic criteria for which wastes are highly likely to be acceptable for treatment. Waste with properties outside of the NOPs can still be accepted for treatment subject to enhanced individual prior assessment.
5. Cyclife is able to consider a wide range of materials for treatment and/or management for disposal. Our process operations have been designed to provide a high degree of flexibility, allowing for the acceptance of wastes above the NOPs defined. Where any wastes have characteristics outside of the NOPs, a sufficient level of detail is required by potential customers to enable a proper and robust assessment to be made.
6. This document also includes acceptance limits for the treatment of waste generated from NORM industrial activities.
7. All wastes – irrespective of if they fall within the NOPs or otherwise – are individually assessed via a Waste Acceptance Review (WAR) to determine if they are suitable for



Reference: PUK-100WAC

Revision: H

Date: April 2022

acceptance and onwards treatment. The WAR also considers the downstream routing of segregated and secondary wastes likely to be produced during treatment.

8. Cyclife reserve the right to vary these Waste Acceptance Criteria from time to time and to advise Customers accordingly.
9. For further information on the acceptance of wastes at Cyclife please contact:

sales@cyclife-edf.co.uk

2 ACCEPTANCE OF WASTE AT THE MRF

10. Waste to be treated must only be solid surface contaminated waste within UK Low Level Waste (LLW) definitions, i.e. specific activity below 4,000Bq/g alpha emitting nuclides and below 12,000Bq/g non-alpha emitting nuclides of all wastes¹. Activated metals may be accepted on a case-by-case basis and must, in all cases, meet the UK LLW definitions.
11. If - at any stage of receipt or treatment - waste is identified that breaches the UK LLW definitions it will be deemed to fall outside of the WAC and Cyclife UK reserve the right to return these items to the customer at the customer's expense as well as receive payment for any treatment already undertaken, or required, to enable its return.
12. In addition to the specific activity limits above, there are a number of general criteria to be complied with in order to ensure that the waste can be successfully treated and resulting secondary wastes compliantly disposed of, all as detailed herein. Not all types of waste can be accepted by Cyclife, and examples of exceptions are described within this document.
13. The acceptance of any material for treatment is subject to the Customer's prior full submission of Cyclife Form PUK-010F1 "Application for Waste Treatment", utilising the current revision of the Form (available upon request) together with any reasonable additional information subsequently requested by Cyclife. The information detailed within Form PUK-010F1 will be assessed using Cyclife's internal Form PUK-100F1 (Waste Acceptance Review) and the results of the assessment and/or any further information required will be communicated to the Customer.
14. Form PUK-010F1 must be submitted at least 20 working days prior to the proposed shipping date unless prior approval has been given.
15. Subject to the wastes being confirmed acceptable for treatment, and a valid Purchase Order being received, Cyclife Form PUK-100F2 "Intent to Consign" must be completed by the Customer and approved by Cyclife prior to any consignment physically commencing.
16. Alternatives to Cyclife Form PUK-010F1 and PUK-100F2 (such as the customer's own forms) may be agreed on a case-by-case basis. Irrespective of if Cyclife's or the

¹ All wastes, or sub-packages of waste (e.g. drums), must be within UK Solid LLW definitions. Wastes up to 20,000 Bq/g may be suitable for receipt for onwards consignment to our overseas facilities, subject to individual assessment and approval of a corresponding TFS authorisation. Any wastes above UK solid LLW definitions will not be received at the MRF unless explicitly accepted by Cyclife and the governing regulators.



Reference: PUK-100WAC

Revision: H

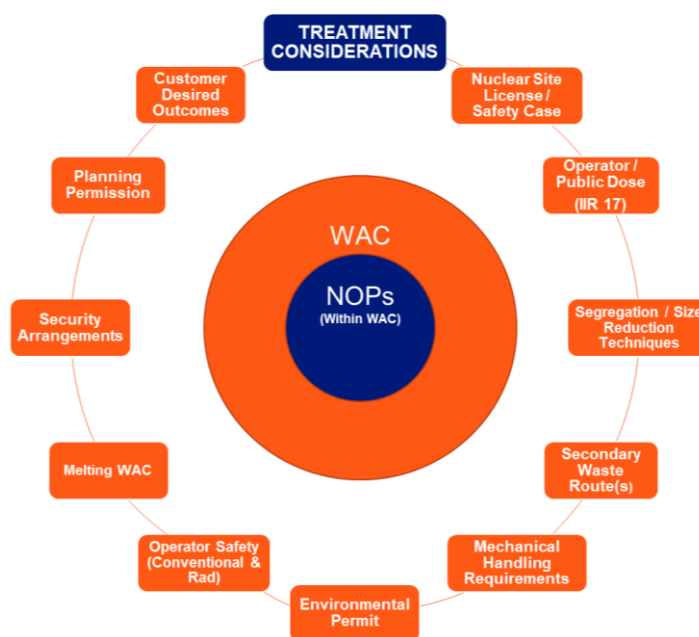
Date: April 2022

Customers documentation is used the declarations within will form the basis of Cyclife's acceptance.

17. Cyclife reserves the right to inspect materials before or after delivery and to audit Customer processes to determine if the materials are in accordance with these Waste Acceptance Criteria. This may include an audit of the Customer's process for determining the nuclide fingerprint of the materials.
18. All waste is subject to a Waste Acceptance Review and Customers must contact Cyclife in advance should they consider that their waste does not comply with any declarations made. Any such deviations will require the waste to be subject to an additional Waste Acceptance Review. Should the waste already be at one Cyclife's facilities we reserve the right to request any additional information on the wastes; complete any additional processing or repackaging required (particularly if necessary to make the wastes safe); or ultimately return any non-conforming waste to the customer / consigning site. Charges associated with any of the above actions will be to the customer's account.

3 NORMAL OPERATING PARAMETERS

19. A wide range of wastes are suitable for acceptance at Cyclife's facilities. This can range from lightly contaminated metal for decontamination and recycling, to highly contaminated components for remote size reduction and disposal via multiple downstream routes. Given the vast range and variables associated with treatment and compliant downstream disposal compliance, acceptability for treatment is dependent upon multiple factors including - but not limited to - the specific waste characteristics, the customer desired outcome, conventional and radiological safety requirements, the processing techniques required, the secondary wastes likely to be generated and demonstration of BAT.
20. A range of Normal Operating Parameters (NOPs) have therefore been developed to provide a basic operating envelope of wastes that are highly likely to be acceptable, particularly for metal recycling. These do not represent absolute limits and wastes with characteristics outside of the NOPs can often be received for treatment under the WAC following further assessment. Irrespective of if the wastes comply with the NOPs or not, suitability for treatment will always be determined via a Waste Acceptance Review (WAR), which considers multiple safety, regulatory, operational and compliance aspects. The relationship between the NOPs, WAC and treatment considerations is demonstrated diagrammatically below.



21. The following are the main criteria for wastes to comply with the Normal Operating Parameters for metal treatment. Several criteria are also designated as 'Requirements for Consignment', i.e. they are fundamental safety criteria that must be met (or a specific exemption agreed to in advance) prior to consignment to Cyclife.

22. Material & Physical Characteristics:

- General containerised metallic scrap (in maximum 20' ISO containers) - must only contain wastes with the characteristics identified below. No small (<10kg) complex assemblies such as pumps or motors, particularly where any hidden recesses / voids may be present.

RfC - Safety Function: To prevent fire from ignition of oils or greases or dispersion of activity during size reduction or processing.

- Metal types limited to carbon and stainless steel, cast iron, aluminium, copper, lead or brass. No combustible metals (either as received or likely to combust during routine size reduction operations) are permissible – such as, but not limited to, titanium and magnesium. Waste items to be manufactured from a single metal type only: no composites, alloys, laminates, etc.

RfC - Safety Function: To reduce the risk of fire generating airborne activity, thereby minimising dose uptake to workers and to the public.

- Treatable metal thickness of at least 3 mm (i.e. excluding rust, paint etc.).
- Metallic waste should either be uncoated or have a nominal non-lead based painted finish. No thick paint (i.e. more than a single coating), bitumen, epoxy or other thick coatings or deposits.
- Zinc galvanised waste is acceptable for surface decontamination only.
- Waste must be contained within standard 20' ISO containers or smaller packaging (drums, boxes) suitable for unloading via FLT. No Un-containerised waste or waste in non-standard containers.
- Individual items must not exceed 1,000kg gross weight. Any sub-packaging (drums, stillages, metal boxes, etc.) must not exceed 2,000kg, or 4,500kg if packaged within a top opening ISO container. 20' ISO containers should not exceed 28,000kg.
- Straight metallic pipework must have a nominal diameter greater than 100 mm. No angled pipework or valves and pipework with diameters less than 100 mm.
- Non-metallic wastes should be restricted as far as practical (e.g. limited to PVC wrapping or other soft combustible wastes).
- Wastes must not contain free liquids.

RfC - Safety Function: To prevent the uncontained release of contaminated liquors.

- Ion Exchange Resins (organic or Inorganic) are not permitted.

RfC - Safety Function: To prevent the uncontained release of contaminated liquors and to limit the external dose to workers.

- No toxic or hazardous wastes (excluding radioactive) such as asbestos, WEEE, waste containing POPs.
- No pressurised containers or wastes containing any materials that could result in an explosion.

RfC - Safety Function: To prevent the explosion of a pressurised container and the airborne dispersion of activity giving dose to workers.

- Wastes must not be coated with or contain any hydrocarbons, solvents or any other materials that may combust or self-ignite during storage, size reduction, surface decontamination or melting.

RfC - Safety Function: To reduce the risk of fire generating airborne activity, thereby minimising dose uptake to workers and to the public. It will also minimise the exposure of the operator to harmful chemicals.

23. Radiological Characteristics

- Contact gamma dose rate of all materials must be no greater than 0.2 mSv/h, averaged per item, with no hot spots above 0.5 mSv/h.
- Dose rate at 1m must be no greater than 0.1 mSv/h. This includes from the external of any packages (e.g. ISO containers) utilised.

RfC - Safety Function: To reduce doses received by MRF workers to ALARP levels.

- Mean specific activity per item must be no greater than 500 Bq/g. Fingerprints should be predominantly non-alpha dominant - maximum 20% alpha component.

RfC - Safety Function: To limit the consequences of potential on-plant accidents.

- The U-235 enrichment associated with any individual fingerprint must not exceed 5 %

RfC - Safety Function: To ensure there is no possibility of a criticality event.

- The activity at any location must not exceed the values given in the Table 1 below:

Table 1. NOP Surface Contamination Levels

| | |
|-----------------------|--|
| | Fixed+Loose contamination (Bq/cm²) |
| Alpha emitters | <40 |
| | Fixed+Loose contamination (Bq/cm²) |
| Beta emitters | <400 |

RfC - Safety Function: *To limit the dose to an operator should a contaminated wound occur and ensure appropriate RPE is utilised.*

24. Radiological characteristics - NORM contaminated materials

- Waste contaminated with Naturally Occurring Radioactive Material (NORM) can be treated under Normal Operating Parameters, if it has arisen from one of the NORM Industrial Activities listed in Table 2
- For waste generated from one of the NORM industrial activities, listed in Table 2, the bulk activity of the material must not exceed 40 Bq/g.
- Waste arising from NORM industrial activities must only be contaminated with naturally occurring radionuclides, in particular those primordial nuclides associated with the U-238, U-235 and Th-232 decay chains (see Table 3)
- The naturally occurring radionuclides including K-40 are out of scope of the legislation and therefore they do not need to be taken into account when assessing if total bulk activity of the waste is less than 40 Bq/g.

Table 2. NORM Industrial Activities

| |
|--|
| Extraction, production and use of rare earth elements and rare earth element alloys |
| Mining and processing of ores other than uranium ore |
| Production (but not storage, distribution or use) of oil and gas |
| Removal and management of radioactive scales and precipitates from equipment associated with industrial activities |
| Any industrial activity utilising phosphate ore |
| Manufacture of titanium dioxide pigments |
| The extraction and refining of zircon and manufacture of zirconium compounds |
| Production of tin, copper, aluminium, zinc, lead and iron and steel |
| Activities related to coal mine de-watering plants |
| China clay extraction |
| The remediation of contamination from other NORM industrial activities |

Table 3. Radionuclides associated with NORM Industrial Activities

| Radionuclide |
|----------------------------|
| U-238 (and decay progeny) |
| U-235 (and decay progeny) |
| Th-232 (and decay progeny) |

4 TREATABILITY MODEL

25. For LLW with any properties outside of the Normal Operating Parameters, the Waste Acceptance Review (WAR) is utilised to investigate and, where possible, identify a treatment solution that is optimal, implementable and results in products suitable for disposal using existing routes. Additionally the WAR ensures that any treatment proposed can be completed safely and within the boundaries of the Safety Case, NSSP, EPR Permit and any other regulatory / safety requirements applicable to the facility being utilised.
26. The Waste Acceptance Review is managed by the appropriate Cyclife Project Co-ordinator / Manager with input from a quorate of representatives from Technical, Operations, Radiological Protection, SHEQ&S and Business Management subject to the complexity of the enquiry. The WAR process therefore ensures that the waste is accurately assessed and assigned to the appropriate treatment process lifecycle based on the customer declarations made.
27. Waste with any of the following properties is assessed further through a Waste Acceptance Review;
- Materials other than: steel (carbon and stainless), cast iron, aluminium, copper, lead, brass and small quantities of PVC wrapping.
 - Zinc galvanized wastes unsuitable for blasting and/or requiring melting.
 - Wastes containing hazardous or toxic materials (e.g. asbestos).
 - Complex items – e.g. pumps, motors – or items containing multiple metal types, voids or recesses.
 - Cables, WEEE, waste containing POPs or any other hazardous wastes (such as asbestos, lead based paint, solvents)
 - Material thickness less than 3 mm
 - Individual item weight over 1,000kg.
 - Un-containerised waste or wastes not delivered in a standard ISO container.
 - Thick coatings on metal surfaces, for example paint, bitumen and epoxy.
 - Consignments containing substantial volumes (greater than 10% of the nett weight of the waste) of non-metallic wastes.
 - Pipework with angles or less than 100mm diameter
 - Contact dose rate over 0.2 mSv/h, averaged per item.
 - Hot spots above 0.5 mSv/h.

- Dose rate at 1m over 0.1 mSv/h (per item or container/package).
 - Mean specific activity per item > 500 Bq/g.
 - Mean surface contamination levels greater than those values in Table 1.
 - Neutron activated wastes.
 - Enrichment of uranium >5% by mass.
28. The extent of the Waste Acceptance Review completed for waste is dependent on one or more of the factors including, but not limited to:
- Cyclife's Environmental Permit and Nuclear Site License requirements (specifically the MRF Safety Case and Nuclear Site Security Plan)
 - Dose rate constraints and ALARP principles at all Cyclife facilities.
 - Radionuclide fingerprint, total activity and specific activity.
 - Surface contamination levels (loose & fixed).
 - Size of items for waste that cannot be transported or stored in standard ISO containers.
 - Unloading and storage requirements.
 - Radiological Safety aspects including, but not limited to, the required size reduction techniques, operator dose uptake, radiological risk assessments (cut wounds, contamination control, etc.).
 - Conventional Safety aspects including manual handling, lifting, size reduction and segregation processes required.
 - Environmental safety including the generation of hazardous wastes.
 - Thickness of material for blasting processes.
 - Secondary waste generation and its classification.
 - Potential sources of ignition, flammability, combustion, or explosion.
 - Enrichment of uranium by mass and other fissile nuclides.
 - Specific details of complex assemblies.
 - Compliance with the Waste Acceptance Criteria for any downstream routing utilised for primary or secondary wastes.
 - Hazards that may be non-radiological.
29. Cyclife's extensive operational experience, range of facilities and on-going research and development in the area of waste treatment means that we can often provide a treatment and/or optimised disposal solution for a wide variety of LLW that do not align



with the NOPs. The exact treatment solution will depend upon the specific waste characteristics.

30. Waste treated by Cyclife at the MRF will, wherever practicable, be disposed of under EPR, as 'Out of Scope' with no further radioactive regulatory controls required.
31. A proportion of metallic waste may require further treatment (melting) by Cyclife in Sweden. For wastes treated in Sweden, condition release of any ingots is controlled in accordance with European Commission report 'Radiation Protection 89'. For any wastes processed in Sweden the resultant residues and any untreatable wastes are returned to the UK for disposal.
32. Metallic waste with a thickness of 3 mm or less requires assessment to determine treatability, as the effectiveness of our blasting processes need to be carefully considered when processing thin metal.
33. Cyclife can often receive wastes containing asbestos in the form of undisturbed CAF or bound within a solid matrix with prior notification. Other forms of asbestos requiring licensed asbestos working, are explicitly prohibited.
34. Metallic wastes with any level of activation may be treatable but will require prior assessment via the WAR.
35. Wastes with enrichments of uranium >5% or those containing substantial quantities of other fissile nuclides will require prior assessment. This is to ensure that the risks of any potential criticality incident are understood and addressed.
36. Residual surface coatings of oils, grease, etc. can often be accepted with prior notification. The exact method of size reduction and decontamination needs to be specifically considered to ensure any risks associated with potential ignition / fire are considered. Pressurised containers or any wastes that have the potential to explode or spontaneously combust are specifically excluded due to the associated risks during handling and treatment.
37. Cyclife can often treat complex assemblies and machinery such as motors and pumps following an assessment of the item to determine the working time required and net benefits of their disassembly.
38. Large or heavy items up to 500 tonnes may be processed by Cyclife at our facility in Sweden, subject to prior assessment and agreement. Typically, these items might include tanks, vessels and steam generators.
39. For all wastes received – irrespective of if within the NOPs or otherwise - Cyclife will assess the radionuclide fingerprint and specific activity of wastes against the treatment techniques proposed to ensure, as far as practically possible, that the treatment

outcomes are successful. Wastes out-with the activity limits prescribed in our NOPs may have the potential to generate secondary wastes that cannot be disposed of in accordance with downstream disposal WAC. In these cases alternative treatments, such as size reduction only, may be completed in order to mitigate downstream disposal risks.

40. Cyclife can normally treat items with dose rates in excess of the NOPs by utilisation of remote, semi-remote or shielded treatment facilities at the MRF and our overseas facilities. Assessment for potential treatment will be made by via the WAR process.
41. Cyclife will consider all the relevant characteristics and potential treatment and disposal routes during the WAR process.

5 SECONDARY WASTE

42. Where the option for return of the secondary wastes to the Customer has been selected:
 - Cyclife shall provide a basic technical summary of the secondary wastes produced including the total weight and activity as measured by high resolution gamma spectroscopy. Should additional sampling of the secondary wastes be required this will be by means of a separate agreement with Cyclife.
 - It must be noted that Cyclife also treats wastes from other Customers. Whilst individual customer campaigns are completed at the MRF and in Sweden, the full decontamination of all equipment utilised between campaigns is impractical. Cyclife shall make reasonable efforts to minimise any cross-contamination between customer campaigns however the complete avoidance of this cannot be guaranteed. By consigning waste to Cyclife the customer recognises that a small degree of cross-contamination may occur.

6 RETURN OF NON-COMPLIANT / NON-DECLARED WASTES

43. Should Cyclife determine, either at the point of delivery or following unpacking, that any consignment includes non-compliant waste(s) outside of these Waste Acceptance Criteria (or the customer declaration provided), the waste, item or consignment shall be placed under quarantine and the Customer notified. Subject to the extent of the deviation correspondence with the relevant regulator(s) may be required.



44. If non-conforming / non-declared wastes are identified Cyclife reserve the right to return the total waste, item or consignment containing the non-compliant items to the Customer in accordance with our Environmental Permit.
45. Consignments containing waste items with characteristics outside of the NOPs will be considered to be non-compliant unless prior agreement has been received from Cyclife.
46. At Cyclife's discretion we will re-assess any non-compliant waste via an additional WAR to determine if an alternative treatment approach can be provided. If the customer does not unequivocally agree to the treatment option and costs proposed for the non-compliant waste it will either be refused acceptance or returned to the customer.
47. All costs incurred by Cyclife as a result of any non-compliant wastes already delivered to our facilities shall be to the Customer's account. This may include the costs of reviews with Regulatory authorities; internal investigations and reporting; costs associated with any repacking for return; and operational costs associated with re-deployment / re-allocation of staff.
48. The investigation of treatment models for non-compliant wastes declared by the customer at least 20 working days in advance of receipt is normally at no additional cost. Cyclife does not guarantee to provide a treatment solution or accept for treatment any non-compliant wastes.
49. The Customer may be required to sign a Waste Return Guarantee to confirm acceptance of non-compliant wastes, and also for the return of secondary wastes where this option has been selected. This may not apply if a suitable provision has been made within the contractual documents.

7 TRANSPORTATION

50. Transportation of waste to the designated Cyclife facility shall be by the Customer, unless by prior agreement.
51. The Customer shall also act as consignor of the waste and be responsible for preparation of all documentation, and receipt of all approvals, relating to the shipment to Cyclife unless otherwise stated within the Contract. Note that for any international shipment, all requisite cross-border arrangements must be in place.
52. Where the customer is arranging for the transportation of waste to Cyclife's facilities we will require details of how they have been packaged and loaded in advance. This is to ensure that they can be safely unloaded and handled at our facilities. This will often be in the form of a consignment manifest and waste loading plan.



53. Documentation and transportation of wastes between the MRF and the Cyclife's melting facility at Nyköping, Sweden shall be arranged by Cyclife where additional melting has been agreed in advance. This includes any associated waste returns from the treatment of compliant wastes.
54. Containers without forklift pockets or large items requiring a bespoke lifting plan shall be subject to an additional handling charge unless specifically stated as included within the Contract Price.
55. Where the option to return secondary wastes to the Customer has been selected, transportation of secondary wastes to the Customer shall be by Cyclife unless by prior agreement.
56. In such case, Cyclife shall also be responsible for preparation of all documentation, and receipt of all approvals, relating to the return shipment to the Customer, unless as a result of non-compliant wastes being present or if alternative arrangements are stated within the Contract.
57. Where Cyclife have been contracted to dispose of the secondary wastes produced from compliant wastes received, Cyclife shall also be responsible for preparation of all documentation, transportation and WAC compliance of any downstream disposal routes utilised in accordance with our Environmental Permit. This includes the disposal of 'out of scope' wastes and ingots subject to conditional clearance in Sweden.

8 CONSIGNMENT APPROVAL & PACKAGING

58. Cyclife Forms PUK-010F1 "Application for Waste Treatment" and PUK-100F2 "Intent to Consign" must be completed and approved by Cyclife prior to any consignment physically commencing. Alternative forms (such as an NWS WCI, WCH and SNF) may be agreed on a contract-by-contract basis. The information provided within the forms must be of a suitable level of detail to enable Cyclife to assess the safe and compliant receipt, handling, treatment and disposal of the wastes in accordance with these WAC.
59. Information included within the Forms (or attached as referenced appendices) should include, but is not limited to:
 - Consigner name and address
 - Contact persons and contact details
 - Proposed date of consignment
 - Estimated date and time of arrival at Cyclife facility



- Shipping Company
 - Shipping route
 - Representative photographs of the wastes or engineering drawings for large items.
 - A Consignment manifest detailing the overall consignment, including :
 - waste description,
 - net weight of waste,
 - maximum individual item / package weight,
 - gross consignment weight,
 - waste composition
 - metal types
 - specific activity
 - total activity
 - dose rate
 - Mean and maximum contamination levels (Bq/cm² loose + fixed, alpha and non-alpha)
 - Number and type of packages
 - Loading / Securing Plans
 - Container(s) designs, package CoA's and O&M Instructions
 - UN Number (from ADR)
 - Radionuclide fingerprints / characterisation associated with the wastes.
 - Item / Package / Total activity (MBq)
 - Mean and maximum dose rates of wastes (contact)
 - Maximum dose rates of the packages at contact and at 1m
 - Degree of enrichment by mass for uranium contaminated waste and if the waste is subject to safeguards regulations
 - Any specific customer requirements – such as assistance with loading plans, container return requirements and timescales or any secondary waste needs
 - If any hazardous wastes (other than radioactive) are present
60. The above list is not intended to be exhaustive and will vary subject to the exact nature and complexity of the wastes proposed for treatment.
61. Packaging of waste for delivery to Cyclife - Correct packaging of Wastes for delivery to Cyclife forms part of the Waste Acceptance Criteria. Packaging can be provided by the Customer or by Cyclife as part of the agreed service. Packaging shall be as follows:
- Solid Low Level Waste can be packaged into drums (max 210 litre), dolav boxes, customer specific transport packages or directly into ISO transport containers. Cyclife can accept wastes packaged within full height, half height or third height ISO



Reference: PUK-100WAC

Revision: H

Date: April 2022

containers. A fundamental requirement is that they can be safely unloaded via 3t forklift, 32t forklift or 4.5t OH crane. The use of cranes, skates and skids can also be implemented subject to prior approval.

- The packaging and transportation of large components which are not packaged in ISO containers must be agreed in advance with Cyclife to ensure that they can be safely unloaded and handled.
 - All loading and restraining should be in accordance with the relevant transport regulations and the O&M / Packing & Handling instructions for the packages utilised. Acceptable sub-packaging includes metal boxes, crates, drums or plastic wrapping. Please note that plastic wrapping will be managed as secondary waste, so should be minimised as far as practically possible.
 - Packaging and loading must be reviewed by Cyclife prior to dispatch to enable the safe and efficient unloading at the facility. In order to complete this drawings, photographs and loading plans shall be provided by the consignor to Cyclife.
62. Consignments not packaged in accordance with the above requirements shall be considered non-compliant unless Cyclife's express prior agreement has been obtained.
63. Return of packaging materials
- Packaging materials – ISO containers, drums, boxes, etc. - will normally be consigned back to the Customer as contaminated packaging (UN2910) at an agreed date/time.
 - Otherwise it may be disposed of by Cyclife subject to contract requirements. Packaging may also be used for the return or disposal of secondary waste subject to a suitable CoA being provided (multi-use) and the packaging being of sound structural integrity.



Reference: PUK-100WAC
Revision: H
Date: April 2022

APPENDIX 1

Form PUK-010F1 “Application for Waste Treatment”

[Please contact Cyclife for the current revision]



Reference: PUK-100WAC
Revision: H
Date: April 2022

APPENDIX 2

Form PUK-100F2 “Intent to Consign”

[Please contact Cyclife for the current revision]