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Title	PURCHASE SPECIFICATIONS FOR THE 100 LITRE SOLIDIFICATION DRUM	

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REVISIONS

This document has been revised according to the following schedule:

Revision	Date Approved	Nature of Revision	Prepared by
00	2009/09/14	Superseded NW-PUR-0006	W Blofield
2.0	2012/03/16	Drum specification updated, Inspection form updated, document reviewed and corporate changes included. <i> - Revision # according to new numbering system, no 01 or 1.0 applicable.</i>	W Blofield
3.0	2013/07/18	Superseded LE-SPE-0001.	W Blofield
4.0	2014/01/17	Drum paint specifications updated and document reviewed.	W Blofield
5.0	2019/02/15	Drum paint specifications updated, added vacuum test and general update.	W Blofield
6.0	2020/03/16	Removed vacuum test from requirements and general update.	W Blofield
7.0	See title page	Exhibit 2 reviewed to remove commercial entity identification. Updated Section 4. Abbreviations.	W Blofield

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Exhibit 1 LE-FRM-0121: 100 Litre Drum Inspection Report	
Exhibit 2 D3B2-133: 100 Litre Ø456mm Full Open Head 3 Swedge Drum	

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PURCHASE SPECIFICATIONS FOR THE 100 LITRE SOLIDIFICATION DRUM

1 PURPOSE

This document outlines the specifications to be met when purchasing of the 100ℓ drums used in the solidification process at LEMS.

2 SCOPE

The 100ℓ drums are used in the solidification process at LEMS. The drums have to meet the performance requirements in accordance with the provisions of the United Nation Recommendations on the Transportation of Dangerous. The filled solidification drums also have to comply with the waste acceptance requirements for conditioned waste in accordance with ^[2].

3 REFERENCES

- | | |
|-------------------------------------|--|
| ^[1] D3B2-133: | 100 Litre Ø456mm Full Open Head 3 Swedge Drum |
| ^[2] NLM-WAR-004: | Waste Acceptance Requirement for Solid Radioactive Waste |
| ^[3] SHEQ-INS-5300: | Written Safe Work Procedures, Orientation and Training |
| ^[4] Technical Data Sheet | CIB 185: Internal Buff Lining (Version 1) |
| ^[5] Technical Data Sheet | SYE 143: Spray Neoca Yellow YW 25 (Version 2) |

4 ABBREVIATIONS

The abbreviations are used:

LEMS:	Liquid Effluent Management Services
NCR:	Non-Conformance Report
NLM:	Nuclear Liability Management
PDO:	Pre-Disposal Operations (a Section within NLM)
QMS:	Quality Management System
UN:	United Nations

5 DEFINITIONS

Conditioned Waste: This waste type is applicable to waste where waste is processed in a form where no further processing should be needed by PDO, before it is taken to the waste disposal site.

6 RESPONSIBILITIES

- 6.1 It is the responsibility of the LEMS Section Head to ensure that the requirements specified in this document are adhered to.
- 6.2 The LEMS Section Head is responsible for revising this document in the event of:
 - Process or facility modifications or changes;
 - Change/s on drum integrity specifications;
 - When change/s to the waste acceptance requirements of PDO influence these specifications;
 - When changes to the waste acceptance criteria for the disposal site influence these specifications.
- 6.3 The LEMS Section Head shall ensure that all relevant personnel have been trained on this document and authorized in accordance with ^[3].
- 6.4 When requesting a quotation for supply and purchasing of 100ℓ solidification drums this document shall be submitted, by LEMS, to the potential supplier to ensure conformance to the prescribed requirements.
- 6.5 During the manufacturing of the solidification drums by the supplier the LEMS Section Head is

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responsible for arranging an inspection by a suitable independent third party to ensure the conformance to purchase specification requirements. An inspection report shall be compiled by the independent third party and submitted to LEMS.

- 6.6 A supplier's audit, in accordance with the LEMS QMS, may be conducted by LEMS if deemed necessary. LEMS will notify the supplier of the intention by LEMS to do an audit prior to the manufacturing of the drums and may continue with the consent of the supplier.

7 PURCHASING SPECIFICATION REQUIREMENTS FOR THE 100ℓ DRUM

7.1 Drum (Full Open head)

See Exhibit 2 for the accepted detailed drawing of the 100ℓ solidification drum.

7.1.1 Material

Body material thickness of 1.15mm mild steel cold rolled.

7.1.2 Dimensions

Inner diameter: 456.0mm

Outer diameter: 469.8mm (across swedges)

Internal height: 633.5mm

External: 670.0mm (without locking ring & lid fitted)

7.1.3 Lining (Internal only)

Coating Code: E1 (for the drum internal lining specifications see ^[4])

Type: Spray with two coats Epoxy Phenolic

7.1.4 Painting (External only)

- Type: Spray with two coats stowing yellow paint (for the drum external paint specifications see ^[3])
- One black trefoil (±82mm): Printed on the outside of the drum between the second and third swedges with the words "CAUTION" and "RADIOACTIVE MATERIAL" printed above and below the trefoil respectively.
- UN packaging certification number: Printed (±20mm high/letter) in black on the drum.

7.1.5 Lid (With top bolt action closing ring)

Material: 456.0mm x 0.9mm thick cold rolled

Gasket: 456mm O-ring

Lining (Inside of lid): Coating Code E1 and Epoxy Phenolic type (for the drum internal lining specifications see ^[4])

Painting (Outside of lid): Spray with two coats stowing yellow paint (for the drum external paint specifications see ^[5])

7.1.6 Lid Ring

Top bolt

Inner butt

7.2 Drum Inspection

- 7.2.1 The independent third party inspector shall inspect the drums (random selection as per inspector's requirements) during the manufacturing of the drums to ensure the conformance to purchase specification requirements in accordance with this document and the manufacturers drawing

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(Exhibit 2). An inspection report shall be compiled by the independent third party and submitted to LEMS.

- 7.2.2 With the delivering of the solidification drums at LEMS ten drums of each batch of hundred drums ordered shall be measured for internal and external dimensional accuracy, to ensure compliance to attached drawing (D3B2-133).
- 7.2.3 An inspection report (LE-FRM-0121) shall be completed for each batch of drums and lids (Reference to the order number), that will form part of the product record file.
- 7.2.4 Accepted items shall be stored in a well-defined storage area.
- 7.2.5 Rejected items will not be accepted and the Section Head (or delegate) must generate a NCR to be dealt with in accordance with the LEMS QMS.
- 7.2.6 Rejected drums will be marked (Rejected) clearly and placed away from the conforming drums.

7.3 Documentation to be supplied by the supplier

- 7.3.1 UN packaging certification and design qualification.
- 7.3.2 E1 (Epoxy Phenolic) internal lining specifications (accepted by PDO).
- 7.3.3 External paint specifications (accepted by PDO).

7.4 Drum packaging

The drums shall be palletised and shrink wrapped by the manufacturer prior to transportation to LEMS.

8 QUALITY RECORDS

The following are designated quality records:

Product record file for each batch purchased containing the following:

- Purchase documentation
- Copy of purchase specification
- Copy of UN packaging certification
- Inspection reports
- Drum internal lining specification (Technical Data Sheet)
- Drum external paint specification (Technical Data Sheet)
- Documentation on any agreed deviation (when applicable and approved by PDO).

LEMS Records shall keep this product record file for 30 years.

9 LIST OF FORMS

Form Number	Title	Exhibit Number
LE-FRM-0121	100 Litre Drum Inspection Report	1

LIQUID EFFLUENT MANAGEMENT SERVICES		necsa We're in your world	
100 LITRE SOLIDIFICATION DRUM INSPECTION REPORT			
ORDER NUMBER:		NUMBER OF DRUMS ORDERED:	
PURCHASE SPECIFICATION IN ACCORDANCE WITH: LE-PUR-0002 Rev.....			
VISUAL INSPECTION	Criteria Condition of drum and lid (Damage, dents, deformation, etc.)	Yes	No*
	Yellow paint on drum and lid (Areas not painted or damage to paint etc.)	Yes	No*
	Black recoil and UN certificate number painted on the drum (Between the second and third swedges)	Yes	No*
	O-Ring gasket on lid in place	Yes	No*
	Coated liner on the inside of the drum and lid (Areas not coated or damage to coating etc.)	Yes	No*
INSPECTION CONDUCTED BY	Name:	Signature:	Date:
DIMENSIONAL ACCURACY	Criteria	Acceptable (Tick ✓)	
	Dimensions of drum within tolerance (± 5mm on all dimensions)	Yes	No*
	Dimensions of lid within tolerance (± 5mm on all dimensions)	Yes	No*
MATERIAL	1.15mm Co. 3 Rolled Mild Steel	Yes	No*
NUMBER OF DRUMS INSPECTED:			
INSPECTION CONDUCTED BY	Name:	Signature:	Date:
*NON-CONFORMANCE Report Number:			
COMMENTS:			

