

# National Waste Programme Quarterly Report

Quarter 4 FY20/21

*This report provides a “snapshot in time” of the progress being made within the National Waste Programme (NWP) community to achieve the strategic objectives of the programme. The report provides updates from NDA-estate waste producers, including a look-back, focus areas for the next quarter and a status update table on projects; events and significant deadlines for the coming quarter; and updates / changes to the threats / opportunities register.*

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## 1. Overview – National Programme

### 1.1. Quarterly Update

- The 'National Waste Programme Integration into the NDA IWMP – Position Paper' was approved and issued to NDA closing out a Performance Based Incentive (PBI). The paper described and underpins how the NWP has successfully integrated with the IWMP.
- The approved output from the LLWR Disposal Service Models Phase 3 project – informing the ESC Development Programme by consolidating waste producer perspectives on their ideal disposal service model – was submitted to NDA, closing out a PBI.
- The output from the recent Customer-Supplier Event on the incineration and supercompaction service was finalised, providing the evidence to close out a PBI.
- The finalised output from the IWMP Cost Norms Phase 1 study was received from the contractor. This will be used to scope subsequent delivery phases.
- The output of the IWMP Waste Fora Review has been shared with NDA.
- The self-guided learning workbook on 'Waste Forecasting and Waste Actuals Reporting' has been finalised and made available on the WMS Hub group.
- Updates were finalised on the revised NWP Container Signposting Resource and NWP Radioactive Waste Training Database.
- A workshop was held with representatives across the UK nuclear industry on development of an industry-wide

definition of waste mis-consignment. A follow-up session is planned for April 2021.

### 1.2. Peer Reviews & Assists

- The NWP facilitated the DSRL Peer Learning Event on Waste Handling Facilities, involving seven organisations from across the UK nuclear estate. The output report from the Peer Learning Event on on-site waste handling capability was finalised and issued to stakeholders including the NDA, closing out a PBI.

### 1.3. Key Meetings

- A meeting was held with NDA on the Asbestos Innovation Partnership Technical Specification and to identify the way forward.
- The NWP Office, supporting the IWMP Waste Culture Programme Manager, presented the outcomes from the Waste Culture Phase 1 study and facilitated workshop sessions discussing implementation of the proposed Roadmap for change at the IWM Programme Group.

### 1.4. Focus areas for next Quarter

- Finalise scoping of key FY21/22 projects and initiation of any early procurements.
- Preparations for the April Delivery Overview Group meeting.

## 2. Waste Management Services

### 2.1. Quarterly Update

- Support was provided to Magnox Ltd in a mapping session on management options for the many thousands of tonnes of irradiated graphite that will arise from decommissioning of the UK's fleet of Magnox reactors.
- A meeting was held between LLWR and Magnox to discuss the potential for using the LLWR Characterisation Framework to support Magnox with their pond skip sampling programme. LLWR will review the identified options and feed back to Magnox by the end of February.
- A meeting was held with the LLWR Customer Team and the Berkeley Safe Store Project team for Magnox to confirm its proposed contracting model for the decommissioning of the Safe Store. The waste management aspects of the project will be managed through the LLWR waste treatment frameworks. Collaborative scoping workshops will be held over the coming months to develop the scope of work to be tendered through the treatment framework and ensure that it aligns with the Magnox decommissioning activities. The initial scoping workshop has been arranged by LLWR.
- The Sellafield Ltd (SL) Recovery Cell, which was set up to address the trace radionuclides issue reported previously, has now concluded with all 91 Sellafield waste stream Characterisation Documents (WCH) updated and approved, and container numbers at the SL dispatching yard reduced to a more manageable level. SL staff have passed on thanks to LLWR for support with this effort and for working collaboratively to ensure waste consignments from the SL

site could still be dispatched, enabling waste collections from individual plants to continue.

- A joint scoping exercise was held between Magnox and LLWR to develop the storyboard and high-level scope for the decommissioning of the Berkeley Site Blower Houses. LLWR and Magnox will work collaboratively to develop the scope for all aspects of the work. Early and joint engagement on this project will allow the project to be 'waste-led' from the outset. Bi-weekly progress meetings are in place to monitor progress.
- The Customer Team has continued to provide support to the DSRL Waste Treatment Plant concept design project and a further LFE workshop is being planned.
- Magnox have now signed and returned the Waste Services Quotation for Harwell Offsite Discharge Pipework (ODP). The Task Order has been issued to the supplier and a Contract Opening Up meeting was held. Weekly project meetings will continue to monitor progress.
- A draft Waste Enquiry Form (WEN) was received from SL for the Alpha Sort & Segregation Active Demonstrator (ASAS). A service is required for the disposal of historic alpha waste which has been recently classified as LLW. Approximately 25 Legacy Crated Waste Items will be processed through ASAS.

### 2.2. Focus areas for next Quarter

- Continued enhancement of the process for the delivery of opportunity projects.
- Host the supplier engagement session to support the re-competition of the Thermal and Conditioning framework.

### 3. Overview – Sellafield Ltd

#### 3.1. Quarterly Update

A strong programme of diversion was completed during Q4, with the backlog arising from resolution of a data truncation error in the fingerprint database cleared.

Good progress has been made on a range of transformation activities, including:

- The CLESA Replacement Capability BAT assessment report has been progressed through internal and external review and governance. The next stage is to link with other long-term soil and spoil management strategic decisions.
- Initial plans for undertaking the first iterations of a Waste Management Plan (WMP) and Site Wide Environmental Safety Case (SWESC), required to support Release from Radioactive Substances Regulation, have been formalised and submitted to EA.
- 14 companies have been selected to proceed to Phase 1 of the NDA-led sort and segregation competition, which is being progressed in partnership with Magnox, SL and Innovate UK.
- The Soft Bagged Waste Optimisation programme has been accelerated by 2 months and approved at readiness review. This will enable an additional 24 waste streams to be directly diverted for incineration.
- A study has progressed for assessing capability requirements out to 2040 for metallic wastes. A similar piece of work is set to commence for organics which takes into account the completed segregation trial work in the new financial year.
- All Waste Board of Inquiry actions have been closed out.

- Management arrangements have been implemented to manage diverted waste containing persistent organic pollutants.
- Input has been provided to planned LLWR work to update the combustibility and supercompaction frameworks, to the NWP Characterisation for Scaled-Up Waste Management Project, and to peer learning workshops to support potential Dounreay waste capability developments.
- The LLWR Characterisation Standard Workshops have also been supported.

#### 3.2. Focus areas for next Quarter

- Formalise learning from the fingerprint review workstream, document findings and jointly review learning with LLWR.
- Further progress the programme of work to take forward the findings of the waste management Board of Inquiry.
- Support taking forward the LLWR WAGR box storage case study and re-invigorate the WAGR box disposal workstream.
- Further progress the Active Demonstrator workstreams and the arrangements to complete the required AGR graphite sampling.
- Formalise the output from CLESA replacement capability BAT assessment and initiate the follow-up work.
- Progress the metals capability study and a follow-up workstream on process and organic waste.

## 4. Overview – Magnox Ltd

### 4.1. Quarterly Update

In Q4 a total of 55 LLW shipments were made from the Magnox sites across the metallic, combustible and VLLW routes. Within that number, Sizewell shipped its first ever VLLW consignment and Harwell shipped its 1000<sup>th</sup> VLLW consignment from the LETP project. In addition, multi-site collection of redundant radioactive sources commenced.

In February we submitted our 5-year waste forecast form to LLWR, and this was followed by the production and issue of the next Magnox/LLWR Joint Waste Management Plan, JWMP19, in March which contains a wide range of transformational projects.

The following is an overview of some of the other areas of work where progress has been made in Q4:

- Continued IWMP engagement including participation in scoping of planned projects - some to be led by Magnox; workshop on development of waste cost norms; scoping for future characterisation related projects. In addition, Magnox has continued support to the waste culture project with reviews of phase 1 outputs including the final report and input to scoping further tasks.
- Concluded Magnox participation in the NWP-led 'Packaging requirements of waste generators' project.
- Completed training packages on waste characterisation and LLW fingerprint management.
- Participated in the first three workshops on development of LLWR characterisation standard.

- Completed the Trawsfynydd characterisation approach document to support the rolling programme of decommissioning.

### 4.2. Focus areas for next Quarter

- Complete removal of redundant radioactive sources from sites.
- Successful launch of new JWMP transformational projects.
- Development of programme of IWMP work within Magnox to support the development and delivery of the One NDA IWM Programme across the NDA Group.
- Development of plans for roll out of characterisation training across a range of practitioners and non-practitioners in Magnox.
- Development of a prioritised plan to focus on management of legacy and problematic waste.
- Commencement of user acceptance testing of WIMS (Waste Information Management System) version 1.

## 5. Overview – Dounreay Site Restoration Ltd

### 5.1. Quarterly Update

Operations:

- LLW Plants were reduced to essential compliance related activities as Site response to the national COVID-19 status. A phased return to site began during March, however decommissioning activities were limited to Clean wastes and compliance related LLW / Out of Scope of Regulation (OoSoR) justified under Customer Service Agreements as the Fingerprint validation and underpinning exercise continues.
- Non-critical LLW projects such as diversion of Non-Containerised wastes and Oils and Solvents have been on hold due to Site and National COVID-19 guidance, although it is proposed to return to both of these projects early in the next quarter, underpinned by Lateral Flow Testing of the NCW travelling workforce.
- No Supercompaction or Encapsulation operations this period.
- Waste Receipt Assay Characterisation and Supercompaction (WRACS) Real Time Radiography (RTR) turntable motor received and fitted – plant now fully available for operations in Q1 FY 21 / 22.

Compliance:

- A small number of high priority Fingerprints have been approved for use by plants / projects. Customer Service Level Agreements agreed and approved to permit controlled

LLW generation of compliance related LLW and OoSoR wastes for facilities awaiting updated Fingerprints.

- Fingerprint Data Reviews and Gap Analysis ongoing throughout Q4.

### 5.2. Focus areas for next Quarter

- Resume consignment of compliant LLW for waste processing / disposal, to include a campaign of Encapsulation Plant / D3100 vault disposal operations.
- Preparation of Non-Containerised Waste for off-site diversion via LLWR Framework.
- Complete stored LLW HHISO container voidage assessments and prepare BPM Statements.
- Consignment of Oils and Solvents for off-site disposal through LLWR Waste Services Contract.
- Continue review and revision of Dounreay Fingerprints.

## 6. Overview – LLW Repository Site

### 6.1. Quarterly Update

- LFE shared for the 4x MAFI Bogie consignments at the LFE Forum. This will be shared on the LFE page on the NDA HUB.
- New Service Provider selected for our Metallic Waste consignments and an opening up meeting has taken place.
- Two metals consignments shipped to Cyclife this quarter, the final two for this contract.
- Supporting BAU and Projects with Project Waste Management Plans.
- 1x DGF VLLW consignment to Suez (this was the second of two that were supposed to be consigned in March 2020).
- Loading VLLW generated from DGF into HHISO.
- Bag Assay continues following restart in Sep 2020, the ability to assay wood bags is now up and running and has proved to be a success with the vast majority of bags sentenced as Combustible.
- Preparation has commenced on the Large Items generated from Demolition of the Magazine Facilities. Readiness Reviews are planned in with all relevant stakeholders so that key information is captured.
- Updated Consignment Schedule for 2021 has been distributed to all relevant personnel.
- Waste Forecasting Form for 2021/22 has been submitted and approved.
- Forecast for PCM drums to be shipped to Sellafield has been submitted for 2021/22.

- WEN's produced and submitted for Non-Haz VLLW and Haz VLLW.

### 6.2. Focus areas for next Quarter

- Finish loading VLLW generated from DGF and various Projects around the site.
- Continue with Large Items preparation for consignment this year.
- Preparation and loading of batteries, cadmium and Ion Exchange Units into drums for consignment.
- Continue providing support to the BAU projects as they arise.
- Provide support to the Drum Re-characterisation Project.

## 7. Forward Calendar

April 2021						
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		






**07/04/2021** – NWP Monthly Report Waste Producer Submission Deadline [Mar 21]  
**14/04/2021** – NWP Quarterly Report Waste Producer Submission Deadline [Q4 20/21]  
**19/04/2021** – LLW NWP Monthly Managers Telecon (T)  
**21/04/2021** – Delivery Overview Group Telecon (T)  
**27/04/2021** – Misconsignment of Waste Definition Workshop (T)  
**28/04/2021** - NWP Monthly Report Waste Producer Submission Deadline [Apr 21]  
**29/04/2021** – Practitioners Forum Steering Group Meeting (T)

May 2021						
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						

**12/05/2021** – LLW Practitioners Forum (1 of 2) (T)  
**17/05/2021** – LLW NWP Monthly Managers Telecon (T)  
**19/05/2021** – LLW Practitioners Forum (2 of 2) (T)  
**26/05/2021** - NWP Monthly Report Waste Producer Submission Deadline [May 21]

June 2021						
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			

**02/06/2021** – LLW NWP Regulatory Meeting (T)  
**21/06/2021** – LLW NWP Monthly Managers Telecon (T)  
**30/06/2021** – NWP Monthly Report Waste Producer Submission Deadline [Apr 21]

<b>KEY</b>					
	Meeting	Project workshop	Peer Review / Peer Assist	Deadline	Customer Forum
	BM=Birmingham	MA=Manchester	WA=Warrington	C=Cumbria	T=Teleconference








## 8. Performance against priority business changes



<p>Waste management practice enables agile, efficient and effective waste flow management to support operations, decommissioning and site restoration. Waste management is fully risk-informed, enabling effective management of waste at the LLW / ILW boundary.</p>			
<p>LLWR - Development of a Waste Characterisation Standard to support the NDA Good Practice Guide</p>	<p>Magnox - Waste Data Quality Improvements (NWP led project)</p>	<p>Magnox - Harwell Radiochemical facility. Work collaboratively with LLWR to develop an optimised model for characterisation of decommissioning wastes</p>	<p>Magnox - Waste consignment practices and mis-consignment controls</p>
<p>Magnox - Develop a need for site specific strategies to move away from past C&amp;M (Care &amp; Maintenance) arrangements into a more continuous decommissioning scope</p>	<p>Magnox - Waste management for scaled up decommissioning [NWP led project]</p>	<p>Sellafield - Building on the successful implementation of the PCM to LLW segregation capability, implement a programme of work to improve the segregation at source of alpha stream material that can be safely managed as LLW</p>	<p>Sellafield - Undertake combined assessment of potential on-site locations, off-site locations and supply chain options to establish whether to construct a replacement landfill capability post the filling of CLESA</p>
<p>Sellafield - Further develop decommissioning approaches, utilising LFE from ORANO and innovation from Innovate UK partners, to minimise, where practicable, the volume of ILW generated</p>	<p>Sellafield - Complete waste mis-consignment BoI Actions and the initial set up of a new Waste organisation and updated waste process</p>	<p>Sellafield - Work with LLWR to ensure that Decommissioning CHILW container (DCC), to be designed to support the management of contact handleable ILW arising from decommissioning, is also suitable for potential LLWR disposal</p>	<p>Sellafield - Develop and implement integrated approach for complete rad and non-rad characterisation of excavated wastes</p>

<p>Reliable and appropriate local and national inventories are available that support and underpin decision making.</p>	
<p>LLWR - Waste forecasting e-learning module development and launch</p>	<p>Sellafield - Undertake work to improve long term inventory management, including engagement with the NDA RWI process review programme that will be progressed post the 2019 update cycle</p>

Key	Priority Business Change	Sellafield	Magnox	LLWR
	Overall Priority Business Change Status	 Project not yet commenced	 Project has commenced and is behind schedule, but is expected to recover	 Project Complete
	Individual Project Status	 Project commenced and is on target to deliver on or ahead of schedule	 Project has commenced and is behind schedule, but is not expected to recover	

## 9. Strategic Threats and Opportunities

Strategic Threats					
	<2%	2-25%	26-50%	51-80%	>80%
	Very Unlikely	Unlikely	Possible	Likely	Very Likely
Severe	High (11)	High (15)	High (17)	Very High (19)	Very High (20)
Major	Medium (7)	Medium (9) 3 5	1 High (14)	High (16)	High (18)
Moderate	Low (4)	4 Low (5)	2 Medium (8)	High (12)	High (13)
Marginal	Very Low (1)	7 6 Very Low (2)	Low (3)	Medium (6)	Medium (10)

Strategic Threat	
1.	Significant waste mis-consignment event causes partial or full closure of diversion or disposal route(s).
2.	Insufficient radiological, non-radiological or volumetric capacity in the supply chain. Or excessive demand for capacity.
3.	Insufficient non-radiological, radiological or volumetric capacity at LLWR.
4.	Changes in legislation, governmental policy or regulatory perspective prevents or significantly impacts execution of LLW Strategy.
5.	Large, volumes of waste from rad contaminated land remediation generated and managed off-site as lower activity waste.
6.	Non-industry stakeholder concerns over radioactive waste management constrain access to existing routes and / or development of new routes and facilities.
7.	Global event (such as a future pandemic or war) impacts functioning of all parts of the LLW community, waste management and route availability.

Strategic Opportunities					
	<2%	2-25%	26-50%	51-80%	>80%
	Very Unlikely	Unlikely	Possible	Likely	Very Likely
Marginal	Very Low (1)	Very Low (2) 3 4	Low (3) 5	Medium (6)	Medium (10)
Significant	Low (4)	Low (5)	Medium (8) 1 2 6	High (12)	High (13)
Major	Medium (7)	Medium (9)	High (14)	High (16)	High (18)
Substantial	High (11)	High (15)	High (17)	Very High (19)	Very High (20)

	Strategic Opportunity
1	Positive step change in the sustainability of the supply chain.
2	Relevant ILW diverted from HAW disposal.
3	Buffer storage capabilities can be mobilised for contingency situations (only).
4	Improved use of transport infrastructure to support management of LLW.
5	Fit-for-purpose flexible and agile packaging fleets available for LLW management.
6	Management solutions available and in use for complex, challenging and problematic LLW (PW).