LLW Repository Ltd

Dounreay
Decommissioning excellence

National Waste Programme

DSRL and LLW Repository Ltd Joint Waste Management Plan

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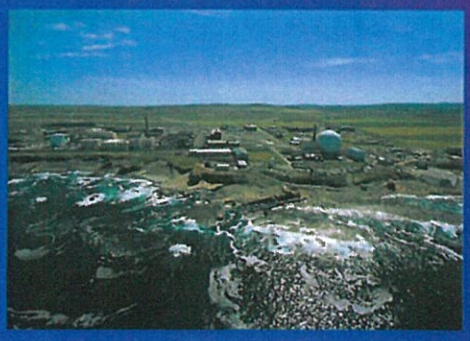

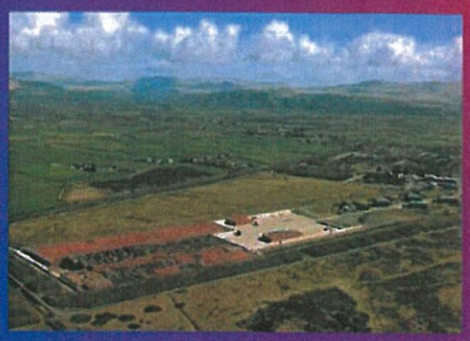

DSRL and LLW Repository Ltd Joint Waste Management Plan

2016/17 to 2020/21

Document Management

Rev.	Issue Date	Description	Prepared by	Checked by	Approved by
3	February 2013		G Beaven	A Anderson	C McVay
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10	September 2016		G Beaven	G Sinclair	B Covert

	DSRL	LLW Repository Ltd
Prepared by	Name: Graham Beaven Position: Waste Operations	Name: SHIRLEY JACKSON Position: SERVICE DELIVERY
Endorsed	Name: George Sinclair Position: Deputy Waste Director	Name: C ASHTON Position: HEAD OF WMS.
Approved:	Name: Bruce Covert Position: Waste Director	Name: DENNIS G THOMPSON Position: MANAGING DIRECTOR

Change Log

This change log identifies the key changes to the JWMP from the previous iteration.

Page No.	Change	Reason for change
6	Updated text	LLW Grout Plant and disposal vaults have transitioned from commissioning into operations.

Executive Summary

A Joint Waste Management Plan (JWMP) is a proactive management plan for the next 5 years that has been developed by DSRL in conjunction with LLW Repository Ltd. Its purpose is to demonstrate how DSRL is engaging with the National LLW Programme to improve their implementation of and compliance with the UK Low Level Waste (LLW) Strategy, through the delivery of the Programme Blueprint.

This JWMP provides an overview of DSRL's current arrangements (section 1) for managing their LLW arisings and identifies the transformational activities (section 2) that they are undertaking, either independently or in collaboration with LLW Repository Ltd and other organisations, to make a step change in their LLW management arrangements to deliver the National Programme Blueprint future state. Section 3 provides an opportunity to identify specific step change projects that are not within the current scope of work but which could be undertaken either if funding became available or if internal or collaborative resource could be identified to support the project. Appendix 1 contains the forecast of arisings by waste route for the next five years.

This JWMP has been agreed by senior management as a commitment to the delivery of the activities listed within. Key transformational activities will be tracked within the National Programme governance arrangements to:

- Assess performance;
- Highlight success;
- Deliver an integrated approach to dealing with the UK's LLW.

It contains activities and waste forecasts for the 5 year period of 2016/17 to 2020/21.

Section 1 DSRL LLW Management Delivery Activities

DSRL continue to support the implementation of National LLW strategy in association with LLWR, providing a JWMP and monthly metrics to measure programme progress.

Waste minimization and segregation continue on-site as before with annual reports submitted to SEPA as a demonstration of commitment to the Waste Hierarchy.

SEPA have issued the RSA'93 Authorisations for the new Low Level Waste Disposal Facility and for the DSRL site; both major regulatory milestones.

Construction and inactive commissioning of the first phase in the Dounreay LLW Disposal Facility was completed in January 2014. Documentation to support the site's readiness to receive LLW was accepted by the regulator, SEPA and DSRL have been granted approval for its LLW to leave the DSRL Site for disposal to the Dounreay LLW Disposal Facility. Active commissioning of the Dounreay LLW Disposal Facility started in April 2015 with the facility transitioned into operations on 15th July 2016.

Construction and inactive commissioning of a new grout facility to condition LLW in ISO containers was completed in March 2015. Active commissioning of the new grout facility started in April 2015 with the facility transitioned into operations on 17th May 2016.

Safety documentation to support the introduction of an alternative to the ISO containers used for the disposal of LLW, made from reinforced concrete, is being prepared. These containers are not IP2 rated but present substantial savings (around 50%) over the current metal equivalents.

The failed LLW supercompactor was removed from the site's Waste Receipt Assay Characterisation and Supercompaction (WRACS) facility in December 2012. DSRL took receipt of a new supercompactor in October 2013. Its installation, together with the associated containment structure/ancillary equipment, was completed in September 2014. Inactive commissioning was completed in June 2015 with active commissioning, including trial shift working, being completed in December 2015. The plant became fully operational in January 2016 and operates on two shifts. This treatment facility provides a 5:1 volume reduction for LLW packaged in nominal 200 litre drums. The resultant "pucks" are loaded into ISO containers in readiness for grouting and disposal.

Dounreay has approximately 3 tonnes of mercury requiring disposition; either treatment on or off-site that allows subsequent disposal or recycling. Innovative proposals for the safest, environmentally compliant, and cost effective solution were sought from the marketplace. Although a viable solution was found, this project has been deferred to later in the Site Programme as a result of site funding constraints.

Similar site funding constraints impact the timing of consignment for other LLW streams, such as contaminated oils/solvent, that may make use of LLWR Waste Management Services.

Section 2 - DSRL Transformational Activities

Transformational projects are those activities that will be undertaken by DSRL which will make a step change in the management of LLW. They are discrete work packages with defined start and end dates, which introduce improvements to work practices to deliver financial and non-financial benefits.

Project Number	Activity	Contributes to the Delivery of which Business Change?	Start Date	End Date
1.2	Active commissioning and operation of the LLW Disposal Vaults	Allows consignment to and disposal at the LLW Disposal Vaults	April 2015	Beyond 2020
1.2	Active commissioning and operation of the Grout Plant to support the LLW Disposal Vault	As above	April 2015	Beyond 2020
3.3	Active commissioning and operation of the new Supercompactor at WRACS	As above	July 2015	Beyond 2020
6.1	Procure concrete HHISOs for routine use subject to successful approval.	Substantial cost savings	Ongoing	Beyond 2020
1.2	Develop and implement a process solution to permit disposal or recycling of mercury.	Required as the site has this waste stream	To be agreed	To be agreed
1.1	Continue to consign Out of Scope Oils, Solvents and Zinc Bromide for thermal treatment via LLWR Waste Management Services.	Manages a historic waste stream in line with the national strategy and makes best use of existing contractual frameworks	Ongoing	Beyond 2020
1.1	Consign approximately 23m^3 of LLW oils and solvents for thermal treatment via LLWR Waste Management Services	Manages a historic waste stream in line with the national strategy	To be agreed	To be agreed
7.4	Participate in the LLWR Best Practice Peer Review process	Identified areas for further development of waste management practices, and supports development of waste strategy implementation	As required	As required

Section 3 – Non-Resourced Opportunities

Opportunities are those specific step change projects that are not within the current scope of work but which could be undertaken either if funding became available or if internal or collaborative resource could be identified to support the project; and which would further optimise the management of LLW.

Opp. No.	Activity	Benefit	Duration	Resources Required	Status
1.1	Share Mercury treatment development with the rest of the NDA estate	Assists the NDA estate in establishing a route for an orphan waste stream	As required	Funding	Postponed

Appendix 1 – 5 Year Forecast

See Attachment

LLW Repository Ltd

	Year: 0													Year: 1													2	3	4
	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12	Annual	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12	Annual	Annual Total	Annual Total	Annual Total
	01/01/2016 - 30/04/2016	01/05/2016 - 30/06/2016	29/06/2016 - 02/07/2016	03/07/2016 - 30/07/2016	31/07/2016 - 22/08/2016	26/08/2016 - 01/10/2016	27/09/2016 - 29/10/2016	30/10/2016 - 04/11/2016	27/11/2016 - 31/12/2016	01/01/2017 - 28/01/2017	29/01/2017 - 24/02/2017	21/02/2017 - 21/02/2017		01/04/2017 - 30/04/2017	01/05/2017 - 27/05/2017	29/05/2017 - 01/07/2017	03/07/2017 - 28/07/2017	30/07/2017 - 29/08/2017	31/08/2017 - 30/09/2017	01/10/2017 - 29/10/2017	30/10/2017 - 25/11/2017	26/11/2017 - 26/12/2017	27/12/2017 - 27/01/2018	28/01/2018 - 24/02/2018	25/02/2018 - 11/03/2018				
Metallic Waste Treatment:																													
Raw Weight Treated Onsite	(te)												0.00													0.00			
Raw Weight Treated Offsite via LLWR Framework	(te)												0.00													0.00			
Raw Weight Treated Offsite via direct contracts	(te)												0.00													0.00			
Raw Weight Re-categorised as Out of Scope [1]	(te)												0.00													0.00			
Combustible Waste Treatment:																													
Raw Volume Treated Onsite	(m^3)										20.0	20.0	40.00													0.00	0.0	0.0	0.0
Raw Volume Treated Offsite via LLWR Framework	(m^3)												0.00													0.00			
Raw Volume Treated Offsite via direct contracts	(m^3)												0.00													0.00			
Raw Volume Re-categorised as Out of Scope [1]	(m^3)												0.00													0.00			
VLLW/LALLW Disposal																													
VLLW/LALLW Disposed Onsite (Packaged)	(m^3)												0.00													0.00			
VLLW/LALLW Disposed to Landfill via LLWR Framework (Packaged)	(m^3)												0.00													0.00			
VLLW/LALLW Disposed to Landfill via direct contracts (Packaged)	(m^3)												0.00													0.00			
Raw Volume Re-categorised as Out of Scope [1]	(m^3)												0.00													0.00			
Supercompactable Waste Treatment:																													
TC19 - 210 litre Drums	(m^3)	336.0	320.0	368.0	320.0	224.0	46.0	46.0	46.0	46.0	46.0	46.0	1182.72	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	447.60	417.8	482.2	524.3
TC05 - Type 9975 ISO Skips	(m^3)												0.00													0.00			
Other Container Types [2]	(m^3)												0.00													0.00			
Low Level Waste Disposal:																													
TC01 - Half Height Container	(No.)	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	600.00	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	600.00	600.0	600.0	600.0
TC03 - Third Height Container	(No.)												0.00													0.00			
TC08 - WAMAC Product ISO Container	(No.)												0.00													0.00			
Other Container Types [2]	(No.)												0.00													0.00			
Other Container Types [2]	(No.)												0.00													0.00			
Out of Scope																													
Out of Scope Waste Disposed Onsite (Packaged) [3]	(m^3)												0.00													0.00			
Out of Scope Waste Disposed to Landfill via LLWR Framework (Packaged) [3]	(m^3)												0.00													0.00			
Out of Scope Waste Disposed to Landfill via direct contracts (Packaged) [3]	(m^3)												0.00													0.00			
LLW Repository Ltd Packaging Services																													
Container Purchase: *(Period in which LLWR will receive Purchase Order)*																													
TC01 - Half Height ISO Container	(No.)												0													0			
TC01 - MEB Containers	(No.)												0													0			
TC03 - Third Height ISO Container	(No.)												0													0			
TC08 - WAMAC Product ISO Container (Rails)	(No.)												0													0			
TC08 - WAMAC Product ISO Container (No Rails)	(No.)												0													0			
TC02 - Slillage Lifting Frame	(No.)												0													0			
TC14 - IP-2 Drums	(No.)												0													0			
TC19 - Drums	(No.)												0													0			
Container Collection *(Period when container is required for use):*																													
TC01 - Half Height ISO Container	(No.)												0													0			
TC01 - MEB Containers	(No.)												0													0			
TC03 - Third Height ISO Container	(No.)												0													0			
TC08 - WAMAC Product ISO Container (Rails)	(No.)												0													0			
TC08 - WAMAC Product ISO Container (No Rails)	(No.)												0													0			
TC14 - IP - 2 Drums	(No.)												0													0			
TC19 - Drums	(No.)												0													0			
Container Hire:																													
TC02 - Re-usable Half Height ISO Container with full size (27te) slillage	(No.)												0													0			
TC02 - Re-usable Half Height ISO Container with half size (5te) slillage x2	(No.)												0													0			
TC02 - Re-usable Half Height ISO Container with full size (14te) slillage x2	(No.)												0													0			
TC02 - Re-usable Half Height ISO Container with full size (14te) drum slillage x2	(No.)												0													0			
TC05 - Multi Use ISO Skip Container	(No.)												0													0			
TC12 - FHSO	(No.)												0													0			
TC25 -ISO Flat rack	(No.)												0													0			
Other services:																													
DGSA Services (including VLLW)	(No.)												0													0			
Transport Services	(No.)												0													0			
Waste Load Planning Services (WLP)	(No.)												0													0			

Notes:

1. This refers to waste which was previously assumed to be either activated or contaminated to LLW levels but through either assurance monitoring or further characterisation is likely to be Out of Scope.
2. Please specify the proposed container type from the list of approved containers in the Waste Acceptance Criteria
3. This section should contain details of waste which has been processed which was never activated or contaminated to LLW levels