

Corporate Plan

2016/17 - 2036

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Preface

Sellafield Ltd became a subsidiary of the Nuclear Decommissioning Authority on 1 April 2016. The Nuclear Decommissioning Authority has clearly established delivery priorities from Government for safety, security and environmental responsibility whilst providing value for UK taxpayers' money. Sellafield Ltd aligns to these priorities.

The Sellafield Ltd/Nuclear Decommissioning Authority Services Agreement makes Sellafield Ltd responsible for periodically developing and delivering a Corporate Plan. The Corporate Plan details the key activities that will take place across the site over the next 20 years. It is consistent with the Nuclear Decommissioning Authority's Strategy and Site Strategic Specification and with the detailed three year view presented in the Sellafield Ltd Operating Plan.

The Corporate Plan

→ ① Communicates the short and medium-term objectives at Sellafield Ltd aligned to Nuclear Decommissioning Authority Strategic Themes and Priority Outcomes.

→ ② Includes a summary of key elements in the Baseline Plan and information on how these will be delivered through enabling and improvement strategies.

→ ③ Includes scenarios and options that communicate the assumptions that underpin the medium-term plans and highlight the key decision points.

→ ④ Is a communication tool for the Executive team.

Preface continued

The Corporate Plan is approved by the Sellafield Ltd Board and endorsed by the Nuclear Decommissioning Authority. It describes the business strategy and identifies opportunities for strategic change. The Nuclear Decommissioning Authority will hold the Sellafield Ltd Board to account for delivery. The Corporate Plan is intended as a reference document which will be available to inform key stakeholders of current and potential future activities, options and opportunities. It is a tool to communicate the medium-term direction of Sellafield Ltd. Together, the Sellafield Ltd Baseline, Operating and Corporate Plans form the suite of documents which are used by the company to articulate how it will manage the business and what it plans to do in the short, medium and long-term.

The NDA Strategy 3 informs the Sellafield Ltd Strategy which describes the activities that Sellafield Ltd will carry out as a business. The Sellafield Ltd Strategy is currently under review following the change in ownership model. The development of the corporate calendar will detail the various document production timescales and the input and approval routes of these documents. The definition of the Operating Plan, Corporate Plan and Baseline Plan is detailed opposite.

→ Corporate Plan

The Corporate Plan is a 20 year view of the business deliverables and milestones and is therefore an articulation of the business strategy. It details the environment in which the business will operate as well as referencing the wider business context. The Corporate Plan identifies key risks, uncertainties and opportunities in the planning period. Eventually, the document will be reviewed and updated every five years although it is anticipated that it will take three versions and three years to reach the level of standard definition required.

→ Operating Plan

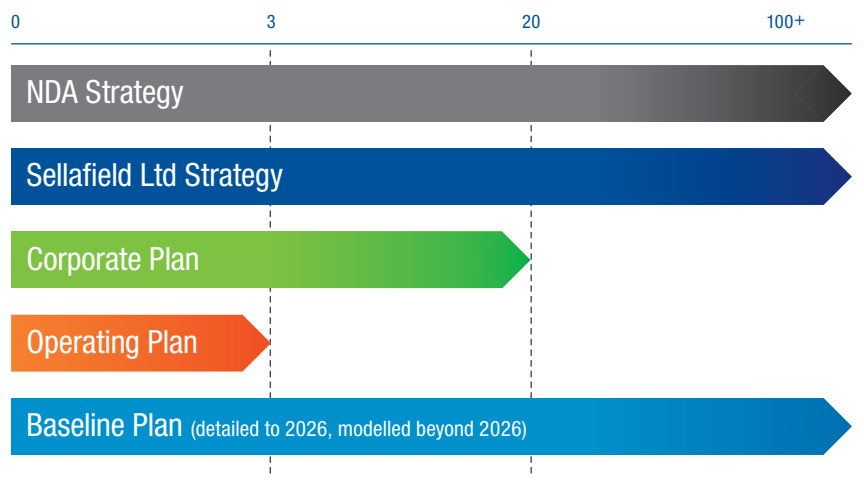
The Operating Plan is a three year view of key deliverables and costs from the baseline and in year targets agreed between Nuclear Decommissioning Authority and Sellafield Ltd. Opportunities for strategic changes will be identified along with the potential for improvement plans and how functional plans will support delivery.

The Operating Plan will recognise the constraints and boundaries within which the baseline and the various functional and improvement plans have been developed.

→ Baseline Plan

The Baseline Plan is the current plan and is used for performance monitoring and informing the site licence annual site funding limit, as well as the Annual Report and Accounts and the Site Liability Estimate. The Baseline Plan is subject to additional change controls to reflect the best estimate. It provides a long-term view.

Planning document time horizons (years)



Foreword

We have a very clear mission to deliver at Sellafield. Our task is to reduce the risks and hazards associated with our legacy facilities, to continue to safely manage nuclear materials and waste, and to complete our reprocessing contracts; all while keeping the site safe and secure.

The Baseline Plan gives a detailed description of all that needs to be done to complete our mission over the next century plus. It contains many assumptions on choices that will be made and in the outer years, technology, preferences and choices against options will ensure this picture evolves. A more robust and underpinned set of activities for the next three years is set out in our Operating Plan. This programme of practical activity ensures that we and the Nuclear Decommissioning Authority have a clear and agreed programme for the Sellafield site.

This first iteration of our Corporate Plan sets out the progress we intend to make against our strategy over a 20 year time frame. This is a period in which we can see really meaningful progress and change taking place.

In accordance with this plan we will see reprocessing complete by 2020 and major progress made in tackling many of our most hazardous facilities – the legacy ponds and silos. The Plan also highlights some of the choices we need to make on forward options. We can do this by fully understanding and describing the associated

benefits offered by these choices. For some decisions, such as the one relating to end states for example, need to be made by the NDA working in partnership with Government and the local community.

The Plan also recognises that we have committed to consistently improving our performance and to achieving enhanced productivity to give better value for the tax payer. As an organisation, we will also continue to invest in enhancing our security and emergency preparedness arrangements. A transformation agenda will set out the way in which we can be sharper and will ensure that everything we do is geared to the key element of delivery. The transformation agenda will set out the changes that we need to make as an organisation to deliver our mission more efficiently and in a way that creates a more diverse and sustainable nuclear industry in our area. It will also help us monitor our progress.

The Corporate Plan has been approved by the Sellafield Ltd Executive and Board but we all have a role to play in delivering the best possible future for our site and our communities.



Paul Foster
CEO, Sellafield Ltd
On behalf of the Sellafield Ltd
Executive Team



Tony Fountain
Chairman, Sellafield Ltd
On behalf of the Sellafield Ltd Board

Executive summary

1.0

The first Corporate Plan covers the planning period from 2016/17-2036. It sets out the decisions, key milestones and activities which will be prevalent during the period and references the enablers which support both current and possible future activities.

The Plan discusses the uncertainty which faces Sellafield Ltd and the milestones contained within the document reflect the current position but are subject to change.



This Plan is written in a period of change. Although the future direction of the business is established, there is a level of detail still to be defined in relation to how the organisation will transform. It is anticipated that further versions of the Corporate Plan will be produced to take account of the changing environment until a standard definition is achieved.

The Corporate Plan will inform the production of the next Operating Plan in the autumn of 2016 (for the period 2017–2020). It provides the detail of the direction of the business in pursuit of maintaining a safe and secure site, demonstrating progress and giving a return on investment.

Sellafield Ltd has obligations as the site licensee to ensure the safe and secure stewardship of the Sellafield site. In its current form, Sellafield Ltd has a relatively large and complex centrally controlled organisation which is necessary to enable the prioritisation and integration of competing activities and exertion of tight strategic control.

Sellafield Ltd is already undergoing changes as a business to reduce costs and realise efficiencies and the Plan recognises that changes will progress over the period. There will be a significant change in organisational mission with the cessation of reprocessing activities in the early part of the Plan period. There is recognition that changes need to be made to enable a smooth transition from reprocessing to post operational clean out and decommissioning. An overview of the planned transformation programme is

described in the document and it explains how the business will be managed across value streams, these being: Retrievals, Remediation, Special Nuclear Materials and Spent Fuel Management. Decommissioning of the majority of high hazard facilities will have progressed during the period to a point where hazard and risk is significantly reduced.

The Plan recognises the external influences, risks and uncertainties which have the potential to impact on Sellafield Ltd; the aim is to deliver against current milestones and plans whilst pursuing an ambition of becoming a high performing organisation. Sellafield Ltd will implement improvements in efficiency and effectiveness, with visible evidence of this available before the next anticipated Government Spending Review in 2020. Sellafield Ltd will change as an organisation to meet the change in mission. A transformation programme will be established to deliver the requisite changes to make Sellafield Ltd more adaptable and capable by 2026 (at the end of the Baseline Planning period). Innovation, a resilient economy knowledge management, local community support and demonstrated corporate social responsibility will enable this to happen.

Sellafield Ltd recognises that there is an opportunity for improved performance through greater collaboration with the supply chain and a partnering approach to delivery will be adopted in the future where practicable and advantageous and where

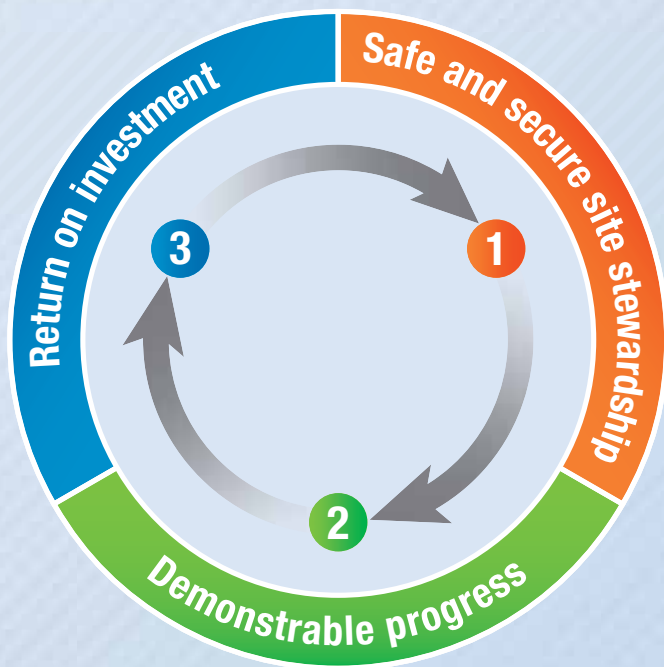
there is a match between organisational cultures and values. Make/Buy decisions will be taken to provide maximum benefit in the delivery of the Sellafield Ltd mission (both near and long-term), making best use of the available capability both internally and within the supply chain. Sellafield Ltd will retain the core skills necessary to manage the programme of work and will act as a centre for nuclear expertise as directed by UK policy and strategy.

By 2026, Sellafield Ltd will be recognised both as a leading nuclear enterprise and as a national asset. By 2036, at the end of the Plan period, Sellafield will have achieved a number of key milestones; reprocessing operations will have been completed and the Post Operational Clean Out of many of the associated facilities will have been completed. In addition, the nuclear inventory will have been removed from three of the four legacy pond and silo facilities. On completion of these milestones, Sellafield Ltd will have delivered significant hazard reduction. Coupled with the transformation activities that Sellafield Ltd will undertake, the organisation will be recognised as efficient, agile and innovative. By meeting and exceeding expectations, Sellafield Ltd will offer the UK Government and the Nuclear Decommissioning Authority future options and opportunities in support of the nuclear agenda.

Organisational purpose and context

2.0

Sellafield Ltd is committed to meeting three key strategic objectives. These are providing:



As the site licensee, Sellafield Ltd is responsible for delivering the organisation's programme of work in a safe; secure and environmentally responsible manner. Meeting organisational milestones in a cost-effective way will be essential in demonstrating progress and providing a return on investment to Government and the UK taxpayer.

Over the duration of the Plan period, Sellafield Ltd will conduct a series of projects which will progress the mission to reduce the hazard and risk at Sellafield. This section is an overview of activities which will either enable or significantly contribute to hazard and risk reduction.



Reprocessing operations will be concluded and the facilities will transition to Post Operational Clean Out and decommissioning will be under way. In the case of Calder Hall, the reactors will be defuelled.

Work will progress in a number of the legacy facilities to significantly reduce and in some cases remove the overall risk. In the case of the first Sellafield reprocessing plant, the 61 metre chimney stack will be removed to the 6.3 metre level, effectively removing the hazard.

The completion of key decommissioning milestones will result in the nuclear inventory being removed from three of the four legacy pond and silo facilities i.e. the Pile Fuel Storage Pond, the First Generation Magnox Storage Pond and the Pile Fuel Cladding Silo. Although the programme of work associated with decommissioning the Magnox Swarf Storage Silo will continue beyond the Plan period, the programmatic hazard and risks associated with the facility will be significantly reduced.

The stock of highly active liquid waste, resulting from over 60 years of reprocessing activities, will be vitrified (turned in to a solid form to enable safe long term storage). The associated facilities will be cleaned out and will be waiting decommissioning.

Sellafield Ltd will continue to invest in essential assets and infrastructure to support the decommissioning programmes and also to ensure that the site remains compliant with changes in legislation. Essential improvements will be made to the site's electrical distribution system; a new steam generation plant will be completed, which is essential from asset maintenance as well as a personnel welfare perspective. In addition, work will continue to replace the analytical capability at the site, necessary for ongoing and future site operations.

In addition to the operations and decommissioning activities, Sellafield Ltd will continue to receive and store material from other UK nuclear sites in support of national strategy requirements supporting the generation of base-load electricity.

Sellafield Ltd has a performance ambition to transform the organisation so that it is recognised as a delivery organisation; meeting commitments; recognised both as a leading nuclear enterprise and as a national asset which offers the UK Government value, opportunity and future choices in support of the UK nuclear agenda and future nuclear missions. Sellafield is already on this change journey to transform the organisation to a more cost-effective and financially agile organisation. This will realise commitments which have already been made to reduce costs and become more efficient.

The aim to be high performing, respected and agile means that the organisation will be able to respond to changes in the operating environment whilst delivering effective and efficient high hazard and risk reduction. Sellafield Ltd will deliver in a safe, secure and environmentally responsible manner. Sellafield Ltd will be responsible for delivering a positive socio-economic impact, with oversight from the NDA, to support the development of resilient and thriving local economies near to the Sellafield and Risley sites.

To achieve the overarching transformation performance ambition, Sellafield Ltd must continue to create an environment that supports change, delivery and innovation which will help the organisation to meet and even exceed challenging performance objectives, set by the Executive team and agreed with the Nuclear Decommissioning Authority and Government. Demonstrating the ability to deliver the Baseline Plan and managing existing hazards and risks, as well as creating a continuous improvement working environment, is essential to the ongoing success of the business in the longer term.

Sellafield Ltd has already made some significant advances in providing better value and positioning itself differently within the local community, in terms of supporting the increase in self-reliance within the local economy. For example, the introduction of "New Terms for New Starters" will realise a significant lifetime cost benefit to Sellafield Ltd and the UK taxpayer. In addition, the change to employment terms will have an added socio-economic benefit for the community. By offering terms and conditions which are consistent with the wider market, local businesses will be able to attract and retain resource and compete for other work from both inside and outside the region. Sellafield Ltd will continue to work with the community and suppliers to support the evolution from a Sellafield centric economy to a nuclear economy, where supply chain organisations can compete successfully for additional work out with the immediate environs of Sellafield Ltd. Growth and the development of resilient local economies will be dependent on the desire and commitment of the local community and supply chain to embrace change.

In addition, within the organisation, Sellafield Ltd will consider new ways of incentivising business areas to ensure delivery of performance outcomes. The organisation has embarked on an Organisation Design and Grading project to ensure it is appropriately structured to deliver best value. The implementation of the design and grading project will continue to develop and it is expected that this will be implemented in the initial period of the Corporate Plan. In addition, the organisation will introduce value streams (discussed in section 7) which will ensure that the organisation is appropriately focused to improve performance.

Organisational purpose and context continued

→ Milestones

	Business area and milestone description including some key decommissioning milestones	Latest expected date
	Pile Fuel Storage Pond Bulk sludge retrieved from pond* Pond emptied**	2023 2029
	First Generation Magnox Storage Pond Bulk sludge retrieved from pond Bulk fuel retrieved from pond	2023 2031
	Magnox Swarf Storage Silo First retrievals from the silo started Bulk retrievals from the silo started	2020 2022
	Pile Fuel Cladding Silo First retrievals from the silo started Bulk retrievals from the silo started Bulk retrievals from the silo completed	2020 2023 2030
	First Generation Reprocessing Plants Reduction in the height of the chimney from the First Reprocessing Plant (Separation Head End Stack) to the 6.3 metre level	2018
	Highly Active Liquor Bulk highly active liquor stocks vitrified Highly Active Storage Tanks and vitrification plant cleaned out and waiting decommissioning	2022 2034

*Bulk refers to the majority of material which can be accessed and removed through the use of existing or planned equipment.

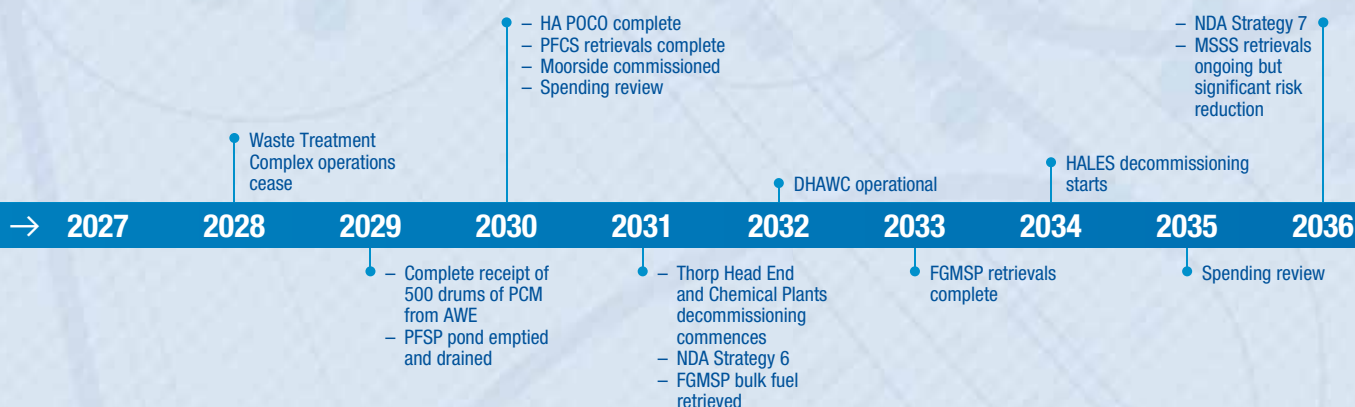
**Empty comprises the removal of radioactive material and draining of the pond water.

Timeline of key activities at Sellafield Ltd



→ Milestones

	Business area and milestone description including some key decommissioning milestones	Latest expected date
	Magnox Reprocessing Complete reprocessing including the defuelling of Calder Hall	2020
	Thorp Reprocessing Cease reprocessing	2018
	Expected last receipt of fuel from EDF stations for storage	2034
	Plutonium Contaminated Material Final receipt of material from Harwell	2022
	Final receipt of material from Atomic Weapons Establishment	2029
	Safe Storage of Special Nuclear Material Final receipt of unirradiated Special Nuclear Material at Sellafield for safe storage in line with national consolidation strategy requirements	2017
	Infrastructure Services Essential improvements to Electrical Distribution Network	2021
	Completion of the new Steam Generating Plant Project – continued provision of steam to site and improvements in line with changes to environmental legislation	2020
	Replacement Analytical Services High Active Capability to support future site missions	2026
	Security and Resilience Main Site Command Facility	
	– Interim Operational Capability Established – Full Operational Capability Established	2019 2020



Organisational purpose and context continued

2.1 A period of change

Sellafield Ltd is facing a period of unprecedented change and over the duration of the Plan, the organisation will go through a number of transitions which will change its future shape and size. Sellafield Ltd needs to be flexible, agile and responsive, with an organisational culture which supports change. Sellafield Ltd must improve performance whilst working differently with the supply chain to achieve performance outcomes.

The Sellafield Ltd mission will change in 2020 with the completion of reprocessing operations and the shift of focus to high hazard retrievals, risk reduction and broader decommissioning activities.

As the mission changes, there will be impacts on the future business demand, with a significant reduction of resource required post-reprocessing. This transition will also see a shift in core skill requirements. Re-skilling and training will be required to support the changing skill profile of the organisation and mobilisation of the workforce. This change in requirement could mean an opportunity to reskill the workforce to meet the needs of other missions as well as presenting the opportunity to work differently with the supply chain and in some cases augmenting the skills in supply chain organisations.

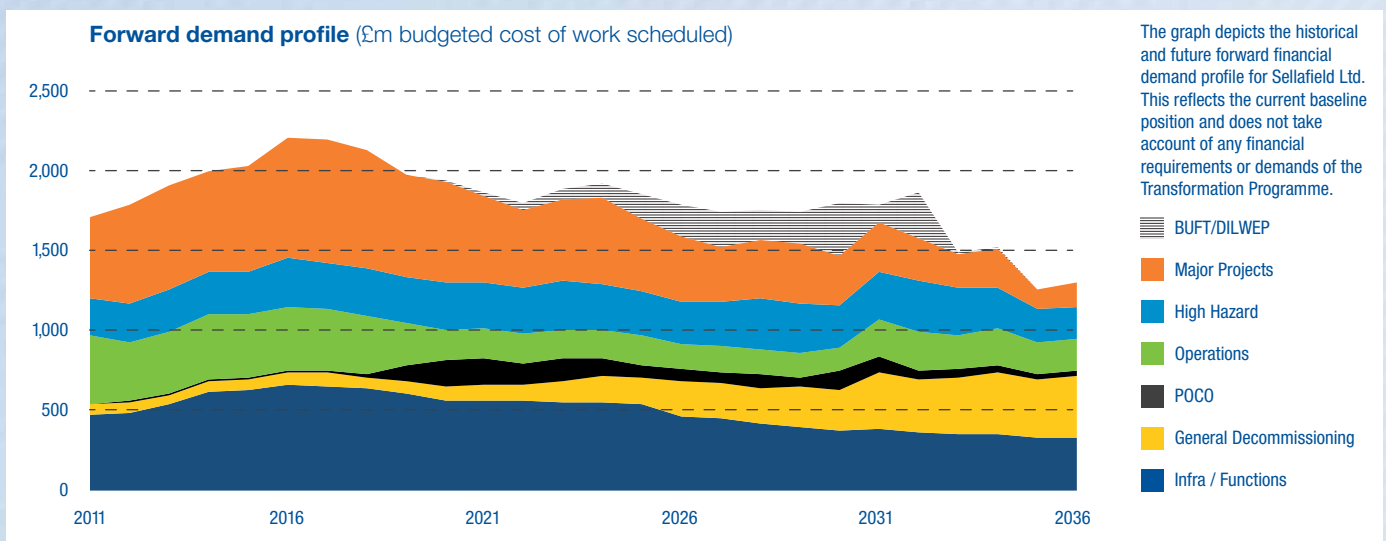
By 2036, significant risk reduction in the legacy pond and silo facilities will have been achieved. Retrievals will be ongoing in the Magnox Swarf Storage Silo but the majority

of programmatic hazards and risks will have been removed. The legacy Sellafield facilities will have transitioned through post operational clean out in to decommissioning. Continued safe and secure storage of nuclear materials will be a dominant feature of operations.

Sellafield Ltd will continue to operate in a financially constrained environment and must be able to respond to fluctuations in funding. The organisation must be able to prioritise work effectively to meet funding levels.

The amount of scope delivered at Sellafield Ltd has increased year on year to a position of £2.2 billion planned for financial year 16/17 (16/17 monetary values) (albeit it is intended to be delivered for £2bn), primarily due to the ramp up of major capital projects as new waste routes are established to enable the commencement of retrievals from high hazard facilities.

The scope of work planned by Sellafield will reduce to approximately £1.8 billion per annum by 2026.



Maintaining a focus at Sellafield Ltd

3.0

Due to the nature of the liability at Sellafield, there is a requirement for a national focus to be maintained and funding directed to the portfolio of work to enable the hazards and risks associated with the legacy operations to be reduced.

Through the allocation of adequate continued funding, Sellafield Ltd can ensure that the hazards and risks (radiological and conventional), associated with former operations, continue to significantly reduce. In addition, continued funding is essential for maintaining a safe operating environment for the workforce and maintaining a responsible approach to relationships with the wider community surrounding the sites.

There are many interacting scope uncertainties and complexities on the highly interdependent site at Sellafield. A wide range of activities are carried out in legacy plants supported by ageing and difficult to replace infrastructure. One such example is the reliance of the Magnox Operating Programme on supporting effluent systems, site infrastructure and pipe-bridges. Additional challenges are also posed due to unknowns around some of the radiological inventories, particularly in the high hazard facilities.

As a result of previous decisions and operations in the 60s and 70s, radioactive materials have accumulated in a number of buildings and remained past the end of operations. For over five decades plant conditions have deteriorated and there is now an increased urgency to reduce the hazard and risk they pose. The facilities were not designed with decommissioning in mind so innovative technologies are being used to retrieve the materials and wastes for storage in modern containment facilities, in advance of final disposal solutions.

Throughout the Plan period, Sellafield Ltd will continue to focus effort on enabling the decommissioning of the legacy facilities to remove fuel and sludge and ensure that waste is packaged and stored safely and securely. It is expected that during the 20 year period, there will be a significant reduction of hazards and the risks associated with the legacy facilities.

Over the next five years, Sellafield Ltd will continue to play a vital role in the Magnox Operating Programme (MOP) by reprocessing the remaining spent nuclear fuel from the Magnox reactor fleet. This activity is finite but is key to demonstrating a responsible approach and commitment to managing the Magnox operations legacy.

In addition, the Sellafield site will continue to play a key part in the UK Advanced Gas-cooled Reactor (AGR) Operating Programme. The AGR fleet, consisting of seven power stations in England and Scotland, contributes significantly to UK electricity supplies. The Nuclear Decommissioning Authority is contractually committed to receive and manage all spent fuel from these reactors, including from any lifetime extensions. Sellafield Ltd provides the required spent fuel management services, currently consisting of buffer storage in ponds on site prior to reprocessing. After the closure of the Thermal Oxide Reprocessing Plant (Thorp) in 2018, the irradiated fuel will remain in interim storage in the ponds before a national decision is made in relation to ultimate disposition, potentially in a Geological Disposal Facility.



Uncertainties and risks

4.0

The Sellafield site is complex. It measures 6 square kilometres, which given the number and scale of facilities accommodated, presents complexity in itself. There are many physical and process interconnectivities and interdependencies between the facilities which makes the operation and management of these challenging.

Due to this interconnection and interdependence, projects and programmes are inextricably linked and milestone delivery is dependent on numerous contributing factors. Current planning processes and assumptions also present a level of uncertainty which can impact on overall milestone delivery timescales. Small changes in programmes can have a wider impact across the organisation in terms of overall milestone delivery as planning assumptions have been made and built in to plans. Sellafield Ltd will improve the programme management capability both internally and by engaging external expertise.

Change will dominate the 20 years of the Corporate Plan period. During this time, Sellafield Ltd will need to transform as an organisation to meet existing commitments and to support future ambitions in a highly uncertain environment.

The following section details some of the uncertainties and risks which have to be managed and addressed within the Sellafield Ltd programme, whilst maintaining a safe and secure site. Throughout the period, progress will be made and more clarity will become available in relation to some of the issues identified, Sellafield Ltd will monitor and adjust plans accordingly to reflect and respond to any changes.

→ External risks that could change how Sellafield Ltd is able to perform

Progress in implementing a Geological Disposal Facility is an enabler to nuclear new build and therefore if a decision is taken not to progress with the nuclear new build programmes, there is the risk that there would be less urgency associated with the development of the Geological Disposal Facility. This has the potential to impact on Sellafield Ltd from a number of perspectives. Any delay in starting to export wastes to a Geological Disposal Facility beyond 2040 may drive a need for additional waste stores on site, or lead to a deferral of some of the decommissioning activities. There is an expectation that the waste acceptance criteria for a Geological Disposal Facility, once sited, will be less conservative than at present. Therefore, any deferral of a Geological Disposal Facility will reduce the opportunity in terms of developing more fit-for-purpose waste packaging solutions.

The final investment decision for a new nuclear facility at Moorside will be made within the Plan period – Sellafield Ltd will need to understand the impacts of new build taking place in close proximity to the existing site in terms of local transport, infrastructure usage and logistics. Sellafield Ltd will also need to make decisions in relation to resource plans etc. as there is also the potential for new build to impact on the ability to recruit scarce skills and resource. It does however, present an opportunity in that the supply chain and local economy will be more vibrant. Also, as the resource profile at Sellafield Ltd declines, there is a potential to work with Moorside operators to mobilise personnel with the appropriate skill matches.

External risks and influences are covered in more detail in section 5.

→ Potential opportunities to perform in a different (better) way than current plans assume

The Transformation Programme, improvements in the organisation structure, removal of existing constraints, changes to current strategy, improved decision making and accountability can all enable the organisation to perform better than current plans assume. This is difficult to quantify and therefore provides a level of uncertainty over the pace and magnitude of potential improvements. One example of this could be the change in regulatory environment and legislative framework relating to nuclear security. The change will mean an approach to regulation more akin to that of the approach taken to regulate nuclear safety i.e. more performance based rather than prescriptive, allowing a more balanced approach to risk management and decision making.

→ Technical risks and uncertainties that are inherent in the challenges Sellafield Ltd face

Ageing facilities and buildings can pose structural vulnerabilities. Waste contained in some of the ageing facilities is not fully categorised and therefore the behaviour and nature is unknown. Both of these elements can present a level of uncertainty when carrying out hazard and risk reduction activities. These uncertainties present the possibility of increased programme schedules and costs, however, they also present the opportunity for Sellafield Ltd to consider a different way of working and be more innovative which could result in cost reductions.

→ Performance uncertainties, particularly relating to future plants and novel operations

Facilities at Sellafield have many interdependencies as discussed earlier. Changes in scope in one programme area can lead to multiple impacts across the site and therefore can extend programmatic uncertainty. In addition, Sellafield Ltd has embraced existing technology used in other industries to progress high hazard and risk reduction activities e.g. the use of Remote Operated Vehicles to clean up legacy ponds.

The application of existing technology in a novel way can result in operational uncertainties as the technology has not necessarily been proven in the nuclear environment. Sellafield Ltd will continue to drive innovation to reduce costs.

→ Infrastructure risks

Many of the facilities at Sellafield are 60 to 70 years old, especially those associated with early plutonium production. Despite investment in asset care, some of these ageing facilities remain vulnerable.

There is a known risk to the site operations from the ageing Site Ion Exchange Plant (SIXEP). First operational in 1985, SIXEP is now operating beyond its designed lifetime and is required to complete reprocessing operations and then support high hazard risk reduction out to 2060. The failure of SIXEP would result in an extended retrievals phase and hence prolonged periods of risk for the First Generation Magnox Storage Pond and the Magnox Swarf Storage Silo. To mitigate against this, a project is under way to provide supplementary capacity to SIXEP, the SIXEP Contingency Plant. The SIXEP Contingency Plant is planned to be available in 2024, at which point the risk to site operations diminishes considerably.

Infrastructure risks continued

Another example is the analytical capability at Sellafield. The site is highly dependent on the availability of this capability on site. The existing laboratory is approximately 60 years old. It is in an unsatisfactory condition and not suited to handle changing demands. Any significant failure of analytical capability could rapidly halt operations across site.

Sellafield Ltd would prefer to retain capability in the existing facility to allow completion of the reprocessing mission, whilst creating replacement capability within the National Nuclear Laboratory's existing Central Laboratory (intended for completion by 2028). By this time, the risk to site operations will have been minimised. Work is currently ongoing to understand the core long-term demands for analytical capability at Sellafield.

→ Capability risks

Sellafield Ltd has some capability deficiencies and skill gaps. It is envisaged that some of these gaps can be addressed through better use of the supply chain and by engaging external expertise. (This is explored further in section 5).

Sellafield Ltd will continue to gather knowledge. As retrievals progress, knowledge and experience will support the underpinning of current assumptions on waste condition and throughput which could support a change in schedule forecasts.

→ Enabling risks

Sellafield Ltd aims to partner with the supply chain to support the delivery of commitments but has limited control over the capacity or capability of suppliers. In the case of project and programme support, the requirements are understood; however, in some cases due to developments in strategy and changes in approach, Sellafield Ltd is not comprehensively able to define supplier requirements. It is important therefore, as strategy emerges, for Sellafield Ltd to be transparent when communicating with the supply chain to ensure that they can, in turn, respond positively.

There is a potential risk in relation to the reliability of the Sellafield Ltd Information Technology infrastructure. The majority of the Information Technology infrastructure is past the end of its service life – there would be business continuity issues for the site and site operations if it were to fail.

Sellafield Ltd has robust processes in place to identify and manage risks and develop plans to mitigate the consequences of the risks.

External influences

5.0

As well as managing a number of internal risks and uncertainties, Sellafield Ltd faces a range of external pressures in the early part of the planning period (in addition to those identified in the previous section).

- The UK political environment is uncertain. With the decision for the UK to exit the European Union (EU), there will be a period of instability in the UK until arrangements relating to Britain's exit is negotiated and understood. EU elections will take place in 2019, followed by UK Parliament elections in May 2020.
- As a result of the change in ownership model of Sellafield Ltd, the organisation will be more directly influenced by decisions made by Government in terms of workplace reform such as those proposed relating to pensions and redundancy.
- There is increasing competition for scarce supply chain resources across the sector and beyond, due to major procurement and infrastructure projects such as; high speed rail projects (HS2 and HS3), nuclear new build (Moorside) construction and commissioning, increasing investment in key facilities at British Aerospace Engineering in Barrow, GlaxoSmithKline in Ulverston and the proposed West Cumbria coking coal project.

Sellafield Ltd is and will continue to remain susceptible to external influences further into the Corporate Plan period.

- As the largest component of the Nuclear Decommissioning Authority portfolio, Sellafield Ltd must remain responsive to changes in the Nuclear Decommissioning Authority strategy. It is expected that during the Plan period, the Nuclear Decommissioning Authority will issue four formal reviews and updates to strategy. It is therefore imperative that the Sellafield Ltd strategy can continue to flex and be responsive to changes. Sellafield Ltd will continue to work in partnership with the Nuclear Decommissioning Authority to inform future strategies.
- Four Government Spending Reviews are expected during the period which could impact on the funding available to the organisation. A small reduction in funding levels can have a significant impact at Sellafield Ltd in terms of programmes and project delivery. The consequences of having to delay projects can sometimes mean higher lifetime project costs in terms of maintaining assets prior to overall decommissioning and project completion.
- It is assumed that there will continue to be an increased focus on security and resilience and in particular, there will continue to be high levels of uncertainty and ambiguity in relation to the evaluation and risk mitigation of cyber threats. Standards will continue to evolve.
- It is also expected that during the Plan period, the geological investigations associated with the Geological Disposal Facility will be completed and the siting decision declared. Once the siting of the facility is known, this could offer a number of strategic opportunities for Sellafield Ltd which could impact on the overall cost and duration of the Sellafield programme. Any opportunities presented as a result of the siting of the Geological Disposal Facility would be subject to significant stakeholder consultation prior to any decisions being made.
- The investment decision will be made on nuclear new build in West Cumbria in the planning period so it is essential that Sellafield Ltd continues to build on existing relationships with NuGen to ensure that any investment decision is seen as an opportunity for the wider enterprise and Cumbria.



Moving the organisation forward

6.0

Given the significant changes and challenges ahead for Sellafield Ltd, the organisation in its current form is not sufficiently agile to meet existing commitments and future performance ambitions.

The future direction for Sellafield Ltd will remain the accountability of the UK Government and the Nuclear Decommissioning Authority, although Sellafield Ltd has the potential to significantly influence future decisions by demonstrating an effective approach to delivery and continuous improvement.

Sellafield Ltd will make changes to its current operating model to ensure the existing delivery scope can be met, performance ambitions and outcomes are achieved and that current and future challenges are addressed.

The two fundamental areas of work are to optimise existing plans and to prepare for the future. There will be a delivery agenda and a transformation agenda.

The transformation agenda will be addressed in section 7.

The creation of a Corporate Centre will maintain oversight of the delivery and transformation agendas to ensure that they are aligned to support business performance. It will drive and ensure delivery of the organisation's enterprise strategy as well as providing stakeholder management and corporate governance arrangements.

→ The delivery agenda

Will support the delivery of the Sellafield Ltd Strategy and will be responsible for carrying out performance improvement initiatives both safely and efficiently. The delivery agenda will focus on:

- Portfolio/value stream management
- Programme and project delivery
- Site management

→ The transformation agenda

Will drive and manage high priority change activities which will accelerate progress over the next two to three years whilst delivering the organisational change required for the long-term success. The transformation agenda will focus on:

- Mindset and behaviours
- Efficiency improvements
- Reshaping and reskilling



The transformation agenda

7.0

Due to the level of change facing Sellafield Ltd over the 20 year horizon, the need for transformation has been identified.

The key reasons for transforming are summarised below:

- The changing mission from reprocessing to decommissioning and the associated resource redeployment requirements.
- The perceived performance gap at Sellafield Ltd and the need to build confidence with stakeholders by demonstrating consistent delivery of outcomes.
- The need to be more efficient and agile i.e. realise efficiencies to meet the baseline commitments and deliver more for less to help manage uncertainty and future change.
- The need to adopt an enterprise approach i.e. viewing the enterprise as Sellafield Ltd, the supply chain and the wider community.

The transformation agenda has been informed by two specific pieces of work.

→ 1

In the Sellafield Options Outline Business Case, the Nuclear Decommissioning Authority recognised the unprecedented change required at Sellafield and the challenges which would need to be overcome to address performance and capability gaps. The change in ownership arrangements for Sellafield Ltd, from a Parent Body Organisation model to a Subsidiary model was the initial change.

→ 2

Sellafield Ltd initiated the development of an “Organisational Blueprint” in early 2015 to inform future business strategy. The aim of the blueprint was to enable the development of the Corporate Plan in a programmatic way (i.e. starting with the end in mind) and to create the vision and ambition for the organisation which would be delivered through transformational activities. This piece of work has developed a number of desired attributes.

Sellafield Ltd will transform, so that it is recognised both as a leading nuclear enterprise and as a national asset, which offers the UK Government value, opportunity and choices in support of the nuclear industry.

A programme of work has been established with the ambition of transforming Sellafield Ltd and the extended enterprise such that improved performance:

1. Enables Sellafield Ltd to exceed delivery of the Baseline Plan by

- De-risking the Baseline Plan
- Underpinning delivery of the Baseline Plan
- Achieve the efficiencies set out in the Operating Plan (informed by the 2015 Spending Review)

2. Enables Government to make informed choices and allows Sellafield Ltd (and the Nuclear Decommissioning Authority) to respond by

- Delivering the performance ambition beyond the operating plan expectations
- Developing strategic choices through advanced business analytics and technical optioneering
- Developing the organisational agility to respond to strategic decisions

A number of desired attributes have been developed for Sellafield Ltd. These define the aspirational future state for the organisation and will inform the transformation as it develops. The attributes are shown below.

Desired Organisation Attributes							
<p>Performance</p>	Enterprise performance is managed and measured along value streams	Rationalised decision making based on common understanding of value	An enterprise-wide system of management	Fully integrated, hierarchical metric model extended across the enterprise	Clear financial taxonomy and high levels of cost transparency that supports decision making	Simplified and appropriate governance structures, processes and procedures	Appropriate approach to risk management and assurance based on level of risk extended across the enterprise
<p>Technology</p>	Single source of management information that supports decision making	Rationalised and integrated IT systems extended across the enterprise		Dynamic analytical capability that enables real-time enterprise-wide decision making	Pursuing scientific and technical innovation to enable programme acceleration and cost reduction		
<p>Structure</p>	Optimised 'make v buy' position established by realignment of resources to 'make' activities, supported by supply chain development	Blend of value stream and projectised physical organisational structure	Site cleared of non-essential land usage and off site cluster established	Full range of sourcing vehicles exploited with support of strategic delivery partners and tactical delivery contracts	Reskilling and redeployment capability proactively supporting the right-sizing of the enterprise	Funding allocated to value streams; outcome driven funding profile; innovative funding arrangements	
<p>People</p>	World-class capability in supply chain management supporting highly integrated innovative and collaborative supply chain partnerships	Performance excellence embedded into culture and practices; performance information effectively supports the management of individuals	Executives coaching and holding business leaders to account for successfully engaging employees, developing talent, delivering stretching performance outcomes and managing the transformation		Mindsets and behaviours aligned to the future performance needs of the business incorporating lean capabilities as the foundation for continuous improvement	Headcount, reward, terms and conditions of employment and working practices refined to meet the future needs of the business	

The transformation agenda continued

7.1 Transforming Sellafield – the direction of travel

To maximise the response to mission change, performance gaps and economic and funding uncertainty, a transformation agenda has been created at Sellafield to drive high-priority changes through the organisation over the next two to three years.

The transformation agenda will establish the leadership for and a value-focused approach to running the business: removing inefficiencies, managing the mobility and agility of staff, and creating new, strategic supply chain relationships.

Transformation is, by its very nature, an emergent programme of work and the granular detail will evolve. That said, a firm foundation is being put in place for structuring transformation to give a clear overview of priorities, structures and schedules, and to finalise specific outcomes and benefits.

The focus will be on a number of key component areas that underpin effective and lasting transformation, and support the desired pace of benefit realisation. These are:

Value streams – performance will be managed along four value streams – Remediation, Retrievals, Spent Fuel Management and Special Nuclear Material. Leaders of these value streams will be accountable for the performance of the end-to-end process (e.g. design, commission, delivery/operation, maintenance and decommissioning). All other work will be aligned with one of the four value streams.

Leadership – what improvements can be made to better lead, develop and incentivise through this period of transformational change and beyond.

People – recognising that people are the organisation's greatest asset, Sellafield Ltd is focused on getting into the right size and shape, with the right skills and development, and incentivised appropriately.

Enterprise Management – a single, enterprise-wide management framework will make sure that all efforts are coordinated to achieve business goals. This supports improvements in portfolio and programme management, strategies and policy, governance and decision-making, and enterprise systems and tools.

Supply Chain – the supply chain's capacity, capability and willingness to support the transformation is a key factor for consideration, so that the most can be made of supply chain relationships. There is potential to reduce business costs by working smarter with the supply chain, and supporting socio-economic development.

A number of suppliers will be engaged to support Sellafield Ltd's transformation and delivery agenda, and the Sellafield Ltd/supply chain relationships will be integrated and collaborative.

The overall approach supports the development of a continuous improvement culture, which in turn will generate value and a greater return on investment, and enhance the safe, secure stewardship of the site. The intention remains to accelerate hazard and risk reduction, and increase customer confidence.

The way in which the broad transformation themes are progressed will form the next stage of work. These themes will be developed into a number of specific outcomes and define the capabilities required to realise the benefits. A delivery structure and governance arrangements are being established to optimise benefits realisation.

Ongoing change activities will continue to progress and the intent is to deliver the transformation agenda and our new ways of working by 2026.

Future opportunities

8.0

8.1 Sellafield opportunities

Sellafield Ltd will continue to look for ways to improve performance throughout the plan period. Some of the high level opportunities which Sellafield Ltd is considering in the near term are; alternative end or interim states, alternative waste routes or optimising existing routes and using innovative technology to improve decommissioning and waste management.

The identified end or interim state has the most significant impact on the cost and schedule of remediation activities at Sellafield. Sellafield plans currently assume that the site licensed area is significantly reduced with some lower activity waste and special nuclear materials remaining on the site. To achieve this end state, billions of pounds would need to be spent over potentially a 100 year period. There are associated risks with this end state as large amounts of waste would need to be managed. An alternative approach to this declared end state could be taken. An interim state could be achieved whereby the site licence is retained beyond the current planned date and the site passively managed. If a change in end state is agreed, then different options could be considered for land reuse at Sellafield. This could include alternative strategies to reuse the land to; support new nuclear missions and support near surface management of some decommissioning wastes.

By managing waste in an alternative way to current plans, there is the opportunity again for Sellafield Ltd to make significant cost and schedule savings. In some cases, a change in strategy could mean a challenge to existing policy, so it is essential that Sellafield Ltd continues to work with the Nuclear Decommissioning Authority and the Department for Business, Energy and Industrial Strategy as well as regulators to find the best solution and to obtain the best value possible from the Sellafield asset.

A review of waste management plans and technology innovation will be conducted in the early part of the planning period to develop these opportunities further.

Sellafield Ltd will need to continue to innovate and consider new ways of applying technology to enable improved performance. By working with universities and key technical suppliers, new technology can be developed and implemented for use at Sellafield Ltd with the potential for cost benefits.



Future opportunities continued

8.2 Additional opportunities

From 2026 onwards, the realisation of the UK nuclear new build programme presents a future opportunity for waste fuel management. The Nuclear Decommissioning Authority Strategy 4 will have been presented with a position on the plutonium strategy and options around alternative site end states and how this might play into acceleration of Sellafield remediation will be clearer. The size and shape of Sellafield Ltd in this context can be considered.

Choices exist and some potential future scenarios are set out below. (It should be noted that these opportunities are not currently included in Sellafield Ltd's Baseline Plan).

Export of Nuclear Expertise

- Due to the work carried out on the Sellafield site, the skills, knowledge and experience of the workforce and the wider enterprise (i.e. supply chain) is an asset which could be utilised in the wider nuclear community. Much of the work conducted by Sellafield Ltd is pioneering, it has never been done elsewhere and often innovative solutions need to be sought to resolve complex decommissioning problems e.g. the use of Remote Operated Vehicles in the legacy ponds to support characterisation and waste retrievals. Much of the experience gained by Sellafield Ltd could be shared within the wider nuclear community. Although this is not necessarily a primary driver, it is a valuable by-product of nuclear operations and decommissioning. In addition, Sellafield Ltd has a wealth of knowledge relating to spent fuel management which could be invaluable to developing international nuclear business.

Ministry of Defence Through Life Management Plan

- The Government retains the right to transfer the Ministry of Defence nuclear liability to the remit of the Nuclear Decommissioning Authority. If this were to happen, there would be an opportunity to use the Sellafield site to store the radioactive waste generated through the Ministry of Defence nuclear programmes.

Nuclear New Build Fuel Examination, Receipt and Storage

- Sellafield could be utilised to support the examination of spent fuel from the nuclear new build programme. Post examination, the fuel could then be stored, pending ultimate disposal in a Geological Disposal Facility. (Reprocessing of the spent nuclear fuel is not deemed to be a financially viable option at this time).

Treatment and storage of Atomic Weapons Establishment Plutonium Contaminated Material waste

- The Nuclear Decommissioning Authority, Sellafield Ltd and the Atomic Weapons Establishment (AWE) continue to define an optimised storage and treatment plan for a number of AWE's plutonium contaminated material drums. Sending the drums to Sellafield Ltd has a relatively neutral impact on the Sellafield programme of work and storage capacity and offers a more cost-effective solution to constructing a purpose built facility at the AWE site.

Geological Disposal Facility waste packaging and conditioning

- Although it is yet early in the consultation process for the siting of the Geological Disposal Facility, if the outcome of studies and consultation determine that it is to be located in Cumbria, Sellafield Ltd could be used as an interim waste store prior to final disposal in the Geological Disposal Facility. A large amount of the UK's radioactive waste is already located on the Sellafield site so this position could be further exploited to receive, pack and condition radioactive waste from other nuclear facilities. Sellafield Ltd will review plans accordingly once the siting decision is made.

Each of the above scenarios would be a diversification from the current Baseline Plan and would assume that Sellafield Ltd is focused on achieving performance outcomes and delivering value.

The delivery of the Baseline Plan, coupled with benefits from continuous improvement activities and the transformation programme, will transform Sellafield Ltd into a high performing, agile organisation, giving the UK Government and the Nuclear Decommissioning Authority options for considering the use of the Sellafield site, surrounding area and workforce to deliver future missions in support of the wider UK nuclear programme.



Sellafield Ltd

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