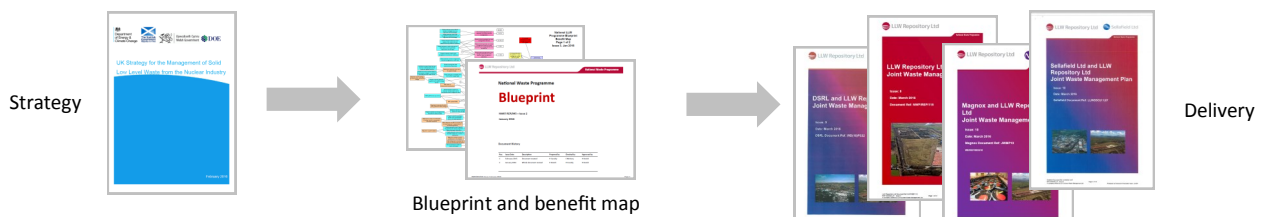


NATIONAL WASTE PROGRAMME QUARTERLY REPORT Q3 FY18/19
What is the National Waste Programme?

The National Waste Programme (NWP) is a cross-UK programme of work to lead the ongoing implementation and delivery of the *UK Strategy for the Management of Solid Low Level Waste from the Nuclear Industry*. 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 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 vision 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 NWP 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.

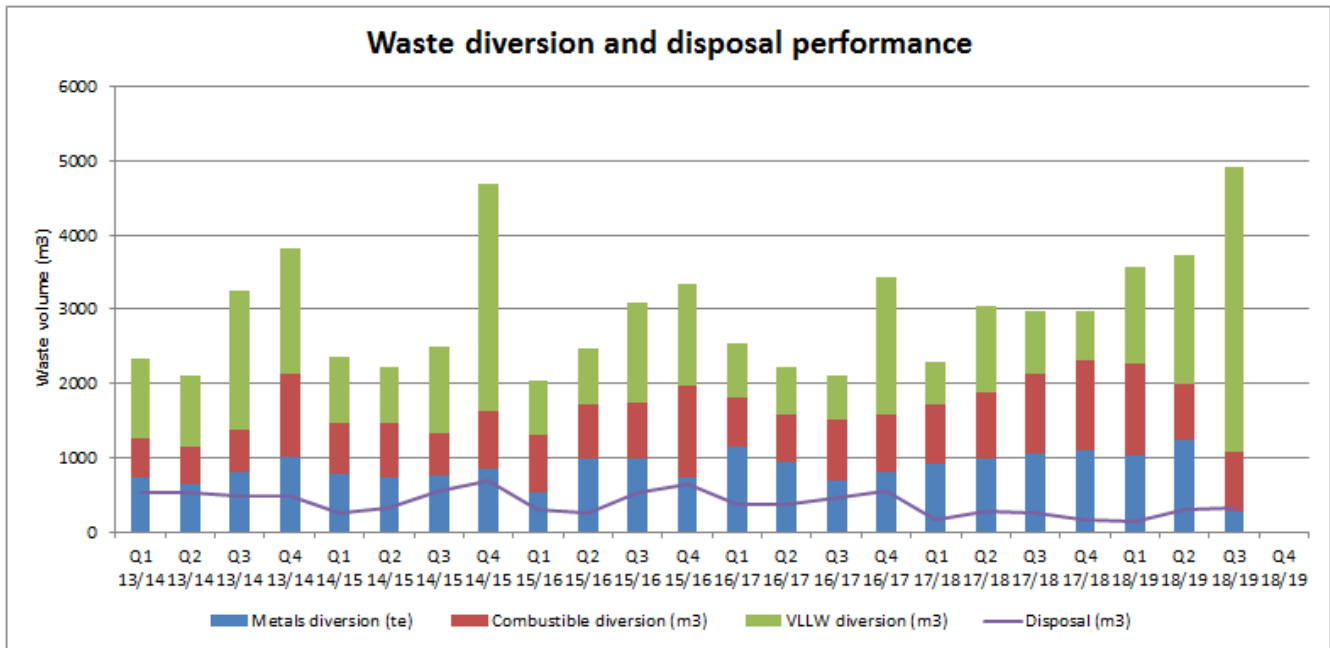
SECTION 1: Benefit 1 — The life of the LLWR is extended to 2130 & Benefit 4—Continued application of the Waste Hierarchy
Waste diversion and disposal performance
KEY

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

Waste producer	Route	JWMP (for year)	Actual (Year to Date)	Actual Performance against JWMP (Year to Date)	% diversion (Year to Date)
Dounreay Site Restoration Ltd	Metallic (te)	100	0		N/A
	Combustible (m ³)	24	0		
	LLW disposal (no. containers)	0	0		
LLW Repository Ltd	Metallic (te)	107	52		100%
	Combustible (m ³)	234	194		
	VLLW (m ³)	20	0		
	LLW disposal (no. containers)	4	0		
Magnox Ltd	Metallic (te)	1031	982		~100%
	Combustible (m ³)	1251	1039		
	VLLW (m ³)	5639	6478		
	LLW disposal (no. containers)	15	2		
Sellafield Ltd	Metallic (te)	800	674		87% (Including CLESA)
	Combustible (m ³)	1800	1558		
	VLLW off-site (m ³)	600	413		
	VLLW on-site at CLESA (m ³)	3600	1584		
	LLW disposal (no. containers)	93	67		
Non-NDA estate (total)	Metallic (te)	854	30		99%
	Combustible (m ³)	244	40		
	VLLW (m ³)	9303	5605		
	LLW disposal (no. containers)	23	6		
NDA estate (total)	Metallic (te)	1938	1709		95% (Excluding CLESA) 95% (Including CLESA)
	Combustible (m ³)	3285	2791		
	VLLW off-site (m ³)	6259	6891		
	LLW disposal (no. containers)	112	69		
UK nuclear industry (total)	Metallic (te)	2791	1738		96% (Excluding CLESA) 96% (Including CLESA)
	Combustible (m ³)	3528	2831		
	VLLW (m ³)	15562	12496		
	VLLW on-site (m ³) (CLESA)	3600	1584		
	LLW disposal (no. containers)	135	75		

Note: Diversion calculated using National Waste Programme norms and assumptions. Waste producers may use different assumptions in their own calculations.
 Note: Dounreay is not included in the totals as these wastes are not being diverted from the LLWR.

Waste Diversion and Disposal Performance



NDA-estate waste diversion performance across the UK has remained high (95%) during Q3 FY18/19. UK-wide diversion efforts this quarter have achieved the greatest quarterly cost avoidance since the implementation of the Strategy, at £29.3M. This can be attributed to the unprecedented levels of VLLW being diverted from the Repository (over 12,000m³ YTD), with large land remediation projects at Capenhurst and Harwell representing the majority of this.

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.

		Organisation																														
		DSRL	LLW Repository Ltd	Magnox Ltd	Sellafield Ltd	AWE	Active Collection Bureau	Babcock Marine	Urenco Nuclear Stewardship	Cristal Pigment UK Ltd	Doosan Power Systems Ltd	HMNB Clyde	HMNB Devonport	HMNB Rosyth	EDF Nuclear Generation Ltd	EDS	GE Healthcare	Medical Research Council	NNL	Nuvia	Police National Centre	RRS Ltd	Rutherford Appleton Laboratory	Springfields	Cyclife	Tradebe	Tradebe Inutec	UKAEA Culham	Umicores Coating Services Ltd	UniTech Services Group Ltd	Urenco	
Route	M	•	✓	✓	✓	✓	•	•	✓	•	•	•	✓	•	✓	•	•	✓	•	•	•	✓	✓	•	✓	•	•	•	•	•	•	
	C	•	✓	✓	✓	✓	•	•	✓	•	•	✓	•	•	✓	•	•	•	•	•	•	•	✓	•	•	✓	•	•	•	•	•	
	V	•	✓	✓	✓	✓	•	•	✓	•	✓	•	•	✓	•	✗	•	✓	•	•	•	•	✓	•	✓	✓	✓	✓	•	•	•	•
	L	✓	✓	✓	✓	✓	•	•	✓	✓	•	✓	✓	✓	✓	✓	✓	✓	✓	✓	•	•	✓	•	✓	✓	✓	✓	•	•	•	✓

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).

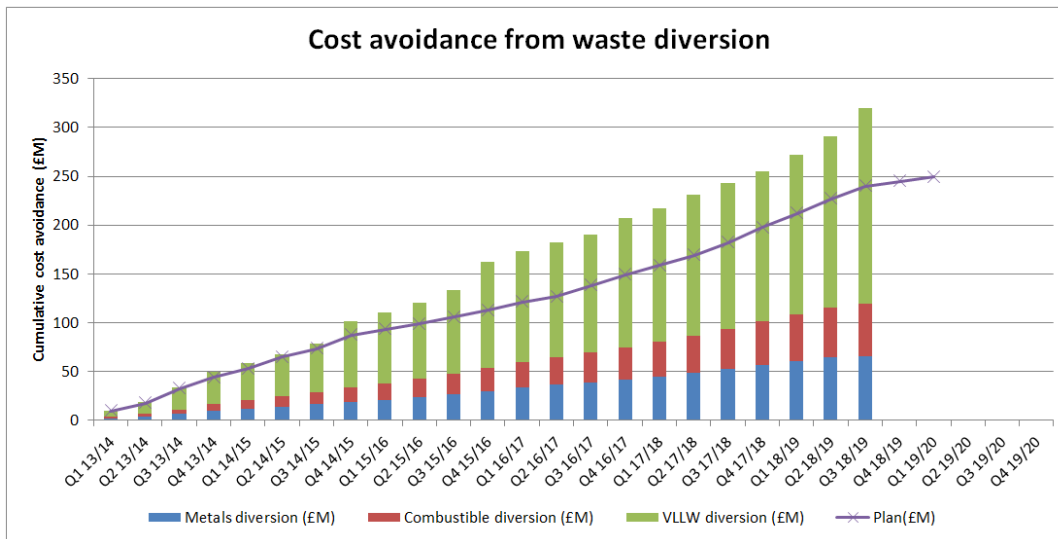
C Combustible waste management (incineration).

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 cost norm 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 Quarterly Updates



Good levels of diversion noted during Q3, including; an improved 709.2te of metal diverted for recycling (674te YTD), 663m³ of VLLW to landfill capabilities (1996m³ YTD), and 443m³ of material diverted for incineration (1558m³YTD). In Q3 there has been a significant increase in the number of containers generated and transferred for disposal to bring the programme back on track.

To support enhancing effective LLW management and diversion from LLWR focus has been on setting out the approach for waste capability development, identifying a number of near term deliverables. Focus areas in Q3 included:

- A Sellafield wide LLW / sub LLW study to investigate future capability needs in support the next 2 decades of SL business has been continued with outputs expected in Q4.
- Setting to work Tradebe for the 2nd soft bagged waste trial covering larger volumes and waste streams.
- The acceptance of the feasibility study for waste pilots to bring about transformational change across the site and progression into the detailed planning and design phase.

Further work is being scoped and planned to start in Q1 2019/20.

Key Boundary LLW/ILW areas have been progressed:

- The transfer of 5 WAGR boxes to LLWR with further work in flight to assess other populations.
- Building on the problem definition and BAT work previously progressed with AGR graphite sleeves, work progresses with LLWR to develop the project further.

 **Magneox**

At the end of Quarter 3, Magnox has diverted 98% of its LLW from the repository, predominantly VLLW from the Harwell LETP land remediation project and Chapelcross Heat Exchanger Ducts. The LETP remediation project has ramped up and is now consigning an impressive 12-19 shipments per week, which has resulted in Magnox hitting its VLLW target at the end of this quarter. The high diversion rate is also attributable to minimal scheduled disposals or supercompaction campaigns to date (8 are planned for back end of the year). The Sizewell & Oldbury FED disposability project is underway, focusing primarily on interpretation of characterisation data and the BAT; a disposability strategy document is also in preparation and will be agreed with LLWR at the end of Q4. Individual drum assessments have been completed for the several hundred Harwell NMT drums which had been identified as potential candidates for diversion to LLWR; however, the assessment has concluded that none of the drums are suitable as it is not possible to fully demonstrate that the contents of each drum meet the LLWR WAC. The corporate strategic LAW BAT has been updated and discussed with the regulators, and will be approved and issued in Q4. Bradwell successfully entered its Care & Maintenance phase on 29/11/18 - a UK first.

 LLW Repository Ltd

LLWR Site has shipped 6 consignments for combustible waste treatment this quarter. The service provider for bag assay waste changed from Tradebe to Augean in Q3, but following the announcement in December of the closure of Augean's incineration facility, the LLWR Service Delivery team has repeated the process of identifying a new service provider. The site and Service Delivery are collaborating to recover the schedule that is planned around site operations. A greater volume of waste is currently being consigned, so continued liaison with the Service Delivery team is required to ensure that consignments are processed and dispatched in a timely manner.

 **Dounreay**
Decommissioning excellence

LLW Verification Project completed and work ongoing to resolve a number of issues - primarily around evidence of inaccessible voidage in waste consignments and incorrect activity assessments arising from failure to decay correct fingerprints. Programme in place for restart of waste processing and disposal - there has been no disposal of LLW or DLLW to Dounreay's LLW disposal facilities in Q3.

WRACS Alpha Assay source successfully changed, however an issue with the HHISO-LF hoist meant that Supercompactor operations have been limited to 79 drums.

National Waste Programme Office Update

The National Waste Programme supported an LLWR site visit with BEIS, where the work of the site, Waste Management Services and the National Programme were discussed.

As a result of the work undertaken on the *Packaging to 2050 of LLW* project, a Container Signposting Resource has been developed and uploaded to the NDA's HUB for stakeholder use. This tool identifies containers currently available, previously in use, or planned for use by consignors or under development.

The Integrated Radioactive Waste Programme Baseline Review has completed the full suite of Baseline Review draft topic reports and submitted them to stakeholders for review. These reports aim to capture a UK-wide 'snapshot-in-time' of radioactive waste management.






Non-NDA Estate


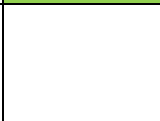
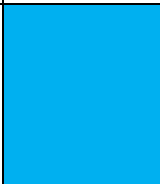






Diversion continues with non-NDA estate consignments being routine business across the portfolio of services. The Programme Office held a meeting with MOD to discuss the scope of a peer assist for the Submarine Dismantling Project, to be held at Rosyth in May 2019.

Key Project Tracker

The NWP community agrees, 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.

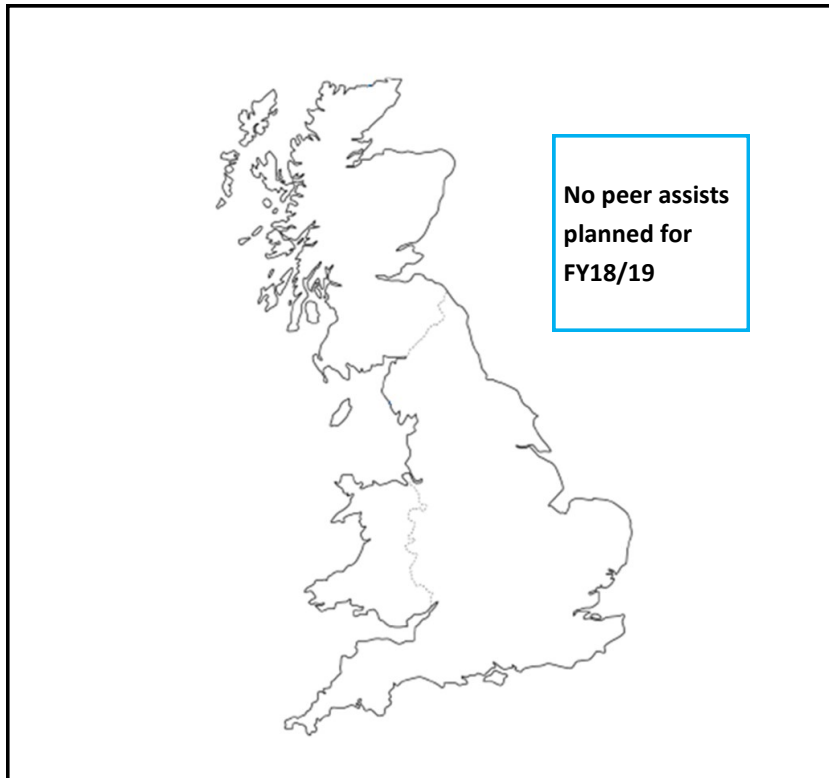
Priority Business Change	Project	Project Status
A full understanding of the LLWR ESC assumptions and material limits is available and informs waste producer operations.	Sellafield - Investigate the opportunities for decay storage.	
	LLWR - Project to enable the utilisation of magazine demolition rubble as profiling material for capping of Vault 8.	
	Magnox - Participation in a project to explore waste producer perspectives on their understanding of the LLWR WAC and its structure, with the aim of identifying potential improvements / initiatives to improve waste producer understanding of the WAC.	
Appropriate and flexible packaging and transport assets available; with increased use of rail and the ability to use mixed loads where appropriate.	Sellafield - Implement additional packaging options for more efficient consignment of oil.	
	LLWR - Project to establish transport and packaging agreements with Sellafield Ltd for transfer of profiling material for capping programme.	
	LLWR - Participation in NDA Critical Enablers transport and packaging strategy development.	
	Magnox - Cross estate project to explore packaging of LLW and ILW with the potential to be managed as LLW (including that already packaged as ILW).	
Risk Based disposability approaches have been developed and are being implemented.	Sellafield - Investigate the opportunities for a risk based approach to disposal.	
	LLWR - Project to deliver an outline business case on decay storage of a specific short-lived ILW wastestream.	

Priority Business Change	Project	Project Status
There are solutions in place for most problematic LLW, including items that fall outside the LLWR ESC.	Sellafield - Liaise with analytical services regarding step change in using exchange columns and the disposal route.	
	Sellafield - Develop the combustible route for small quantities of orphaned chemicals.	
	LLWR - Deliver the Problematic Waste IPT (jointly with RWM).	
	LLWR - Project to develop an information resource to collate information on projects and opportunities for ILW to LLW reclassification.	
	Magnox - Cross-estate project to understand and assess the disposability of wastes identified in the 2017 Problematic Waste Inventory as problematic owing to not being disposable in the LLWR.	
	Magnox - Project to determine solutions for Magnox problematic (various) wastes.	
	Magnox - Support delivery of Problematic Waste IPT projects, on specific PW groups.	
There is a flexible, sustainable supply chain infrastructure which includes enhanced options. The supply chain offers characterisation, sorting, segregation, pre-treatment and conditioning infrastructure to complement the infrastructure on sites.	Sellafield - Investigate how best to use the current on-site and off-site LLW facilities.	
	Sellafield - Investigate opportunities for optimising LLW waste collection and treatment facilities.	
Waste management processes enable robust and effective material diversion; with streamlined characterisation, sorting, segregation, packaging and consignment.	LLWR - Project to explore and identify the requirements for the next evolution of the Waste Services Treatment Frameworks.	
	LLWR - Implement outcomes from review of the LLWR Waste Acceptance Process.	
	LLWR - Undertake a project to review the LLWR Waste Acceptance Process to increase usability and robustness of arrangements.	
	LLWR - Delivery of a programme to examine and enhance LLWR arrangements to mitigate against the risk of mis-consignment of waste.	

Priority Business Change	Project	Project Status
<p>Waste management processes enable robust and effective material diversion; with streamlined characterisation, sorting, segregation, packaging and consignment.</p>	Sellafield - Work with LLWR to develop BAT for management of 3000 drums of AGR graphite.	Green
	Sellafield - Programme to integrate POCO, decommissioning and solid waste management arrangements.	Green
	Sellafield - Work with LLWR to enable assessment of the next tranche of WAGR boxes.	Yellow
	Sellafield - Develop approach to support acceleration of removal of material from high hazard facilities.	Green
	Sellafield - Implement programme of work to further segregate material from the alpha stream that can be managed as LLW.	Green
	Sellafield - Develop approaches for assay of bulk materials.	Green
	Sellafield - Undertake study to establish how LLW and sub-LLW system should evolve.	Green
	Sellafield - Develop and implement programme of follow-up bagged waste trials.	Green
	Sellafield - Develop local capability to support removal of material from high hazard facilities.	Green
	Sellafield - Undertake a review of BAT for LA-LLW / VLLW metal. Introduce beneficial option(s).	Green
	Sellafield - Undertake a review of BAT for LA-LLW / VLLW process wastes. Introduce beneficial option(s).	Blue
	Sellafield - Increase segregation of inorganic material currently disposed as LLW, in line with review findings.	Green
	LLWR - Project to identify and implement improvements to the processes used in Waste Management Services.	White
	Magnox - Deliver the Magnox Waste Assurance Programme.	Green
	Magnox - Deliver a report resulting from a review of the Magnox Integrated Waste Strategy (IWS).	Green
Magnox - JWMP Lifecycle Improvements.	Green	
Magnox - Support the LLWR Risk of misconsignment project.	Green	

Peer Reviews and Peer Assists

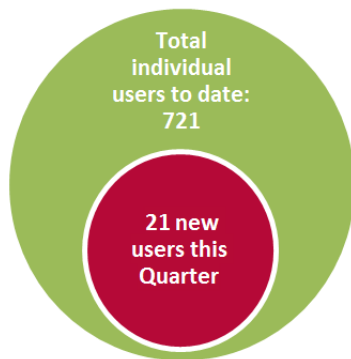
This provides a summary of the planned and delivered peer reviews / peer assists during the financial year.



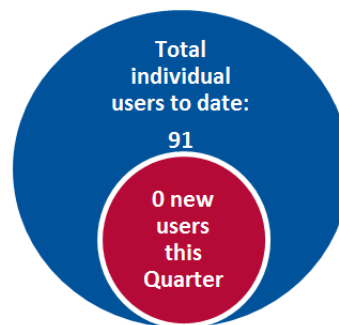
NWP Training Framework

Use of training modules

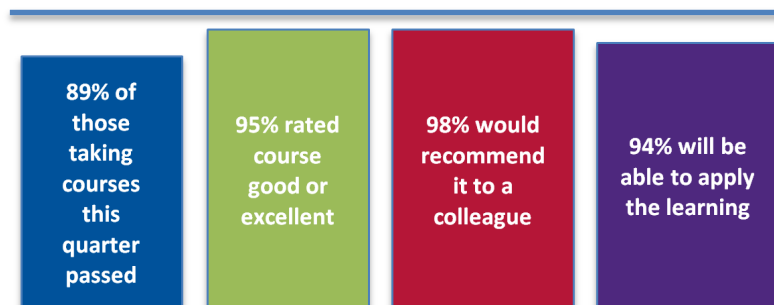
e-learning



Classroom



User feedback to date:



Looking Back Notice Board— publications, consultations and information

EXTERNAL CONSULTATION

Outcome published.

NDA radioactive waste management strategy consultation: CoRWM response

The response by CoRWM to the consultation on the NDA radioactive waste management strategy.

EXTERNAL CONSULTATION

Outcome published.

Working with communities: implementing geological disposal

This consultation sought views from the public and stakeholders on the policy for working with communities in the Geological Disposal Facility (GDF) siting process.

EXTERNAL CONSULTATION

Outcome response published.

Revised requirements for radiological protection: emergency preparedness and response

Consultation on how to transpose the emergency preparedness elements of the Basic Safety Standards Directive 2013 (BSSD 2013). This consultation was relevant to those working with radiological material, in particular where an emergency as a result of that work might have an impact on the public.

EXTERNAL CONSULTATION

Government response published.

Nuclear Safeguards Regulations

These regulations set out the detailed legal framework for the UK's new domestic civil nuclear safeguards regime, after withdrawal from the European Atomic Energy Community (Euratom). A full Impact Assessment has been published with the draft Regulations alongside an Explanatory Memorandum. Following a formal public consultation on the regulations, Government has also published a Government Response, summarising the comments received and the changes made to these regulations.

NWP REPORT

Packaging to 2050 of Low Level Waste Identified in the UKRWI

This project reviewed the industry's packaging needs to 2050 for waste identified in the UKRWI as LLW.

Published December 2018

NWP REPORT

NWP Container Signposting Resource

This resource is intended to help waste producers generate a shortlist of potential transport container options to enable the management of waste for disposal or diversion.

Published December 2018



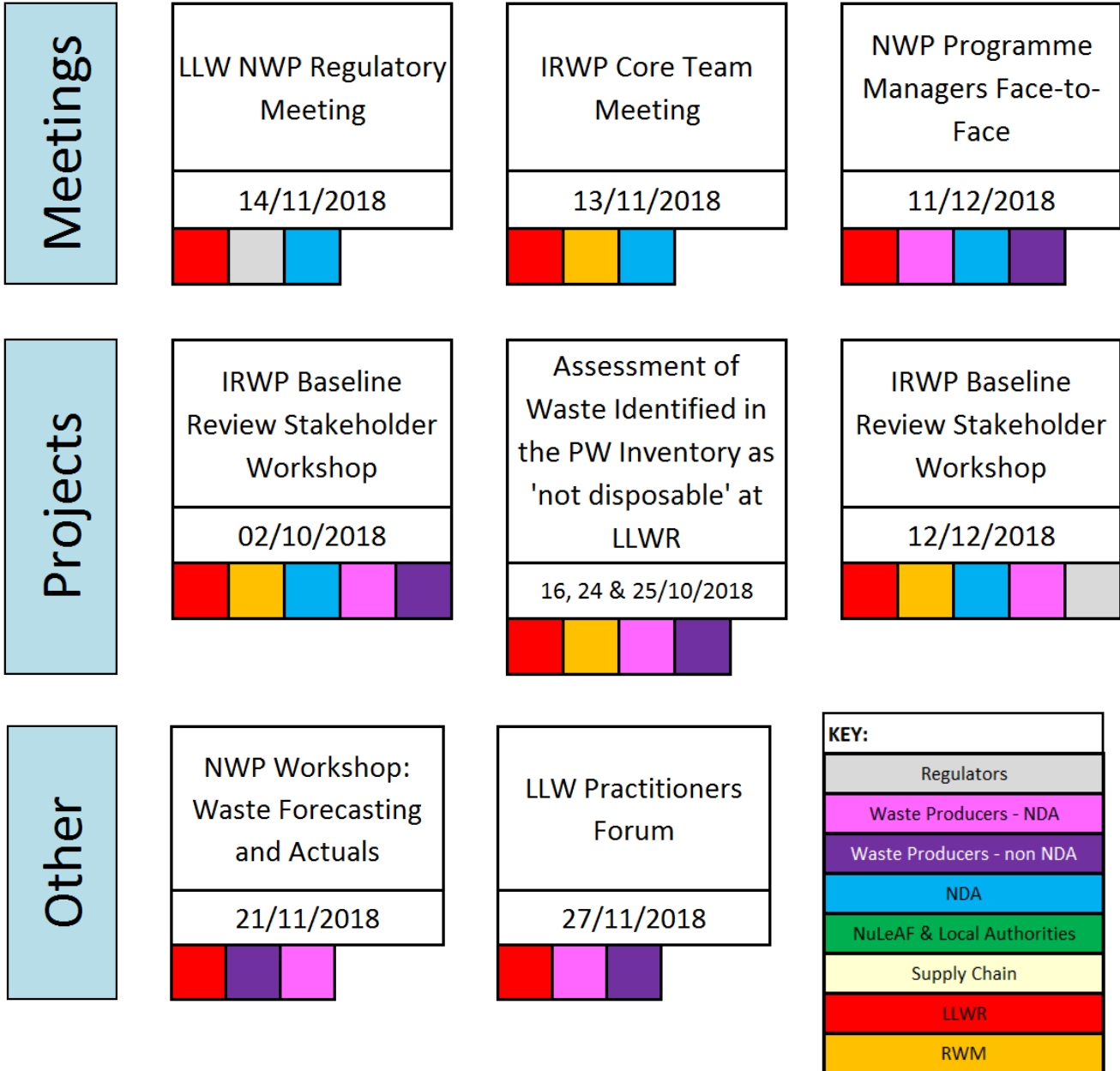
NWP Office publications, reports or training.



Publications or consultations external to the NWP Office.

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




Stakeholder interactions in the NWP during the quarter







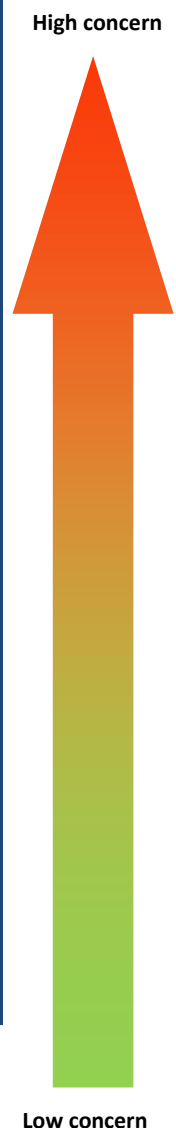
Stakeholders' Key Issues and Concerns

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.

KEY

-  No change in issue status since last quarter.
-  Issue status has increased since last quarter.
-  Issue status has reduced since last quarter.

Issue	Change since last quarter	Commentary
Paris-Brussels nuclear liability implementation.		<ul style="list-style-type: none"> • Government working with NDA, LLW Repository Ltd and the supply chain to understand the changes and mitigate impacts. • Uncertainty remains as to the timescale for implementation.
Risk of waste mis-consignment.		<ul style="list-style-type: none"> • There were some waste mis-consignment near-misses and concerns during FY17/18, and a number of lower-level near-misses and concerns in FY18/19. • LLW Repository Ltd is working with waste producers and initiating additional work to support further mitigation of this risk. • Work being considered for FY-19/20.
Waste packaging and transport.		<ul style="list-style-type: none"> • Issues with Waste Loading Plans, hauliers and the range of waste containers available etc. continue to impact waste producers.
Complex projects and problematic waste management.		<ul style="list-style-type: none"> • Greater interest and impetus in this area, with a number of complex projects being delivered. • 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.



SECTION 5: Looking Forward

Sellafield Ltd

- Commence shipments for soft bagged waste trial.
- Complete waste pilot commercial and operational models.
- WAGR boxes to LLWR progress next tranche of assessments.
- Develop approaches for assay of bulk materials.
- Understand LLW and sub LLW programme study and further work.


Magnox

- Progress LAW improvements project, focusing on activity assessment spreadsheets rationalisation and fit-for-purpose ways of characterising decommissioning projects to improve efficiency.
- Complete Company Safety Improvement Plan (CSIP) characterisation actions.
- Complete remaining PBIs, including collaborative NWP/IPT projects.
- Produce BAT for Sizewell & Oldbury FED and agree disposability strategy with LLWR.
- Develop strategy for the Dungeness boilers.


Dounreay
Decommissioning excellence

- Complete decant and consignment of LLW oils and solvents for off site incineration.
- Continue development of business case for LLW Handling Facility to allow waste diversion and better packaging fractions in disposal containers.
- Progress Non-Containerised Waste diversion feasibility project.
- Complete supporting BPM arguments and resume LLW encapsulation and disposal operations.


LLW Repository Ltd

- 2x Metals consignments planned for January. Reverting back to Tradebe for our Bag Assay waste.

Non-NDA Estate

- Continue embedding business as usual arrangements for waste diversion.
- Open new waste management routes as applicable and appropriate.
- Seek new opportunities for management of complex wastes.

National Waste Programme Office

- Completion of the Decay Storage Outline Business Case.
- Completion of the final report for the Packaging to 2050 project.
- Production of the technical notes and updated inventory for the project on Exploration of the Management of Wastes Identified in the Problematic Waste Inventory as not disposable at the LLWR.
- Completion of the Integrated Radioactive Waste Programme Baseline Review.

NWP Notice Board— looking forward



NWP Publication

**Integrated Radioactive Waste Programme
Baseline Review Overarching Report**

This report seeks to provide an overview of the work undertaken in the IRWP Baseline Review, by providing an overarching summary of the ten topic reports.

Expected March 2019



NWP REPORT

NWP Container Signposting Resource (Issue 3)

This resource is being up-issued. The resource is intended to help waste producers generate a shortlist of potential transport container options to enable the management of waste for disposal or diversion

Expected February 2019



Publication or consultation from the NWP Office.



Publication or consultation external to the NWP Office.

Forward Calendar

January 2019						
M	T	W	T	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			





15/01/19 – IRWP Core Team Meeting (WA)
 16/01/19 – Decay Storage Workshop (MA)
 21/01/19 – NWP Monthly Managers Meeting (T)

February 2019						
M	T	W	T	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			

18/02/19 – NWP Monthly Managers Meeting (T)
 28/02/19 – JWMP 16 Deadline

March 2019						
M	T	W	T	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

19/03/19 – NWP Monthly Managers Meeting (MA)
 20/03/19 – Delivery Overview Group Meeting (MA)

KEY			
	Meeting		Project workshop
	Peer Review / Peer Assist		Deadlines
BM=Birmingham MA=Manchester WA=Warrington C=Cumbria T=Teleconference			

Strategic Threats

Threat	Impacts	Proximity	Rating (current)	Rating (target)	Mitigation activities
Significant waste mis-consignment event causes partial or full closure of diversion or disposal route(s).	<p>Waste route(s) closed for individual producer or whole industry.</p> <p>Closure of routes reduces supply chain sustainability (supply chain organisation(s) withdraw(s) from market).</p> <p>Increased waste disposal due to loss of diversion routes.</p> <p>Increased waste accumulation due to lack of disposal routes.</p> <p>Loss of radiological / volumetric capacity at LLWR.</p> <p>Increased costs for waste producers.</p> <p>NDA required to invest capital in new facilities.</p> <p>Regulatory controls increase burden (operational and administrative) on consignors.</p> <p>Loss of confidence in suppliers / waste producers / industry.</p>	Near term	High (14)	Low (5)	<p>Waste producers review and improve waste consignment practices/barriers.</p> <p>Guidance on waste consignment developed by LLWR.</p> <p>Peer Reviews and Assists conducted at some sites covering mis-consignment.</p> <p>Highlighted in NWP training modules.</p> <p>External buffer storage capability on line to manage waste flows.</p>
Insufficient non radiological, radiological or volumetric capacity at LLWR.	<p>Inadequate capacity at LLWR; leads to requirement for new repository.</p> <p>Potential Increase in number/volume of problematic streams.</p> <p>Some waste may have to be managed as HAW.</p> <p>Creates the need for additional storage and potentially higher treatment and disposal costs.</p> <p>Causes delays to programmes.</p> <p>Increased waste to diversion routes impacts capacity (e.g. VLLW).</p>	Medium term	Medium (9)	Very low (1)	<p>Increased or enhanced incentivisation for diversion.</p> <p>NDA intervention or direct action to engender different approaches at waste producer sites.</p>

Threat	Impacts	Proximity	Rating (current)	Rating (target)	Mitigation activities
Large volumes of waste from contaminated land remediation are generated and have to be managed as lower activity waste.	<p>Disposal of increased volumes of waste result in inadequate capacity at LLWR; leading to requirement for new repository / new fit-for-purpose disposal facility.</p> <p>Some waste may need to be managed as HAW.</p> <p>Creates need for additional storage.</p> <p>Reduced volumetric capacity at LALLW/VLLW disposal sites.</p>	Medium term	Medium (9)	Very low (2)	<p>NDA working with regulators, planning authorities and other stakeholders to develop de-licensing approach and arrangement.</p> <p>Revised regulatory guidance on in situ disposal drafted (GRR); being trialled at three sites.</p> <p>On-site or near-site disposal of LALLW/VLLW.</p>
Insufficient radiological, non-radiological or volumetric capacity in the supply chain.	<p>Fewer routes available; less capability and less redundancy in marketplace.</p> <p>Increased cost for waste producers (higher prices).</p> <p>No/inadequate diversion routes or capacity for waste.</p> <p>Excess volumes being sent to LLWR, so inadequate capacity at repository.</p> <p>NDA required to invest capital in new facilities.</p> <p>Increased waste accumulation due to lack of disposal routes.</p> <p>Increased costs for waste producers.</p>	Near term	Medium (8)	Low (5)	<p>Working with consignors to improve short term forecasting of waste.</p> <p>Introduction of new Waste Treatment Services Framework (estimated 2020).</p>

Strategic Opportunities

Threat	Impacts	Proximity	Rating (current)	Rating (target)	Mitigation activities
Changes in legislation, governmental policy and regulatory perspective prevents execution of LLW Strategy.	<p>Could restrict ability to divert or dispose of LLW.</p> <p>Increased volume of waste that needs to be managed as LLW or that is disposable at LLWR.</p> <p>Additional cost to treat and dispose of waste to meet revised regulatory expectations.</p> <p>Adverse impact on LLWR and/or supply chain capacity.</p> <p>Adverse impact on access to overseas treatment routes.</p> <p>Issues with secondary waste returns.</p>	Medium term	Very Low (2)		N/A - risk tolerated.
Stakeholder concerns over radioactive waste management constrain access to existing routes and / or development of new routes and facilities.	<p>Increased volumes of waste have to be disposed of at LLWR.</p> <p>Supply chain cannot secure authorisation for sites/facilities.</p> <p>Transport of waste is constrained.</p> <p>Waste producers unable or unwilling to use the routes because of stakeholder opposition (reputational impact).</p> <p>Inadequate capacity at the LLWR; requiring need for new repository in worst case.</p> <p>Requirement to buffer store more VLLW and LLW.</p> <p>Programme delays.</p>	Near term	Very Low (2)		N/A - risk tolerated.

Strategic Opportunities continued

Opportunity	Impacts	Proximity	Rating (current)	Rating (target)	Realisation activities
Improve the sustainability and health of the supply chain.	<p>Better environment for investment in capacity and capability by supply chain.</p> <p>Continued presence for the supply chain.</p> <p>Improved value from the supply chain.</p> <p>Continued and optimised waste diversion.</p> <p>Release of LLWR resource for other activities (no need for liability channelling arrangements).</p> <p>Reduced prices (landfills may no longer require insurance for nuclear liabilities).</p>	Near term	Medium (8)	High (12)	<p>Future competitions for frameworks continue to consider sustainability.</p> <p>Embed aggregating process.</p> <p>Supply chain sustainability review undertaken by LLWR on behalf of NDA in FY16/17 and FY17/18.</p> <p>During FY17/18, review of customer demand for LLWR WMS Frameworks and specific focussed engagement on frameworks to be recompleted in near term.</p> <p>Delivery of inventory improvement tasks.</p> <p>Implementation of a new design for Waste Services Frameworks (estimated 2020).</p>
Non-NDA estate consignors and New Build are fully engaged with the Strategy.	<p>Diversion maximised.</p> <p>Waste hierarchy applied and new waste management routes being used.</p>	Near term	Medium (8)	High (12)	<p>Potential to interact with New Build forums to increase visibility of NWP.</p>
Management solutions for earlier management of ILW employed.	<p>Potential reduction in storage and disposal costs for waste producers.</p> <p>Prompt hazard and risk reduction.</p> <p>Diversion from GDF maximised.</p> <p>Improved value from supply chain.</p> <p>Enables earlier solution for waste producer.</p> <p>Reduced lifecycle cost.</p>	Medium term	Medium (8)	High (16)	<p>Ongoing collaborative work.</p> <p>Delivery of projects FY17/18 to investigate boundary waste management.</p> <p>Work on Near Surface Disposal IPT.</p> <p>Share LFE from projects to manage complex wastes.</p> <p>NWP On-Site Decay Storage Principles project being delivered FY17/18.</p> <p>Alignment of permits, WACs and planning consents to safety cases.</p>

Opportunity	Impacts	Proximity	Rating (current)	Rating (target)	Realisation activities
Fit-for-purpose, flexible and agile package fleets available for LLW management.	Optimised use of transport models. Quicker and cheaper LLW management.	Long term	Low (4)	Medium (8)	Execute LTP 13 scope. Develop new and fit-for-purpose packages. NDA work on transport and packaging strategy initiated in FY17/18 under Critical Enablers thematic area.
Buffer storage capabilities available and in use.	Diversion maximised. Improved value from supply chain. Allows variability in waste arisings to be managed to remove peaks and troughs to supply chain. Enables greater aggregation of waste from around the UK for treatment (driving better value). Enables an earlier solution (removal of waste from site) for consignors.	Medium term	Very Low (2)	Low (4)	Undertake work to understand potential for and logistics of buffer storage options (NWP Gate 0 project) and next steps of that project.
Improved use of rail infrastructure to support management of LLW.	Reduced use of road (better carbon footprint, improved safety). Potential for improved value from supply chain.	Medium term	Very Low (2)	Low (4)	DRS and LLWR undertaking some work to establish what might be available. NDA work on transport and packaging strategy initiated in FY17/18 under Critical Enablers thematic area.

Opportunity	Impacts	Proximity	Rating (current)	Rating (target)	Realisation activities
Management solutions available and in use for complex, challenging and problematic wastes.	<p>Prompt hazard and risk reduction.</p> <p>Earlier solution for the management of such wastes.</p> <p>Cost savings across industry.</p> <p>Routes available for problematic waste.</p> <p>Avoidance of critical path schedule impacts due to inability to sentence problematic wastes that need to be dealt with.</p>	Long term	Medium (8)	High (12)	<p>Work through Problematic Waste IPT to identify and pursue opportunities.</p> <p>Work to identify opportunities for SL-ILW and Boundary Waste through NWP projects.</p> <p>Waste producers progressing opportunities for reclassification of ILW.</p> <p>Waste producers undertake work to progress opportunities for management of complex / problematic wastes.</p> <p>LLWR work with suppliers to understand and promote opportunities.</p>