

The National Waste Programme Manual

RSM 03.08.01 – Issue 4 – May 2015

	Name	Role
Originator:	Helen Cassidy	National Programme Implementation Manager
Checker:	Sue McAvoy	National Programme Coordinator
Approver:	Hannah Kozich	Head of National Programme

Document history

Issue	Date	Amendments
4	May 2015	Whole document revised to reflect developments in National Waste Programme procedures.
3	Jul 2014	Whole document revised to reflect developments in National Waste Programme procedures.
2	Oct 2013	Whole document revised to reflect developments in National Waste Programme procedures.
1	Mar 2012	First issue

National Waste Programme

Acronyms and abbreviations

Term	Definition
BAT	Best Available Technique
ISO	International Standards Organisation
JWMP	Joint Waste Management Plan
LLW	Low Level Waste
LLWR	Low Level Waste Repository
NDA	Nuclear Decommissioning Authority
NWP	National Waste Programme
NWP/REP	National Waste Programme Report
PGR	Major Programmes Report
PMO	Programme Management Office
QBR	Quarterly Business Report
RSG	Repository Site Guidance
RSM	Repository Site Manual
RSP	Repository Site Procedure
VLLW	Very Low Level Waste
WAC	Waste Acceptance Criteria

National Waste Programme

Contents

Acronyms and abbreviations	3
1. Introduction and Purpose	5
1.1. Introduction	5
1.2. Purpose	5
2. Programme Overview	5
2.1. What is the National Waste Programme?.....	5
2.2. Vision, mission, benefits and outcomes	6
2.3. National Programme Blueprint and Benefit Map	8
2.4. Organisational Structure and roles / responsibilities	8
2.5. How does the National Programme deliver its objectives?	12
3. Programme Management	12
3.1. Planning and Scheduling.....	12
3.2. Governance.....	13
3.3. Communication and reporting	14
3.4. Risk management.....	16
3.5. Management System.....	16
3.6. Knowledge management	16
4. Collaborative learning and sharing best practice	18
4.1. Training Framework	19
4.2. Peer Reviews and Peer Assists	19
5. References.....	20

National Waste Programme

1. Introduction and Purpose

1.1. Introduction

The role of the National Waste Programme (NWP) is to lead the ongoing delivery and implementation of the UK Nuclear Industry Solid LLW Strategy (the Strategy). This programme covers all nuclear industry waste producers including those within the Nuclear Decommissioning Authority (NDA) estate, public sector bodies such as sites owned by the Ministry of Defence, and private sector businesses. The intent of the National Waste Programme is to achieve the strategic objectives of the Strategy in order to prolong the lifetime of the Low Level Waste Repository (LLWR), ensuring that there is sufficient capacity for the management of the UK's Low Level Waste (LLW), and to reduce the Nuclear Provision.

What are the strategic themes of the UK Nuclear Industry Solid LLW Strategy?

There are three strategic objectives:

- *Implementation of the waste hierarchy.*
 - *The best use of existing waste management assets.*
 - *The need for new fit-for-purpose waste management routes.*
-

1.2. Purpose

This Programme Manual specifies the management arrangements for the NWP and sets out the key aspects of the NWP to ensure that all contributors to the NWP have a clear understanding of what is expected of them to support delivery.

This document details:

- The vision, mission, key benefits and required outcomes for the programme.
- The management arrangements used to administer and coordinate the programme.
- The roles and responsibilities of the key stakeholders to the NWP.
- The processes used to manage the activities and information generated whilst delivering the programme.
- The activities undertaken by the National Programme Office to lead the implementation of the Strategy.

2. Programme Overview

The role of the National Waste Programme is to deliver the implementation of the UK Nuclear Industry Solid LLW Strategy.

2.1. What is the National Waste Programme?

The National Waste Programme (NWP) was established by NDA in 2011, with the objective to implement the Strategy.

National Waste Programme



Figure 1 - Policy, strategy and programme

The Strategy was developed and published in 2010 by the NDA, supported by LLW Repository Ltd, to describe the strategic level approach required to implement the 2007 UK Government Policy on management of solid LLW. The 2007 Policy was prompted by recognition of a credible risk that the capacity of the LLWR would be insufficient to meet future demand if the waste management practices of the time (predominantly disposal to the LLWR) were perpetuated. The Strategy was developed and published to drive a transformation in LLW management practices across the UK away from disposal at LLWR, in order to ensure that disposal capacity remained available to support the decommissioning of the civil nuclear industry. The NWP was established to support and drive the implementation of the Strategy, and so to achieve this transformation (as shown by Figure 1).

LLW Repository Ltd leads the delivery of the NWP on behalf of the NDA and in collaboration with all UK Nuclear Industry waste producers and wider stakeholders. The NWP identifies ways in which all LLW producers can optimise their waste management arrangements in line with the Strategy and shares information on best practice across the industry.

2.2. Vision, mission, benefits and outcomes

What is the vision of the National Programme?

Optimised management of LLW across the UK which delivers a reduction to the multi-billion pound Nuclear Provision and avoids the necessity for a second Low Level Waste Repository.

What is the mission of the National Programme?

A National Programme that achieves a self-sustaining culture for optimised LLW management across the UK. This will be delivered through collaborative participation in:

- *A strong governance framework that drives change.*
- *Effective programme co-ordination and reporting arrangements.*
- *The sharing of best practice and continuous improvement.*
- *Efficient arrangements to access a sustainable supply chain delivering value for money.*

LLW Repository Ltd

National Waste Programme

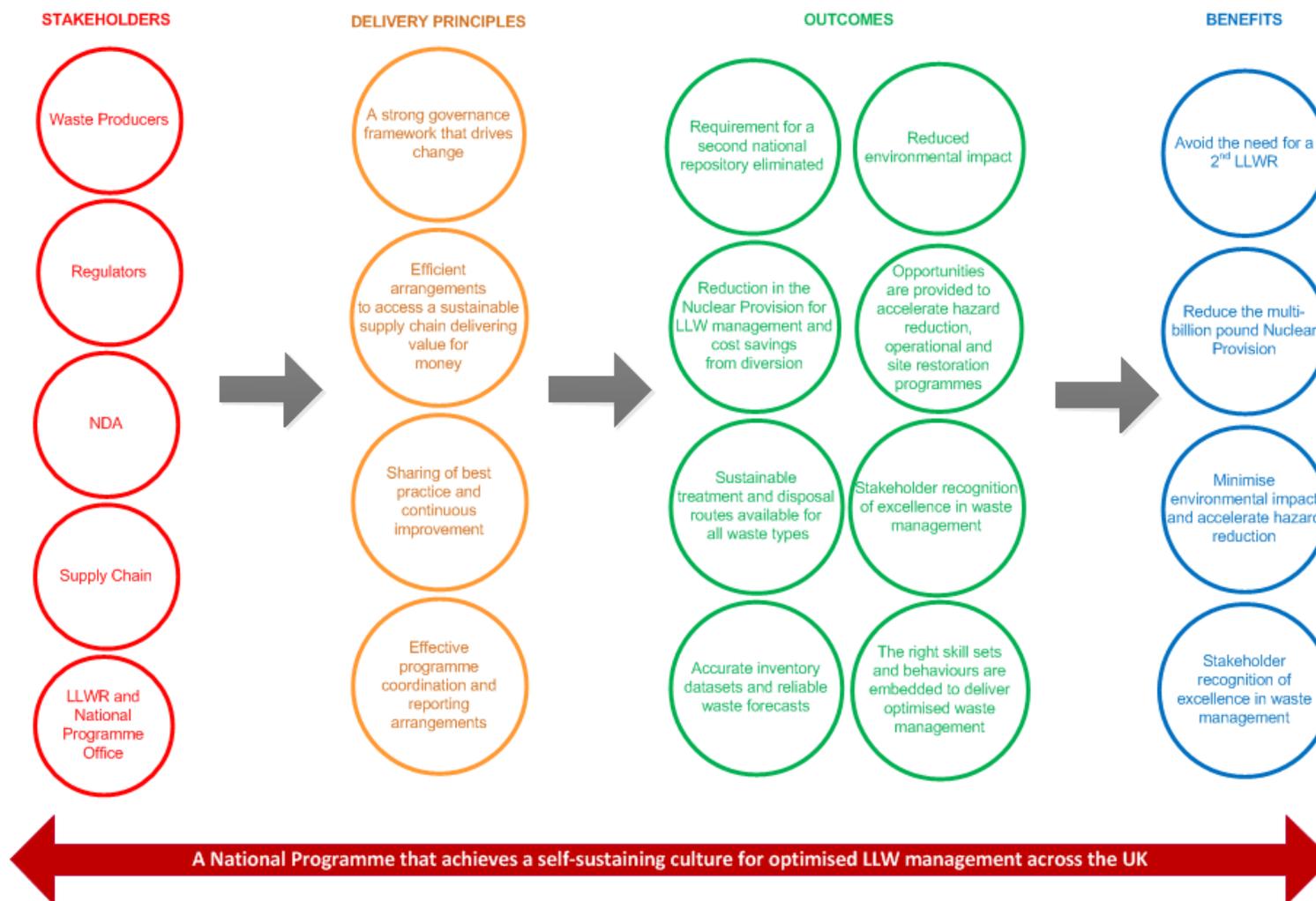


Figure 2 - National Programme stakeholders, delivery, outcomes and benefits

The National Programme involves the collective effort of a diverse range of stakeholders who, through the delivery of a wide range of activities, work together to optimise the management of LLW across the UK and so implement the Strategy. Figure 2 summarises the stakeholders, vision, mission, outcomes and benefits of the National Programme.

2.3. National Programme Blueprint and Benefit Map

A Blueprint is a model which defines the different states of a programme over time as it transitions to achieve its aims and objectives. The National Programme has a Blueprint which defines the baseline for LLW management in 2014 and then describes expected LLW management practice at two future states (2020 and 2030) as a result of implementation of the Strategy through the NWP. This Blueprint is publically available via the LLWR website (www.llwrsite.com) and is shown in Figure 3.

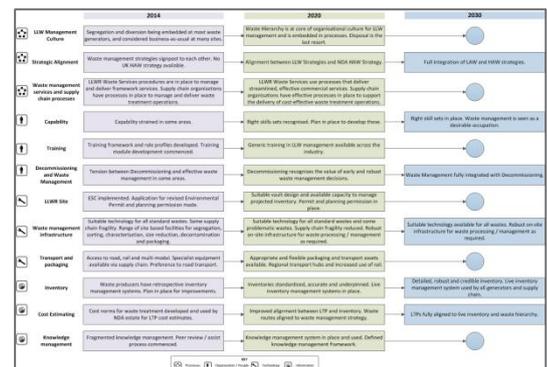


Figure 3 - NWP Blueprint Roadmap

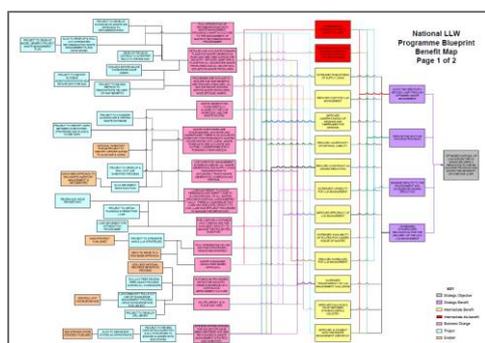


Figure 4 - National Programme Benefit Map

Transforming LLW management in the UK, through the implementation of the Strategy, will deliver significant benefits. The NWP Programme Management Office (PMO) undertakes benefits management to identify, evaluate and manage benefits to ensure that the National Programme successfully achieves its vision (as detailed in section 2.2). A Benefit Map, shown in Figure 4, has been developed for the National Programme (available via www.llwrsite.com) and is maintained by the NWP PMO; with periodic review via the National Programme governance arrangements.

2.4. Organisational Structure and roles / responsibilities

The organisational structure of the National Programme is summarised by Figure 5.

There are a wide range of stakeholders engaged in the delivery of the National Programme including waste producers (NDA and non-NDA), LLWR, the supply chain, regulators, NDA and UK Government. The actions of all NWP stakeholders are vital to the successful implementation of the Strategy. The roles and responsibilities for the different players in the National Programme are summarised by Figure 6.

National Waste Programme

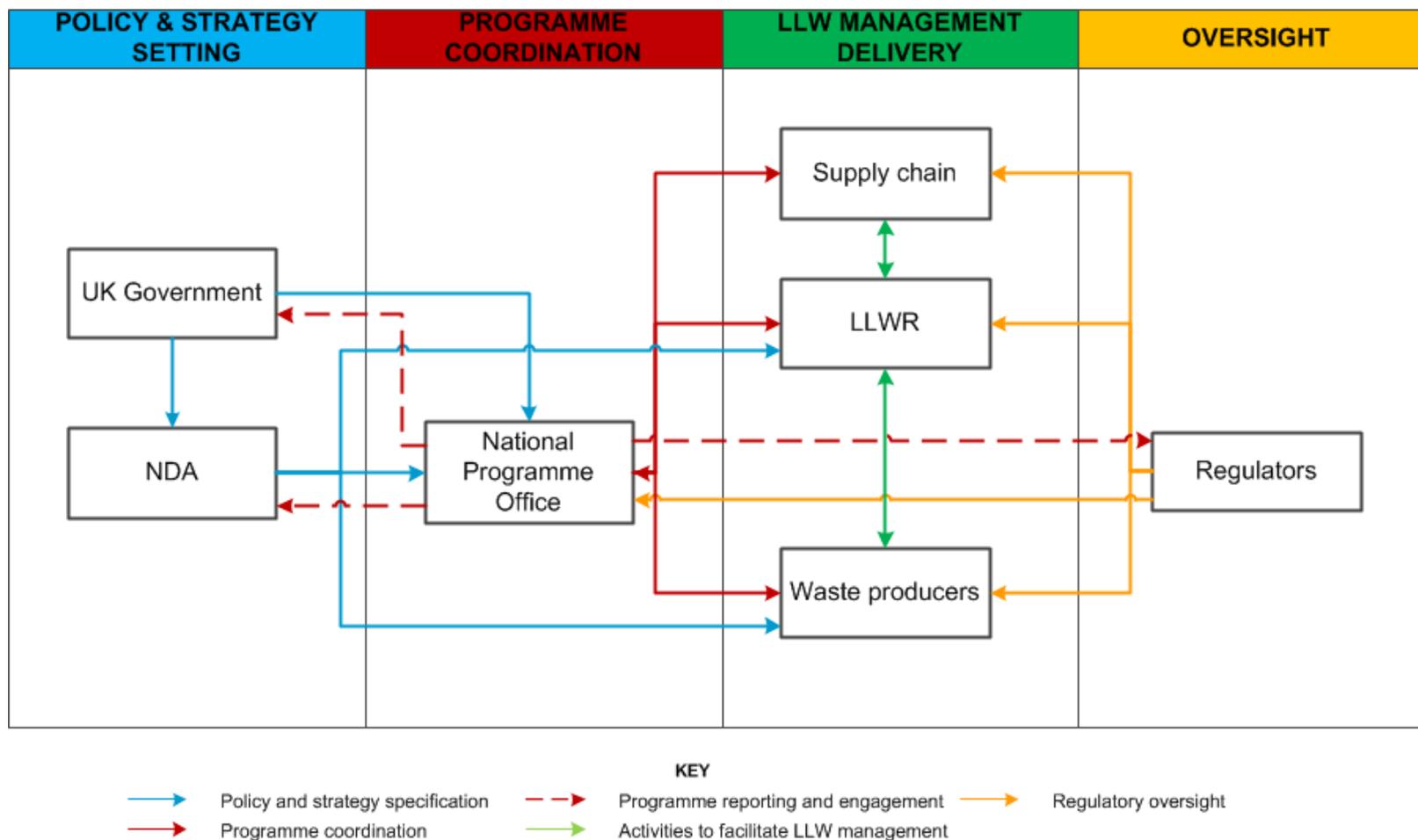


Figure 5 - National Programme Organisational Structure

National Waste Programme

Figure 6 – NWP Roles and responsibilities

Stakeholder	Role	Responsibilities
UK Government	To sponsor and own the Strategy and UK Policy for management of solid LLW.	<ul style="list-style-type: none"> Ownership and publication of the UK Policy for solid LLW management. Ownership and publication of the Strategy. Provision of funding to the NDA.
NDA	To implement the UK Policy for solid LLW management and the Strategy on behalf of the UK Government, through sponsorship of the NWP.	<ul style="list-style-type: none"> Specification of the requirements for LLW management through client specifications, site strategic specifications and incentivisation. Prioritise delivery through appropriate commercial mechanisms. Assessment of impacts on other National Programmes. Approve changes to Lifetime Plans (LTPs). Funding delivery of the NWP through LTPs. Provision of strategic direction for unresolved issues to waste producers.
National Programme Office	To lead the implementation of the Strategy through the coordination of the National Programme.	<ul style="list-style-type: none"> Collation, reporting, coordination, communication and strategic underpinning of the NWP. Support and promotion of collaborative learning and the embedding of best practice in LLW management across the UK.
Waste producer	To manage their LLW in accordance with the Strategy and to support the NWP.	<ul style="list-style-type: none"> Management of LLW in accordance with the Strategy. Engagement and interaction with the NWP. Identification of opportunities to improve LLW management practices. Management of risks associated with LLW management. Where applicable, the safe management and usage of on-site / near-site infrastructure for LLW management.

LLW Repository Ltd

National Waste Programme

Stakeholder	Role	Responsibilities
LLWR	Provision of waste treatment frameworks to provide waste producers with access to alternative waste treatment and enabling services. To provide the UK with LLWR disposal capacity via the safe stewardship of the LLWR site.	<ul style="list-style-type: none"> • Provision of waste routes and suitable commercial contracts for treatment and disposal. • Provision of enabling services such as characterisation, packaging and transport. • Assessing whether waste meets the Waste Acceptance Criteria (WAC) for disposal. • Acting as gatekeeper for the LLWR site. • Provision of support to waste producers to identify innovation and manage risks. • Safe operation and stewardship of the LLWR site.
Supply chain	To provide capability and capacity for the management of LLW.	<ul style="list-style-type: none"> • Provision of fit-for-purpose waste routes and LLW management infrastructure. • Provision of support to waste producers to identify innovation and mitigate against risk realisation.
Regulators	To provide oversight to the management of LLW in the UK across waste producers, the supply chain (as appropriate) and LLWR.	<ul style="list-style-type: none"> • Issuing permits / authorisations to allow waste to be treated and / or disposed. • Granting site licenses. • Enabling treatment routes to open. • Ensuring that Government strategy for LLW management is implemented safely and with minimal environmental impact through guidance and regulation of waste management activities. • Ensuring legislative requirements are implemented and issuing supporting guidance.

National Waste Programme

2.5. How does the National Programme deliver its objectives?

The work of the National Programme is delivered through two distinct work areas, summarised in Figure 7. These two aspects of the National Programme are described in detail in sections 3 and 4.



Figure 7 - The work scope of the National Waste Programme

3. Programme Management

3.1. Planning and Scheduling

The National Programme is focussed on transforming LLW management practice across the UK and so enables the implementation of the Strategy. This transformation in LLW management practice is achieved through the delivery of activities (projects) by waste producers and other programme stakeholders that enable a step-change in LLW management practice.

Planning of such transformational activities by a waste producer is achieved through the Joint Waste Management Plan (JWMP) process.

What is a JWMP?

A JWMP is a proactive management plan for the following rolling 5-year period, developed jointly by each major waste producer in collaboration with LLWR Ltd. The JWMP identifies and tracks the progress of activities to support the embedding of waste management practice aligned with the Strategy. The use of JWMP supports implementation of the Strategy and provides a tool for waste producers to communicate their plan and progress against this plan to stakeholders.

The production and management of JWMP is managed through the process described in RSP 3.08.02 *JWMP Production*. There are two distinct forms of the JWMP (described as Tier 1 and Tier 3 JWMP), which are utilised by different waste producers dependent on the size, scale and complexity of their waste management operations. Tier 1 JWMP are the most comprehensive and are produced by all NDA estate site licence companies and non-NDA estate organisations who manage larger volumes of LLWR. Tier 3 JWMP are produced by all other non-NDA estate organisations who engage with the NWP.

National Waste Programme

The Tier 1 JWMP contains:

- A Benefit Map describing the projects, enablers and business changes required to deliver benefits for the organisation and the NWP.
- A description of the day-to-day (business as usual) activities that deliver ongoing LLW management.
- A list of transformational activities – those activities that will be undertaken by the waste producer that will make a step-change in LLW management.
- A list of non-resourced opportunities – those activities which the waste producer could undertake to further optimisation of LLW management if more funding or resource was made available.
- A five year forecast of waste arisings for diversion and disposal on a site or organisational basis, including a forecast of packaging requirements.
- A summary of benefits including cost avoidance, carbon saving and repository life extension based on the five year forecast of waste arisings.

The JWMP are reviewed on a six monthly basis and are approved at director level by both parties as a commitment to the activities described within the plan. These JWMP are published on the LLWR website.

Benefit maps are produced by waste producers through the Tier 1 JWMP process to demonstrate how the waste producers' activities support the delivery of the programme benefits.

The Tier 3 JWMP is the simplest form of JWMP, consisting of the five year waste forecast of waste arisings for diversion and disposal on a site or organisational basis. The Tier 3 JWMP is produced using RSF 3.02_1 *Waste Forecasting Management Form*.

A schedule of activities has been developed and is maintained by the NWP PMO. This schedule is used to track the progress of transformational activities that contribute to the delivery of the highest priority business changes (i.e. those changes, in line with the NWP Blueprint, that in the near term will make the biggest positive impact to LLW management practice). The priority business changes are identified annually on a collaborative basis through discussion at a Monthly Programme Managers Meeting. The transformational activities that contribute to the delivery of these priority business changes are identified from the JWMP and are collated in the National Programme Key Projects Tracker (the schedule) by the NWP PMO. Waste producers provide quarterly updates on the status of these projects (as detailed in RSP 3.08.01 *Scheduling and Reporting*); enabling the National Programme Office to update and publish the schedule through the Quarterly National Programme Report (described in section 3.3).

3.2. Governance

In order to administer the NWP and to provide governance to the National Programme, a series of meetings are held to enable the transfer of information to stakeholders on progress and developments. The meeting structure for the National Programme is summarised by Figure 8.

National Waste Programme

The purpose and the Terms of Reference of the meetings described in Figure 8 are detailed in RSG 3.08.01 *NWP Meetings Terms of Reference*.

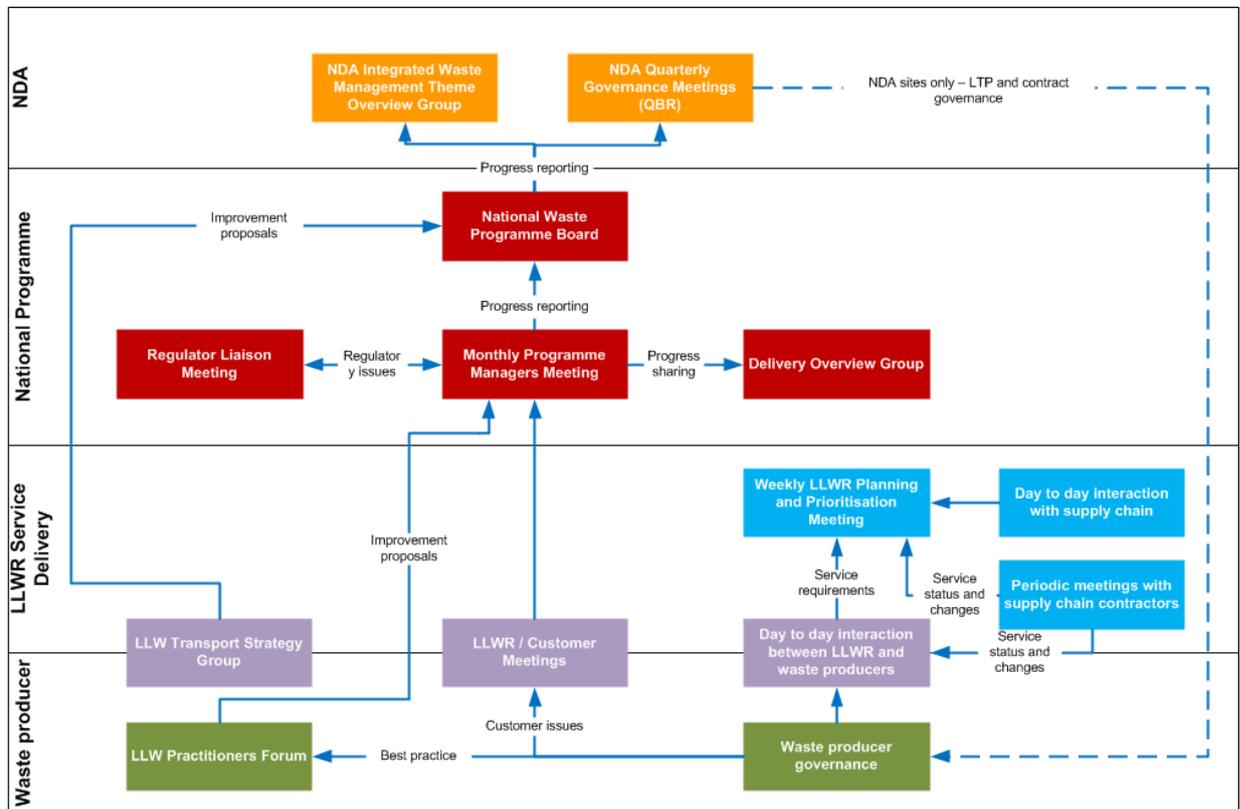


Figure 8 - NWP Meeting Structure

3.3. Communication and reporting

Communication with the stakeholders of the National Programme is an important aspect of the work of the National Programme Office. The NWP PMO shares information with its stakeholders on a range of topics including (but not limited to): the aims and objectives of the NWP, the progress being made in implementation of the Strategy, risks, opportunities, and LLW management best practice and lessons learned. Stakeholder communication is achieved using a range of tools including meetings (as shown in Figure 9), reports, presentations, hosting visits to the LLWR, publishing information on the LLWR website and NDA Knowledge Hub. The NWP PMO acts as a hub for information sharing for stakeholders of the National Programme.



Figure 9 - Communication with NWP stakeholders at the Delivery Overview Group

National Waste Programme

Reporting is used by the National Programme Office to provide information to NWP stakeholders on the progress being made across the Nuclear Industry in the implementation of the Strategy and the realisation of the National Programme benefits. Reporting involves the collation of information from a range of sources, its analysis and its presentation in different report products.

The National Programme Office collects and collates a range of waste metrics from waste producers and within LLW Repository Ltd to identify:

- Volumes of waste diverted from disposal at the national LLW Repository.
- The volume of disposals of waste to landfill, on-site / near-site disposal facilities and to the national LLW Repository.
- The availability and usage of diversion and disposal routes by waste producers.
- Key transport and packaging metrics such as package re-use and number of road and rail shipments.
- Safety and environment metrics such as CO₂ impact.
- Cost norm data for all projects relating to the delivery of metallic, combustible and VLLW waste management services through LLWR framework suppliers.

The National Programme produces five key reports (see Figure 10):

- NWP Dashboard – this monthly report provides a summary of the waste metrics and is used to update stakeholders on the progress that is being made to implement the Strategy. This report is publically available and is published on the LLWR website (www.llwrsite.com).
- NWP Monthly Progress Report – this monthly internal report is shared between the waste producer Programme Managers and the NDA to provide information on successes, issues, opportunities, threats and metrics.
- Quarterly Business Report (QBR) – this report provides a detailed narrative on progress in the National Programme and is produced by the NWP PMO in conjunction with LLWR Service Delivery and waste producers. This report is submitted to NDA on a quarterly basis.
- Quarterly National Programme Report – this quarterly report provides a wide ranging overview of progress in the National Programme, including the NWP schedule, and is issued to a range of stakeholders by the NWP PMO.
- Major Programmes Report (PGR) – this report is produced for the NDA on a six-monthly basis and provides an executive level summary of progress within the Programme.

Reporting is undertaken by waste producers and the NWP PMO in line with the process detailed in RSP 3.08.01 *Scheduling and Reporting* (for the NWP Monthly Progress Report, QBR, Quarterly National Programme Report and the PGR) and RSP 3.08.04 *Dashboard Production* (for the Dashboard). Figure 10 shows the range of reports produced by the National Programme Office.

National Waste Programme

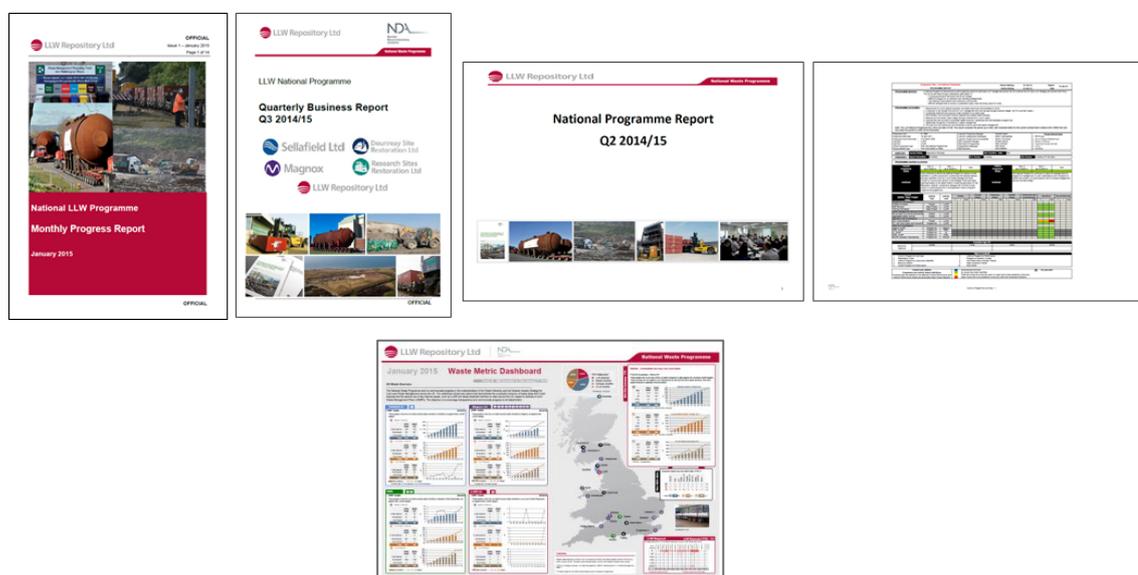


Figure 10 - NWP Reports

3.4. Risk management

In order to ensure the successful delivery of the National Programme to deliver the Strategy, the NWP PMO manages a strategic risk management process (as detailed in RSP 3.08.05 *Risk Management*). Strategic threats and opportunities are identified collaboratively with National Programme stakeholders; and are recorded on the National Programme Risk Register (which is managed in-line with NDA requirements for risk management via the LLW Repository Ltd risk management process). The strategic risk register is reviewed on an annual basis through the Monthly Programme Managers Meeting and the Programme Board.

3.5. Management System

The National Programme maintains a management system that aligns with LLWR's ISO 9001 management system. The National Programme management system includes procedures that document the activities of the NWP PMO to ensure that progress towards achieving the programmes required outcomes is tracked and maintained. A summary of the NWP management system is provided in Figure 11.

3.6. Knowledge management

Knowledge management – the process of capturing, developing, sharing and effectively using knowledge – is an important enabling aspect of the National Programme. Effective knowledge management supports the implementation of the Strategy through enabling the sharing and implementation of best practice in LLW management. Knowledge management also supports minimising the duplication of effort, prevents the repetition of errors and ensures that capability is maintained over time. Knowledge management is practiced by the NWP through meetings (section 3.2), reporting (section 3.3) and collaborative learning / best practice sharing (section 4).

National Waste Programme

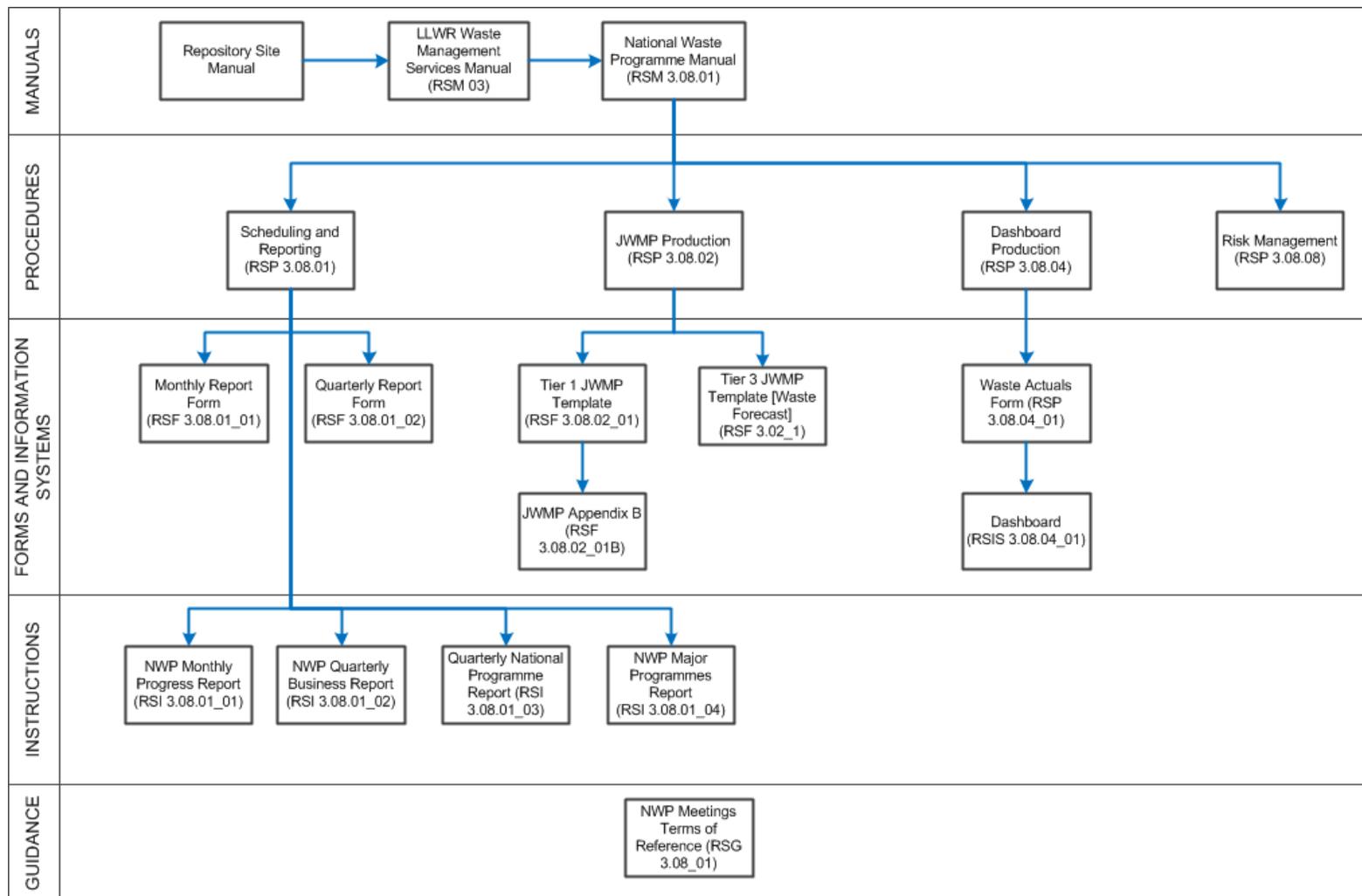


Figure 11 - NWP Management System

4. Collaborative learning and sharing best practice

Collaborative learning and sharing best practice is a key aspect of the NWP. It is recognised that the sharing best practice and lessons learned on LLW management provides vital information to the wider LLW management community to support the embedding of optimised LLW management practices in line with the Strategy. Collaborative learning and sharing of best practice directly supports knowledge management and so delivers a range of other benefits such as reducing duplication, reducing the frequency of repeated mistakes, enhancing the sharing of resources and maintaining capability.

Stakeholders of the NWP engage in collaborative learning and sharing best practice through a variety of ways including:

- Hosting and participating in site visits.
- Participating in forums such as the LLW Practitioners Forum.
- Delivery of collaborative projects between organisations.
- Sharing of information between organisations on lessons learned and best practice.
- Provision of advice and guidance between sites / organisations.

The NWP PMO directly supports collaborative learning and best practice sharing through facilitation and participation in the previously described activities, as well as (as shown in Figure 12):

- Production of guidance documents on LLW management practice.
- Production and sharing of tools to assist National Programme stakeholders particularly waste producers, such as the LLW Cost Norm Model.
- Delivery of technical analysis.
- Development and maintenance of National Strategic BAT studies for the main waste populations and routes.
- Inventory development, improvements and analysis.
- Commissioning and delivery of appropriate Research & Development.
- Sharing of best practice.
- Development and implementation of a training framework.
- Facilitating and coordinating Peer Reviews and Peer Assists.

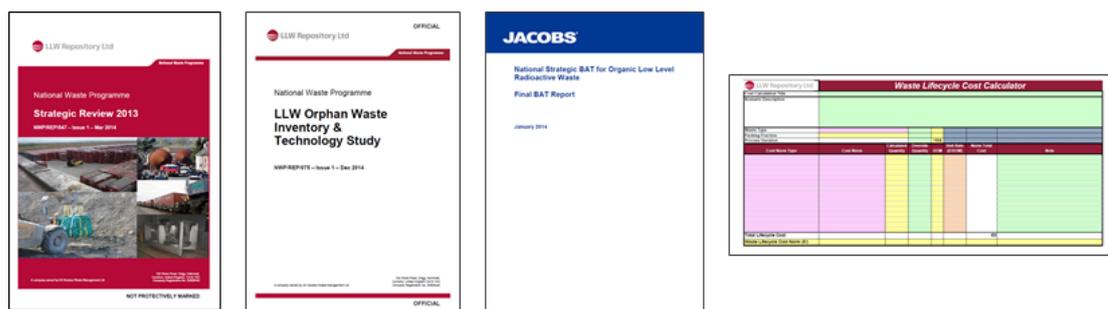


Figure 12 - Examples of NWP collaborative learning and best practice

National Waste Programme

4.1. Training Framework

The development and implementation of a training framework has been introduced to the NWP to support the embedding of LLW management best practice through enhancing the skills and knowledge relating to LLW management across the Nuclear Industry.

The NWP PMO delivers the training framework by:

- Identifying training module needs and ideas through interaction with NWP stakeholders.
- Developing and making available training modules based on these training needs. Training modules may be classroom and / or e-learning modules, depending on the complexity of the subject matter and stakeholder preferences.
- Maintaining the training modules to ensure that they remain current and fit-for-purpose.
- Interaction with Cogent, the Sector Skills Council for Nuclear, and other interested bodies.

Management of the training framework is undertaken as described in NWP/REP/035 *NWP Training Framework*.

The training framework is needs driven and the perspectives of NWP stakeholders on module ideas, format preference and prioritisation is a key input to the range, type, format and schedule of training modules. NWP stakeholders are engaged with the training framework through the suggestion of training ideas, discussion of training needs and priorities with the NWP PMO, use of the available training modules and provision of feedback on the training framework.

4.2. Peer Reviews and Peer Assists

The Peer Review and Peer Assist frameworks (Figure 13) were introduced by the NWP PMO to support those involved in LLW management in the identification and implementation of improvements to their LLW management practice.

The Peer Review process is a benchmarking tool which can be used by any organisation involved with the management of LLW to independently measure their LLW management arrangements and practice against a model of best practice and against their aspirations. Peer Reviews are delivered by an independent team of waste practitioners and strategy personnel from across the UK.

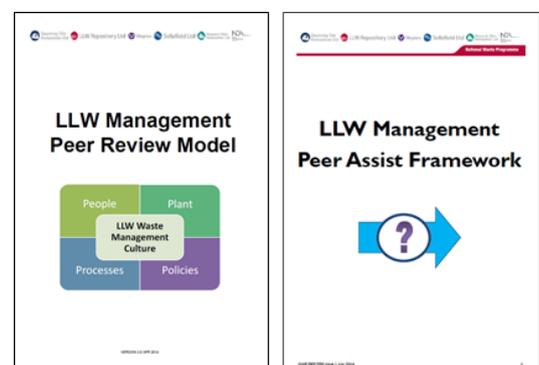


Figure 13 - The NWP Peer Review and Peer Assist framework documents

National Waste Programme

The Peer Assist process is a stand-alone but complementary process to the Peer Review, providing those involved in LLW management with a problem-solving tool which supports the identification and understanding of LLW management problems, and the identification of potential solutions.

NWP stakeholders are engaged with Peer Reviews and Peer Assists by:

- Collaboratively developing and maintaining the Peer Review and Peer Assist Frameworks with the NWP PMO.
- Hosting peer reviews and peer assists on their projects, plants or sites.
- Implementing the findings of peer reviews / peer assists within their organisations (as appropriate).
- Providing personnel to participate in peer reviews and peer assists hosted by other organisations.
- Reviewing and implementing good practice or lessons learned (as appropriate) identified from the peer review / peer assist programme at other sites.

The NWP PMO delivers the peer review and peer assist programme by:

- Coordinating peer reviews in line with the process defined in NWP/REP/036 *LLW Management Peer Review Model*.
- Coordinating peer assists in line with the process described in NWP/REP/058 *LLW Management Peer Assist Framework*.
- Coordinating the development and maintenance of the peer review and peer assist framework documents.
- Production of peer review and peer assist reports for the host sites.
- Production and publication of anonymised summaries of the good practice and opportunities for improvement identified through peer reviews and peer assists.

5. References

1. UK Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom, March 2007, Defra / DTI / Devolved Administrations
2. UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry , August 2010, NDA
3. National Waste Programme Blueprint
4. RSP 3.08.02 JWMP Production
5. RSP 3.08.01 Scheduling and Reporting
6. RSG 3.08.01 NWP Meetings Terms of Reference
7. RSP 3.08.04 Dashboard Production
8. RSP 3.08.05 Risk Management
9. National Waste Programme Benefits Map
10. NWP/REP/035 NWP Training Framework
11. NWP/REP/036 LLW Management Peer Review Model
12. NWP/REP/058 LLW Management Peer Assist Framework