

SAFESPUR FORUM

Innovation and Research in Decommissioning

The logo for PACTEC EPS LTD is displayed on a dark blue background. The word "PACTEC" is in a large, bold, yellow font, while "EPS LTD" is in a smaller, white font to its right. The background of the logo area features a faint, technical drawing of a rectangular object with "VELCRO" labels and arrows, suggesting a focus on packaging technology.

PACTEC EPS
LTD

We manufacture packaging. We engineer solutions.

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**Introducing innovative and sustainable
flexible packaging to the UK.**

PacTec, Inc. has two current major manufacturing facilities

UNITED STATES



- ▶ Corporate Office, Manufacturing, Distribution: Clinton, Louisiana

PHILIPPINES



- ▶ Manufacturing Distribution: Subic Bay, Philippines

UNITED KINGDOM



- ▶ UK Office, Westlakes Science & Tech Park Cumbria



US development

- ▶ State University involved with development and testing.
- ▶ LiftPac® flexible bag IP1 / 1P2 testing administered by Energy Solutions as the competent authority.
- ▶ Successful stacking and drop testing in line with the US code of Federal Regulations – IP1 / IP2 Certificates of Conformance issued by Energy Solutions



LiftPac IP1 / IP2 Testing



Weighing prior to drop test

Stack test

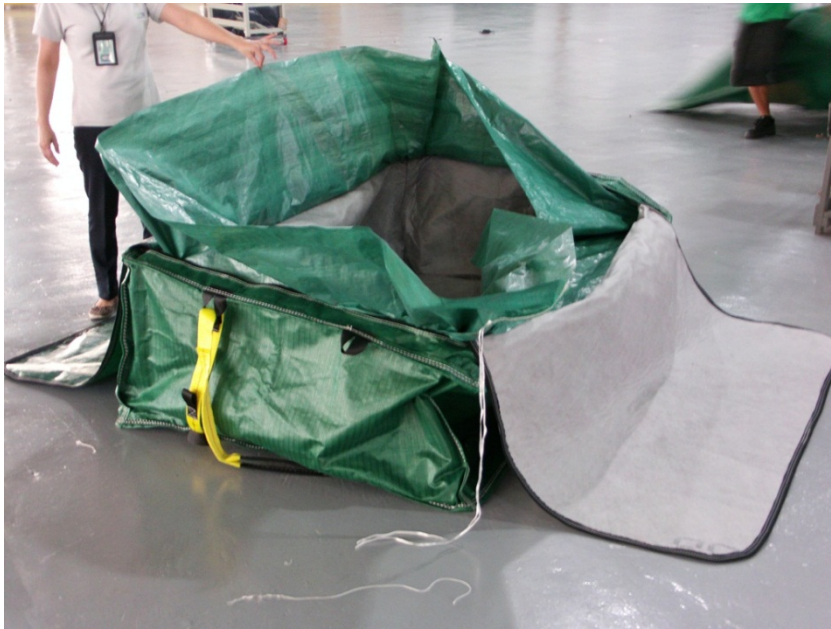


US development

- ▶ Over 25,000 PacTec LiftPac's utilised in the US for the safe packaging transport and disposal of radioactive VLLW & LLW



LiftPac Flexible Packaging System



Multi-layer for containment and protection for varied types of materials including building rubble, soils and sludge waste

- ▶ Patented design
- ▶ Standard sizes
- ▶ Can be bespoke design



LiftPac Flexible Packaging System



Loading system utilising proprietary containers where required

- ▶ Operator instruction
- ▶ Animated training video's
- ▶ On site training / support



UK Introduction

- ▶ To ensure compliance with the IAEA regulations collaboration with LLWR Ltd to carry out additional testing
- ▶ Test plan written in accordance with the IAEA Safety Standards TS-R-1 to demonstrate 'leak tight' under 'routine conditions of transport'
- ▶ Vibration table testing combined with the simulation of a potential change in atmospheric conditions during routine conditions of transport



UK Introduction

- ▶ Materials included a mixture of construction debris, loose steel items and crushed concrete for fine particulate dust, and fluorescein as a tracer dust.



UK Introduction

- ▶ Testing was successful with comprehensive report and summary
- ▶ Package Design Safety Report (PDSR) produced by ONET Technologies (Gravatom) for the packaging, transfer and disposal of radioactive VLLW & LLW
- ▶ RSRL and Augean integral to the development of a compliant process to package, transfer and dispose of radioactive VLLW & LLW to the ENRMF landfill site



UK Introduction - Quality Assurance

- ▶ ISO 9001:2008
- ▶ Certificates of Conformity with each batch delivery
- ▶ Each item individually labeled with QA information to provide manufacturing and material traceability
- ▶ Independent material assessment and evaluation for radiation tolerance, UV degradation, chemical degradation and microbial degradation



UK Introduction

- ▶ Positive feedback for the utilisation of flexible packaging from UK regulators
- ▶ To work interactively with client teams to provide ‘fit for purpose’ and ‘cost effective’ engineered solutions – ‘Sharing the Commitment!’
- ▶ To provide support and assistance with regulatory compliance, consignment support and to share learning – not just providing a ‘product’



UK Case Studies



Dounreay Trials



UK Case Studies



RSRL Harwell



UK Case Studies



Augean Landfill



UK Case Studies



AWE



UK Case Studies

Sellafield Thorp MEB's



Other Products



New Developments

- ▶ State university testing to evaluate shielding properties of materials
- ▶ Collaborating with CAMECO to develop a flexible container to replace steel drums for the transport of uranium ore and process uranium
- ▶ Working Japan to support the remediation and clean up of contaminated soils and construction debris following the Fukushima disaster



Over to Paul ▶▶▶

