NATIONAL WASTE PROGRAMME QUARTERLY REPORT Q1 FY17/18

What is the National Waste Programme?

The National Waste Programme (NWP) is a cross-UK programme of work to lead the ongoing implementation and delivery of the *UK Nuclear Industry Solid LLW Strategy*. The NWP covers all nuclear industry waste producers including those in the NDA estate, the public sector and the private sector. The NWP is led by LLW Repository Ltd on behalf of the NDA (who are responsible for leading strategy implementation for the Department for Business, Energy and Industrial Strategy (BEIS)). The NWP works collaboratively with its stakeholders to produce a Blueprint and Benefit Map to show the direction of travel for strategy implementation. The activities to deliver the strategy are executed by the stakeholders of the NWP; for example by waste producers through their waste management practices.



The mission of the National Waste Programme is:

Optimised LLW management across the UK that delivers value for money.

The purpose of the NWP is to deliver a transformation in the way that LLW is managed in the UK, in accordance with the LLW Strategy. The NWP will deliver five strategic benefits:

NWP Strategic Benefits:

- 1. The life of the LLWR is extended to 2130.
- 2. Overall waste management costs are reduced.
- 3. Optimised LLW management that supports and enables effective hazard reduction and decommissioning.
- 4. Continued application of the Waste Hierarchy.
- 5. Stakeholders to the strategy are increasingly engaged with its delivery.

What is the purpose and structure of this report?

This report provides a "snapshot in time" of the progress being made within the National Waste Programme community to achieve the strategic objectives of the programme. The report is divided into five sections broadly aligned with the strategic benefits (to enable visibility of benefit realisation):

- Section 1 (Benefits 1 and 4) waste diversion / disposal metrics and waste route availability map.
- Section 2 (Benefit 2) cost avoidance metrics.
- Section 3 (Benefit 3) updates from waste producers across the UK, key project tracker showing progress against delivery of projects to support priority business changes, an update on Peer Reviews/Assists, an update on the NWP training framework, details of NWP publications over the past quarter and of external publications / consultations from the past quarter.
- Section 4 (Benefit 5) information on stakeholder interactions in the quarter and an update on industry issues/concerns.
- Section 5— look forward—information on the priorities for the NWP community over the next 12 months, look forward notice-board, forward calendar and strategic threats and opportunities.

LLW NWP Quarterly Report Q1 FY17/18



SECTION 1 Benefit 1: the life of the LLWR is increased to 2130 & Benefit 4: continued application of the Waste Hierarchy.

Waste diversion and disposal performance

<u>KEY</u>



Actual waste diversion is less than forecast or LLW waste disposal exceeds forecast.

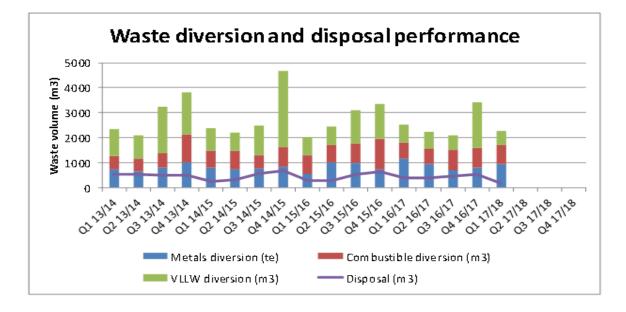
Actual waste diversion in line with forecast or exceeds forecast. LLW waste disposal in line with forecast or is less than forecast.

Waste producer	Route	Plan (for year)	Actual (YTD)	Performance against JWMP (for Q1)	% diversion (YTD)
Dounreay	Combustible (m ³)	0	0		N/A
	LLW disposal (no. containers)	Data not available	16	Data not available	
LLW Repository	Metallic (te)	0	52		
Ltd	Combustible (m ³)	185	9		100%
	VLLW (m ³)	5	2		
	LLW disposal (no. containers)	0	0		
Magnox Ltd	Metallic (te)	641	213		
	Combustible (m ³)	1038	392		100%
	VLLW (m ³)	5492	575		10070
	LLW disposal (no. containers)	42	0		
Sellafield Ltd	Metallic (te)	2200	657		
	Combustible (m ³)	1200	387		93%
	VLLW (m ³)	3200	996		(including CLESA)
	LLW disposal (no. containers)	135	16		(Including CEESA)
Non-NDA estate	Metallic (te)	57	71		
	Combustible (m ³)	307	35		100%
	VLLW (m ³)	3565	2071		100,0
	LLW disposal (no. containers)	26	0		
NDA estate (total)	Metallic (te)	2841	923		93%
	Combustible (m ³)	2423	787		(excluding CLESA)
	VLLW off-site (m ³)	5697	577		95%
	VLLW on-site (m ³)	3000	996		(including CLESA)
	LLW disposal at LLWR (no. containers)	177	16		(marganig errory)
UK nuclear	Metallic (te)	2899	993		97%
industry (total)	Combustible (m ³)	2729	822		(excluding CLESA)
	VLLW off-site (m ³)	9262	2647		97%
	VLLW on-site (m ³)	3000	996		(including CLESA)
	LLW disposal at LLWR (no. containers)	203	16		

¹ Diversion calculated as 97% using National Waste Programme norms and assumptions. This is calculated as 91% by Magnox Ltd based on their calculation assumptions.



Waste diversion and disposal performance



Waste diversion performance has remained high at 97% (excluding CLESA) during Q1 FY17/18 within the NDA and non-NDA estate. The low rate of waste disposal at the LLW Repository observed in FY16/17 has continued with a total of 16 containers sent to LLWR for disposal during Q1 FY17/18. Waste diversion remains strong across the diversion routes within the NDA estate, and the non-NDA estate is also currently ahead of the plan. Continued strong diversion performance will ensure adequate disposal capacity at the LLWR until 2130.

Availability of waste diversion and disposal routes

This table provides a summary of the usage of the waste diversion and disposal routes for waste producers across the UK; reflecting the routes used for waste management since 2008 through reclassification to out-of-scope, self-perform, use of direct contracts and use of the LLW Repository Ltd frameworks. This differs to the Waste Metric Dashboard, in that it records information gathered by the National Programme Office and not actuals data provided by the waste producers.

			_												O	gan	isati	on													
		DSRL	LLW Repository Ltd	Magnox Ltd	Sellafield Ltd	AWE	Active Collection Bureau	Babcock Marine	Capenhurst Nuclear Services	Cristal Pigment UK Ltd	Doosan Power Systems Ltd	HMNB Clyde	HMNB Dev onport	HMNB Rosyth	EDF Nuclear Generation Ltd	EDS	GE Healthcare	Medical Research Council	NNL	Nuvia	Police National Centre	RR MoD	Rutherford Appleton Laboratory	Springfields	Cyclife	Tradebe	Tradebe Inutec	UKAEA Culham	Umicore Coating Services Ltd	UniTech Services Group Ltd	Urenco
	М	•	\checkmark	\checkmark	\checkmark	\checkmark	•	•	\checkmark	•	•	•	\checkmark	•	\checkmark	•	•	\checkmark	•	•	•	\checkmark	\checkmark	•	\checkmark	•	\checkmark	•	•	•	\checkmark
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KEY: note that information refers to known route usage (via direct contract, on-site infrastructure or LLWR framework) since 2008.

Waste route is not open (either not permitted or has not been opened by the waste producer).

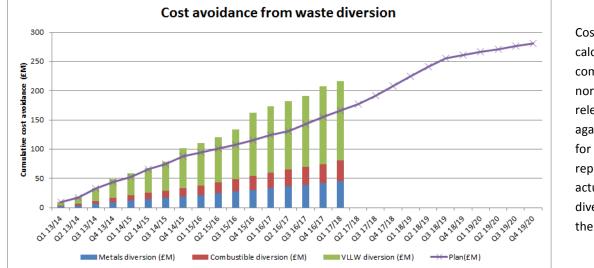
Waste route is open but is not in use by the waste producer.

- ✓ Waste route is open and is in use by the waste producer.
- M Metallic treatment (surface decontamination and / or metal melting).
- C Combustible waste management (incineration).
- V Very low level waste / low-activity low level waste disposal.
- L LLW disposal (to LLWR or to the Dounreay near site disposal repository/demolition waste vault).



SECTION 2: Benefit 2 — overall waste management costs are reduced.

Cost Avoidance from Waste Diversion



Cost avoidance is calculated by comparing the norm cost for the relevant route against the cost for disposal at the repository for the actual volumes diverted during the quarter.

SECTION 3: Benefit 3 — optimised LLW management that supports and enables effective decommissioning and hazard reduction

Waste producer updates (performance during Q1)

Sellafield Ltd

A strong programme of diversion was completed during Q1, including; 660te of metal diverted for recycling, 1000m3 of VLLW to the on-site landfill capability, and 390m³ of material diverted for incineration. All JWMP 12 diversions were exceeded during the quarter.

SL supported the NWP Boundary Waste project, including providing comments on the draft study output, and has continued to progress two internal Boundary waste streams. The WAGR box stream has progressed to assessing transport and emplacement options, and the AGR stream to further develop the characterisation position via the planned trepanning and analysis of samples and repeat drum activity measurements. Further engagement on both streams was held with LLWR.

Detailed arrangements, to underpin the management of PCM drums suitable for management as LLW, have been developed with a trial transfer of material via WAMAC scheduled for Q2.

Work has progressed on a planned Q2 trial to test alternative approaches to manage soft waste. Method statements, fingerprint and specific activity information have been developed and a service supplier selected.

A series of Rapid Improvement Events have been undertaken aimed at improving the efficiency and effectiveness of the on-site waste management approach.

The problematic waste community of practice, LLW Buffer storage workshop, and the waste practitioner's forum were all supported.

Following identification of a 'hot spot' on a consigned ISO to LLWR, a self-embargo was placed on all off-site transfers until the finding was investigated. Investigation determined the issue was a result of the movement of material within the ISO post-packing. The packing approach has been revised and the embargo on material diversion removed.



Magnox

At the end of Quarter 1, Magnox has diverted 100% of its LLW from the Repository, predominantly as Out of Scope Metal and Out of Scope VLLW. This high diversion rate is due to there being no disposals or supercompaction campaigns to date.

The First Of A Kind (FOAK) container of Bradwell Fuel Element Debris (FED) has been successfully grouted at LLWR and work is progressing on developing LLWR's operational/nuclear safety case to receive future FED. Follow-on projects have been initiated with LLWR to seek disposability approvals for FED from Sizewell and Oldbury.

Disposability has been confirmed, and optioneering concluded, for the Winfrith TRS Drums - the preferred option being direct emplacement in the vault.

A list of problematic and opportunity LAW wastes across Magnox has been generated and priorities have been set to take some of these forward this financial year.

The collaborative procurement project for characterisation services (WCASS2, led by LLWR) has progressed to the contract award stage and the framework will go live from August.



LLW management activities at Dounreay have progressed well through the first quarter of FY2017/18. LLW grouting and disposal operations have restarted, with the focus on topping up the ullage in the containers in the LLW vault. Routine operations are also continuing at the WRACS facility.

DSRL are working to repackage Oils & Solvents to permit transport off site for incineration.

all LLW Repository Ltd

Legacy Drum sampling continues with focus being on the taking and despatch of the second batch of samples destined for NNL via Springfields for chemical analysis. These are due to be consigned by early July.

PCM Consignments are yet to commence due to Type B container availability however the Waste Delivery Team continue to prepare for commencement of consignments, working closely with Sellafield.

Work continues on the reduction of the site sources inventory with key milestones being met this quarter including the submission of the license application for the Crofts Package being used for the transport.

Focus continues on the disposal / treatment of the historical waste associated with the Repository Infrastructure Programme. The Trench Cap Drums have this quarter been consigned as Very Low Level Waste and enabling work carried out on the Lysimeters.

Non-NDA estate

Diversion consignments, across all routes, have been routine throughout Q1. These have included large volumes of VLLW from demolition and land remediation activities undertaken at several sites, in support of de-licensing. A number of enquiries are currently being progressed, including further decommissioning and demolition VLLW. Preparations have begun for projects to consign two wastestreams for disposal as VLLW, in place of LLWR disposal.

National Waste Programme Office Update

National Waste Programme (NWP) governance activities during Q1 included the quarterly face-to-face Programme Managers Meeting which included productive discussions on 2017/18 collaborative projects, as well as an opportunity for waste producers to provide feedback on the wastes services frameworks, which are to be re-competed this year. This discussion has been followed up with distribution of a questionnaire to waste producers. The NWP Board meeting was held with senior level representative from waste producers, NDA and RWM.

A representative of the NWP attended the Thermal Treatment Integrated Project Team (IPT) stakeholder and regulator update meeting.

The Boundary Waste Project that commenced in 2016/17 is now complete. The final report is due for publication over the summer.

Work was started on many of the NWP projects during Q1, including the Buffer Storage Project, for which the first stakeholder workshop was held in June. The output of this workshop will involve development of a Gate 0 paper, the case for change. Introductory guidance was published on the management of the non-radiological properties of waste consignments being diverted from LLW disposal. The guidance included an overview on the classification and coding of non-radioactive waste. An e-learning module on the same topic will be published shortly.

Support has continued for the development of an international review on optimising management of low level radioactive waste from decommissioning (being delivered by a Nuclear Energy Agency working group).

The NWP has continued to collaborate with the Problematic Waste IPT including organising and facilitating a two-day Community of Practice meeting, in June, covering the problematic waste inventory and the scope of future projects.



Key project tracker

The NWP community agree, on an annual basis, a number of priority business changes from the NWP Benefit Map. These priority business changes are those which are critical to supporting strategy implementation in the near term or are longer term changes which need to be initiated or driven to ensure they are delivered when the nuclear industry need them. This tracker provides a snapshot of performance of delivery of projects (tasks undertaken by waste producers) or enablers (tasks outwith of the control of waste producers, such as those undertaken by the regulators) which support achievement of the priority business changes for the current FY.

KEY

Project not yet commenced.

Project has commenced and is on target to deliver on or ahead of schedule.

Project has commenced and is behind schedule; but is expected to recover.

Project has commenced and is behind schedule; but is not expected to recover.

Project is complete.

Priority business change	Project	Status		
Waste management processes enable robust and effective material diversion;	Magnox Ltd—Produce a "Low Active Waste Strategy" Paper.			
with streamlined characterisation, sorting, segregation, packaging and	Sellafield Ltd—Undertake review of inorganic LLW currently disposed as LLW to determine options for further segregation.			
consignment.	Sellafield Ltd—Undertake review of BAT for LA-LLW/VLLW process wastes. Introduce beneficial option(s).			
	Sellafield Ltd—Undertake review of BAT for LA-LLW/VLLW metal. Introduce beneficial option(s).			
	LLWR –Other—Undertake review of organisational capability, infrastructure and strategic direction of LLWR Customers.			
There is a flexible, sustainable supply chain infrastructure which includes	Sellafield Ltd—Undertake analysis to determine the best value SL/supply chain balance for the management of LLW.			
enhanced options. The supply chain offers sorting, segregation, pre- treatment and conditioning	Sellafield Ltd—Investigate how best to use the current on-site and off-site LLW facilities.			
infrastructure to complement the infrastructure on sites.	Sellafield Ltd—Investigate opportunities to broaden the Calder Landfill extended Segregated Area Conditions for Acceptance.			
	Sellafield Ltd—Develop the next generation of waste processing capability to support POCO and Decommissioning.			
	LLW Repository Ltd—Implement WMS Service Strategy.			





Priority business change	Project	Statu s
Risk based disposability approaches have been developed and are being implemented.	Sellafield Ltd—Investigate the opportunities for a risk based approach to disposal.	
	LLW Repository Ltd—Deliver optioneering for an enhanced disposal capability.	
Options for decay storage and management of short lived ILW are being implemented.	Magnox Ltd—Identify size and opportunity for decay storage.	
	Sellafield Ltd—Investigate the opportunities for decay storage.	
	LLW Repository Ltd—Project to establish principles for executing decay storage.	
	LLW Repository Ltd—Deliver optioneering for an enhanced disposal capability.	
A full understanding of the LLWR ESC assumptions and material limits is available and informs	Magnox Ltd—Produce Magnox Guidance on Discrete Items.	
waste producer operations.	Sellafield Ltd—Work with LLWR to fully understand the ESC and capacity management and identify where real benefits can be derived from changes.	
	LLW Repository Ltd—Develop approach for management of profiling materials on site (including VLLW).	
	LLW Repository Ltd—Develop approach to communicating ESC arguments.	

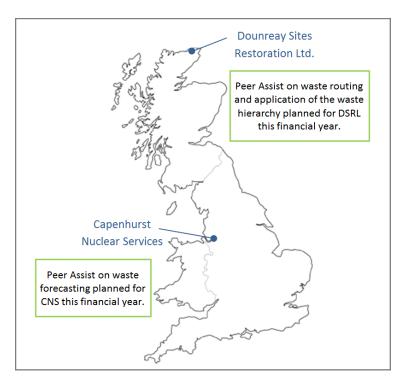


Priority business change	Project	Status
There are solutions in place for problematic LLW, including		
items that fall outside the LLWR ESC.	Magnox Ltd—Projects to identify solutions for those wastes outside the ESCs/WACs.	
	Magnox Ltd—Problematic Waste IPT.	
	Magnox Ltd—Cross-estate project (including RWM) to review the practical aspects and the cost-benefit of implementation of alternate approaches to disposal of short-lived ILW and LLW/ILW Boundary Waste.	
	Sellafield Ltd—Liaise with analytical services regarding step change in using exchange columns and the disposal route.	
	LLW Repository Ltd—Produce final report on legacy drums.	
	LLW Repository Ltd—Participate in the NDA Problematic Waste Integrated Project Team (IPT).	
	LLW Repository Ltd (site) - Complete sampling and develop management approach for legacy drums.	
Appropriate and flexible packaging and transport assets	Magnox Ltd—Project to review standard and non-standard packaging requirements.	
available; with increased use of rail and ability to use mixed loads.	LLW Repository Ltd—Development of an Integrated Transport Strategy.	
	LLW Repository Ltd—Deliver a longer term transport solution for FED.	
	LLW Repository Ltd—Project to develop a cost effective package and logistics business model aligned to the demands of the estate.	
	LLW Repository Ltd—Execute Integrated Transport Strategy.	

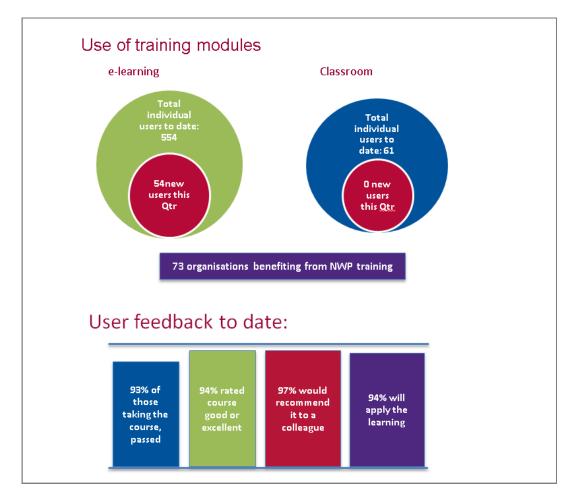


Peer Reviews and Peer Assists

This provides a summary of the planned and delivered peer reviews / peer assists during the financial year.



NWP training framework



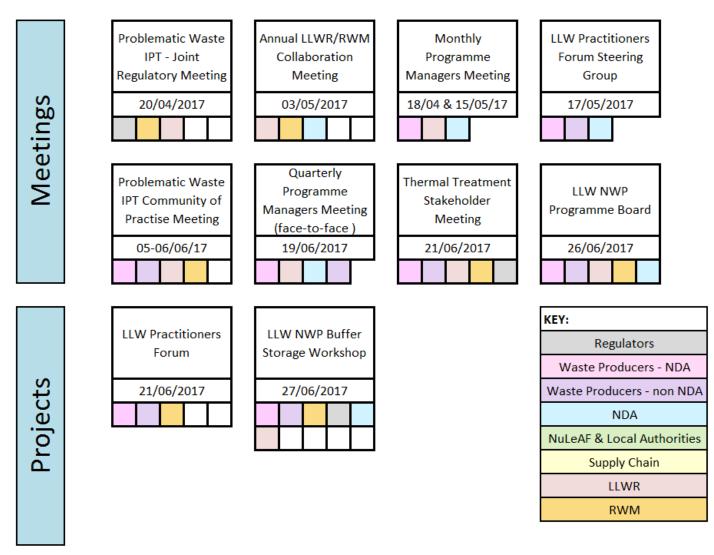


Looking Back Notice Board— publications, consultations and information NWP REPORTS Introductory Guidance on the Management of the Non-Radiological **Properties of Waste** [http://llwrsite.com/national-waste-EXTERNAL REPORTS AND GUIDANCE programme/waste-practitioner-support-The Potential Applications of guidance/] Graphene (and Related Compounds) Relevant to the NDA's **Decommissioning Mission** [https://www.gov.uk/government/publica tions/graphene-and-its-use-innuclear-decommissioning] EXTERNAL REPORTS AND GUIDANCE OECD Nuclear Energy Agency: Conference Synthesis, International Conference on Geological Repositories 7-9 December 2016, Paris [http://www.oecdnea.org/rwm/pubs/2017/7345-icgr2016synthesis.pdf] EXTERNAL REPORTS AND GUIDANCE Selection of Technical Solutions for the Management of Radioactive Wastes -IAEA Tecdoc 1718 [http://wwwpub.iaea.org/MTCD/Publications/PDF/TE -1817_web.pdf] NWP Office publications, reports or training. Publications or consultations external to the NWP Office. NWP quidance, publications and information about training available via www.llwrsite.com.



SECTION 4: Benefit 5 — stakeholders to the strategy are increasingly engaged with its delivery.

Stakeholder interactions in the NWP during the quarter



The following table provides a summary of the key issues and concerns within the nuclear industry relevant to LLW management, collected by the National Waste Programme through formal and informal interactions with waste producers. The chart provides a summary of each issue, a statement of the change in status for that issue (i.e. whether the issue has become more or less important to the NWP community) and a commentary on actions that are being taken to resolve the issue.

<u>KEY</u>

- No change in issue status since last quarter.
- Issue status has increased since last quarter.
- \mathbf{J} Issue status has reduced since last quarter.



High concern	Issue	Change since last quarter	Commentary	
			There have been some waste mis-consignment near-misses and concerns.	
	Risk of waste mis-consignment	€	 Work has been undertaken by LLW Repository Ltd to publish guidance and standards for waste producers to support their efforts to mitigate this threat. 	and standards for
	BSSD clearance level changes	¢	 Government undertaking work to assess how BSSD should be implemented with public consultation expected Spring 2017. Early indications suggest impact of outcome may be less adverse than anticipated but uncertainty remains. 	lented with public tcome may be less
	Access to supercompaction facilities for non-NDA estate	¢	 One supercompaction facility not accessible for external waste producers who wish to use it due to challenges with LLWR WAC5 information requirements compliance. 	who wish to use it
		1	 Issues with Waste Loading Plans, hauliers and the range of waste containers available etc. continue to impact waste producers. 	iners available etc.
	waste packaging and transport	¢	 TC12 licence withdrawn significantly reducing capacity of IP rated full-height ISO containers. Waste producers are having to implement alternative arrangements. 	ght ISO containers.
	Paris-Brussels nuclear liability	Ę	Government working with NDA, LLW Repository Ltd and the supply chain to understand the changes and mitigate impacts.	to understand the
	implementation	¢	 Implementation will be delayed as not all parties are in a position to ratify. The earliest expected date is January 2018 but uncertainty remains. 	ratify. The earliest
			Greater interest and impetus in this area, with a number of complex projects being delivered.	ts being delivered.
	Complex projects and problematic waste management	¢	 The Problematic Waste Integrated Project Team (involving RWM, NDA and LLW Repository Ltd) is working with waste producers to identify opportunities for problematic waste management. 	nd LLW Repository problematic waste
Low concern	LLWR WAC5 and forms	ţ	 Implementation of WAC5 and associated forms complete. Some ongoing challenges with particular aspects of the revised arrangements (such as discrete item limits). 	ng challenges with .).

SECTION 5: Looking forward

Sellafield Ltd

- Implement arrangements for the management of those drums segregated from the PCM stream demonstrated to be suitable for management as LLW.
- Progress the WAGR work stream in line with the agreed forward plan.
- Obtain and undertake analysis of trepanned AGR graphite sleeve samples, and complete programme of repeat AGR Graphite drum activity measurements.
- Formalise programme of work to develop the SL inventory, and associated inventory assumptions, to feed into the next LLWR ESC cycle.
- Support the next stages of the short-lived ILW and boundary work stream assessments.

Magnox

- TRS Drums: Preparatory work with LLWR for shipments to commence in Q4.
- Support collaborative NWP projects to conclusion (including Buffer Storage, Decay Stoarge, and Problematic waste IPT, Borderline Wastes amd Short-Lived ILW).
- Develop strategies for optimised disposal of wet and solid wastes, using averaging/mixing/conditioning.
- Gear up for large quantities of VLLW to be shipped from Harwell as a result of the LETP land remediation project.
- Seek disposability approvals from LLWR for FED from Sizewell and Oldbury.

Dounreay Decommissioning excellence

- Completion of top ups of containers in the LLW vault.
- Participation in a Peer Assist focussing on application of the waste hierarchy and waste route opportunities.
- Ongoing work to prepare for authorisation variation for disposal at D3100 Vaults.
- Work to assess the business case for improving on site capability to optimise container loading.

LLW Repository Ltd

Completion of despatch of the second batch of samples for Chemical Analysis at NNL, via Springfields.

- Approval of the license application for the crofts package for transport of the sealed sources to SL.
- Sampling of the lysimeters.
- Optioneering for management of the Long Term Vault Experiments.
- Commencement of PCM consignments to Sellafield.

Non-NDA Estate

- Continue to work with consignors towards diversion of the few waste streams that are still consigned to LLWR.
- Support site remediation projects to enable de-licensing activities.
- Continue embedding business as usual arrangements for waste diversion.
- Open new waste management routes as applicable and appropriate.
- Seek opportunities for management of more complex wastes.

National Waste Programme Office

- Progressing projects on On-site Decay Storage Principles, Buffer Storage, Boundary Waste and the review of commercially available training in support of radioactive waste management.
- Procurement exercises for Problematic Waste IPT projects.
- Continued participation in Near-Surface Disposal IPT.
- Further development of the Integrated Radioactive Waste Programme with NDA and RWM.



NWP Notice Board — looking forward

EXTERNAL CONSULTATION

Environmental Permitting Regulations 2017 Consultation (which will implement BSSD)

Expected Autumn 2017 (TBC)

FINAL REPORT LLW / ILW Boundary Waste Study Expected Summer 2017

EXTERNAL PUBLICATION

Revised environment agencies' guidance to be published on "Requirements for Release of Nuclear Sites from Radioactive Substances Regulation"

Expected January 2018 (TBC)

EXTERNAL PUBLICATION

Draft Near Surface Disposal Gate A Paper submission to NDA

End October 2017

PROBLEMATIC WASTE IPT

FY17/18 Programme of Work

Expected July 2017

[via www.llwrsite.com]

 UK Problematic Waste Inventory update request to consignors

Expected September 2017

NWP Office publications, reports or training.

Publications or consultations external to the NWP Office.

Publications or reports from an Integrated Project Team.



Forward calendar

	July 2017										
м	T	w	Т	F	S	\$					
					1	2					
3	4	5	6	7	8	9					
10	11	12	13	14	15	16					
17	18	19	20	21	22	23					
24	25	26	27	28	29	30					
31											

05/07 – NWP Regulatory Meeting (C)

18/07 – NWP Monthly Managers Meeting (T)

August 2017										
М	Т	w	Т	F	s	s				
	1	2	3	4	5	6				
7	8	9	10	11	12	13				
14	15	16	17	18	19	20				
21	22	23	24	25	26	27				
28	29	30	31							

16/08 – Onsite Decay Storage Principles Stakeholder Workshop (TBC)

21/06 - NWP Monthly Managers Meeting (T)

		Septe	ember	2017		
М	Т	w	Т	F	s	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

19/9 – NWP Programme Managers Meeting – Face-to-face (TBC)

20/9 – LLW NWP - Delivery Overview Group Meeting (TBC)

TBC – Boundary Waste Stakeholder Workshop

KEY Meeting	Project workshop	PeerRevie	ew/PeerAssist	Deadlines
BM=Birmingham	MA=Manchester	WA=Warrington	C=Cumbria	T=Teleconference



Strategic threats

Threat	Impacts	Proximity	Rating (current)	Rating (target)	Mitigation activities
Insufficient radiological or volumetric capacity in the supply chain.	Fewer routes available; less capability and less redundancy in marketplace. Higher prices. No/inadequate diversion routes for waste. Excess volumes being sent to LLWR, so inadequate capacity at repository. NDA required to invest capital in new facilities.	Near-term	Medium (9)	Medium (9)	 Working with consignors to improve short term waste forecasting. Developing aggregated procurement process to build more certainty into supply chain. Working with supply chain to increase visibility of capacity constraints etc. Standard services in place to give more certainty to supply chain. UKRWI 2016 to be published on NDA website (accessible to all). National Inventory Forum subgroup looking to amalgamate the UKRWI and WIF. Supply chain sustainability review undertaken. Potential (case by case) use of LLWR for buffer storage. Work with supply chain to encourage entrants. Reviews periodically undertaken of capacity supply and demand (e.g. VLLW capacity assessment). Trials of new commercial arrangements with supply chain. Problematic Waste and Near-Surface Disposal IPTs considering alternatives. Watching brief kept on supply chain capacity.
Significant waste mis- consignment event causes all diversion/ disposal to be stopped via that route.	Waste route(s) closed for individual producer or whole industry. Closure of routes reduces supply chain sustainability (supply chain withdraws from market). Increased waste disposal due to loss of diversion routes.	Near term	High (14)	Low (5)	Waste producers reviewing and improving waste consignment practices/barriers. Guidance on waste consignment in development by LLWR. Peer Reviews and Assists conducted at some sites covering mis-consignment. Highlighted in NWP training modules. LLWR WMS procedures and waste producers procedures in place. Peer Reviews conducted on waste consignment practices. Sharing of LFE within the industry (e.g. Condition Reports, Green Briefs).



Threat	Impacts	Proximity	Rating (current)	Rating (target)	Mitigation activities
Strategy for site end states means that large volumes of contaminated land are generated and have to be managed as lower activity waste.	Increased volumes of waste mean inadequate capacity at LLWR; leads to requirement for new repository. Waste may need to be managed as HAW. Creates need for additional storage. Potential for use as profiling material for the LLWR cap.	Long term	Medium (9)	Medium (9)	NDA developing strategy for site end states and de-licensing criteria with regulators and stakeholders. Waste producers interim and end state development. Revised regulatory guidance on in situ disposal drafted; being trialled at three sites.
Stakeholder concerns over radioactive waste management and disposal facilities constrain development of new routes and facilities.	Increased volumes of waste have to be disposed of at LLWR. Supply chain cannot secure authorisation for sites/facilities. Transport of waste is constrained. Waste producers unable or unwilling to use the routes because of stakeholder opposition.	Near term	Medium (8)	Medium (8)	Continued dialogue and consultation with stakeholders. Provision of authoritative information on forecasts. Work with NuLeAF on duty of care guidance. Waste producers work on mitigating any risk of mis-consignments. Implementation of NWP Stakeholder Engagement Plan.



Strategic opportunities

Opportunity	Impacts	Proximity	Rating (current)	Rating (target)	Realisation activities
Improve and refine waste inventories.	More realistic arisings. Improved supply chain confidence. Improved value from supply chain.	Long term	High (17)	Very high (19)	Look to amalgamate UKRWI & WIF. Prioritise and deliver inventory improvement tasks.
Consistent application of waste hierarchy through change in behaviour of waste producers.	Diversion is optimised. Use of most cost effective, optimised route.	Near term	High (16)	High (18)	Execute LTP 13 scope. Execute implementation of national strategy for non-estate.
Investigate and implement alternative VLLW management solutions.	Improved stakeholder perception of VLLW routes. Increased diversion. Maximise repository availability. Reduced the amount of clean material required for profiling and the number of transports that would be required.	Near term	High (16)	High (18)	Continue cap studies, develop business case and specifications for LLWR. Sellafield to continue with on site disposal strategy work. Revised regulatory guidance on in situ disposal drafted and in consultation, being trialled at sites. Work to be undertaken to understand potential impact on the VLLW supply chain.
Improve the sustainability and health of the supply chain.	Better environment for investment in capacity by supply chain. Continued presence for the supply chain.	Near term	Medium (8)	Very high (19)	Future competitions for frameworks continue to consider sustainability. Embed aggregating process. Continue inventory improvement. LLWR to undertake supply chain sustainability review on behalf of NDA in FY16/17.



Strategic opportunities

Opportunity	Impacts	Proximity	Rating (current)	Rating (target)	Realisation activities
Opportunity to manage waste destined for GDF down the LLW route.	Reduction in storage and disposal costs for waste producers. Prompt hazard and risk reduction.	Long term	Very Low (2)	High (16)	Ongoing collaboration work. Delivery of projects FY16/17 and FY17/18 to investigate boundary waste management. Work on Near Surface Disposal IPT. Share LFE from projects to manage complex wastes.
Non-NDA estate consignors are fully engaged with the Strategy.	Diversion maximised. Waste hierarchy applied and new waste management routes being used.	Near term	Medium (8)	High (12)	Non-NDA engaged in DOG and NWP Programme Managers Meeting once a quarter. Engaged in projects/workshops. Production of Tier 3 JWMPs. Provide forecast/actuals data for metrics report.
Decay storage capabilities available.	Reduced cost for waste producer. Diversion from GDF maximised. Improved value from supply chain. Enables earlier solution for waste producer.	Near Term	Medium (8)	High (12)	Undertake work to support waste producers in implementation of decay storage.
Utilisation of methods to enable management of complex and challenging wastes.	Prompt hazard and risk reduction. Earlier solution for the management of such wastes. Cost savings across industry. Routes available for problematic waste.	Long term	Medium (8)	High (12)	Waste producers undertake work to progress opportunities (e.g. use of new metallic framework). LLWR work with suppliers to understand and promote opportunities.