



Sellafield Ltd

# PPP

## Annual Report Executive Summary

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**YEAR 3: MAY 2021 - MAY 2022**

**AN INTELLIGENT CLIENT PUBLICATION**

# Introduction

The Programme and Project Partners (PPP) was created in May 2019 to support Sellafield Ltd's purpose of creating a clean and safe environment for future generations that will be achieved by:

- Safe, secure and sustainable site stewardship.
- Progress at pace.
- Lifetime value for money.

The PPP brings together four delivery Partners to work collaboratively to deliver approximately £7billion worth of projects that will treat and store nuclear materials to enable the decommissioning and remediation of legacy facilities.

This is the third annual review of PPP performance covering all aspects of PPP delivery and Client oversight.

PPP builds on learnings from delivery of Sellafield Ltd's "legacy" projects which were delivered through a more traditional Engineer Procure Construct (EPC) delivery model and combines it with the large programme and project delivery experience of four international Partners. Delivery of 'legacy' projects at Sellafield typically fell short of expectations and several issues were identified including:

- Lack of construction input into design.
- Lengthy procurement exercises on each project.
- Lack of continuity of delivery partners and loss of knowledge from project to project.
- Limited ability for the supply chain to invest in skills and capability without a pipeline of future work.
- The PPP model was designed to specifically address these points.

This diagram sets the eight PPP benefits in the context of the Sellafield Ltd purpose and three strategic aims, together with the PPP's five Critical Success Factors.



The partnership comprises KBR as the Integration Partner, Jacobs Clean Energy Ltd as the Design Partner, Morgan Sindall as the Civils Construction Partner and Doosan Babcock as the Process Construction Partner. Sellafield Ltd's role in the model is two-fold:

1. To enable and oversee PPP delivery as a Client organisation.
2. To deploy capability into delivery as a "Fifth Partner" working alongside the Partner organisations.

Built upon a foundation of collaboration, the PPP model incentivises all Partners to work together to deliver the required project outcomes within cost and schedule. While the Partners can earn profit for in-year delivery, an Aligned Incentive Fund provides a greater collective profit opportunity as projects move through completion, commissioning and successfully into operations.

The 20-year duration of PPP enables efficiency in the delivery of the Major Project programme through transfer of knowledge and capability from project to project as well as a wider range of anticipated benefits captured in the Critical Success Factors (CSFs):

#### Cost management

Sharp focus on cost and project lifecycle forecasting to bring cost certainty and double-digit % savings on project outturn costs based on Client approved detailed design baseline.

#### Employment

The longevity of the relationship and subsequent confidence to invest within the workforce and the local areas. Investment in training and apprentices as well as a significant reduction in agency supplied workers at all levels of the Sellafield Ltd supply chain.

#### Outcome

The successful delivery of major projects driven by aligned incentives for the successful delivery of project outputs, i.e. the opportunity to earn fee at Sellafield Ltd by delivering ahead of Sellafield Ltd expectations.

#### Output

Early Contractor Involvement (ECI) from project conception ensuring the right project is executed and creates more certainty of achieving the programme and project milestones and targets.

#### Workforce skills

Upskilling of the wider Sellafield Ltd and supply chain capability through porosity and longevity of the relationship. Create long-term operations that bring benefit to the wider workforce outside the Partner construct.

These CSFs are supported by a further five Success Factors in the areas of resource efficiency, employer capabilities improved, procurement efficiency, programme efficiency.

## Benefits of the PPP Model



**B1** Improved predictability of Project Cost and Schedule Outturn



**B2** Accelerated High Hazard Reduction



**B3** Increased Value for Money (VfM) for the UK Tax Payer



**B4** New opportunities for Sellafield Ltd, the Partners and their people



**B5** Enhanced employment opportunities for Project Personnel in West Cumbria & Warrington (Socio-Economic)



**B6** Enhanced reputation (Improved Stakeholder Confidence)



**B7** Sellafield recognised as having areas of Project Excellence within Infrastructure and Projects Authority (IPA), our supply chain and Government



**B8** Enhanced Sustainability Performance by projects increases social value and decreases environmental impact

# Performance to date

Since the launch of PPP three years ago it has successfully mobilised to undertake delivery responsibility for three in-flight “transition” Major Projects (SRP, SCP, and RAP) while also supporting the early delivery stages of two “future” Major Projects (BEPPS 2 and LSS1). PPP has mobilised a team of approximately 1,500 personnel (including both directly hired staff and wider supply chain) delivering a portfolio worth over £337 million per annum. Significant milestones have been achieved, not least the setting of the Major Project Baselines for the SRP and SCP projects.

This performance report on the PPP from the Sellafield Ltd Client aims to provide a comprehensive overview of performance over the last 12 months across the Major Projects, supporting PPP Services and enabling Site Wide Project Delivery Improvements undertaken by PPP. The report also covers the performance of the Sellafield Ltd Client organisation in its role to oversee and enable PPP.

A look ahead, providing an overview of the key objectives for the PPP through its fourth year of delivery and beyond, is also included. This represents the continued focus on improvement as the PPP matures.



PPP has made good progress since its launch in 2019. Whilst there has been strong performance in some areas and improvements sought in others, on balance it is on course to deliver Business Case benefits.





afield Ltd

PROGRAMME +  
PROJECT PARTNERS

Jacobs

MORGAN  
SINDALL



DOOSAN

# Executive Summary

The finding of this report is that there is a body of evidence supporting a view of overall effective performance, recognising the challenges of projects inherited from Sellafield Ltd under legacy arrangements. Whilst there are some issues, they are being proactively raised and addressed both by the PPP itself and through Client interventions and the PPP remains on course to deliver its expected benefits. Looking forward there is a need to focus on stronger integration in projects, supply chain performance and delivering new projects 'the PPP way'.

## Context

Sellafield Ltd's historic approach to complex major project delivery had fallen below stakeholder expectations for a range of reasons, resulting in multiple reviews and audits setting out the steps to improve project delivery, requiring a radical change of approach. In 2019 Sellafield Ltd procured the Programme and Project Partners (PPP) Model as the vehicle to transform project delivery. The PPP was a key part of Sellafield Ltd's journey to introduce a Programmatic approach to initiation with clear functional specifications and developing realistic time and cost estimates.

Whilst in the fullness of the 20-year life of the model many projects will be wholly delivered by the PPP, in the initial years the programme is predominantly comprised of major projects initiated under traditional Sellafield Ltd practices and transitioned to the PPP during its first year.

Three in-flight projects were transitioned to PPP within six months of contract commencement, which had been initiated between 2003 and 2015 with delivery ongoing since 2014 under historical Sellafield Ltd practices. These included the Sellafield Retreatment Plant (SRP), Sellafield Continuity Plant (SCP) and Replacement Analytical Plant (RAP), including the challenges faced in setting the first ever Major Project Baselines, including price and schedule.

In addition are the first two projects to be initiated fully within the PPP environment, namely the Lightly Shielded Box Store 1 (LSS1) and Box Encapsulation Product Store 2 (BEPPS2). Looking forward, PPP is initiating and delivering the full infrastructure delivery portfolio at Sellafield Ltd until 2029, via pipeline of major projects throughout their full lifecycle, and more work is under way on the definition of the pipeline as a key priority for Year 4.

## Projects

Three years following the launch of PPP, our Partners are accountable and delivering five of the Major Projects critical to Sellafield Ltd's purpose. These five projects (detailed in this section) range from early lifecycle to full construction stages. The committed projects represent ~£5billion in lifetime value with a £300million in-year investment.

The five projects provide a platform for all four Partners to contribute and show their value, whilst the scale and complexity provides a meaningful opportunity for them to collaborate in the safe delivery to time, quality and cost.

On balance the previous year has seen strong performance in project delivery coupled with a number of challenges and risks acting as important reminders that success is not guaranteed.

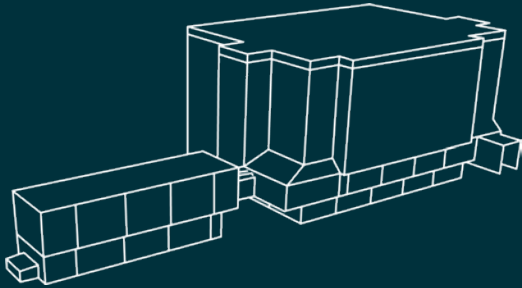
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THE COMMITTED PROJECTS REPRESENT

~£5billion

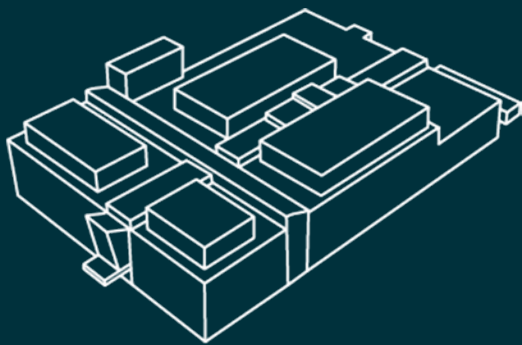
IN LIFETIME VALUE WITH A £300MILLION IN-YEAR INVESTMENT

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## SRP (Sellafield Product and Residue Store Retreatment Plant)

2022 marked a pivotal year for SRP as it transitioned from design to construction. Following approval of the Full Business Case (FBC), the project has progressed at pace, including procurement of key delivery packages, resulting in being ahead of its overall target schedule. The transition to construction brought new challenges and a number of safety events and near misses have served as a sobering reminder of the new risks the project must focus on to be successful. Civil works have progressed well, although Covid-19 and productivity risks have caused some float to be eroded, and the project is now moving its focus to systems integration and key plant and equipment packages.

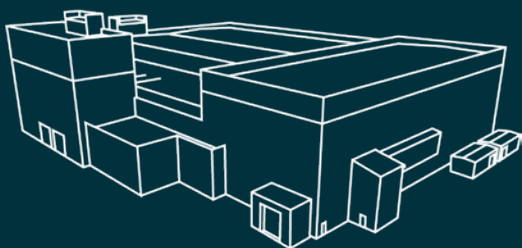


## Replacement Analytical Project (RAP)

Since approval of the Outline Business Case (OBC), RAP project performance has trended towards challenging the strategic tolerances. Significant Client led interventions have been initiated over the last 12 months to correct the projects performance trends. An executive-level senior oversight group has been established bringing together representatives from the key stakeholder groups, independent performance reviews have been conducted and Client led workstreams undertaken by independent experts to challenge scope assumptions and optimise project delivery were initiated in December 2021.

As a result of the optimisation – an approach that would not have been possible under a traditional delivery model – significant progress has been made in stabilising and strengthening the project leadership and addressing the performance trends.

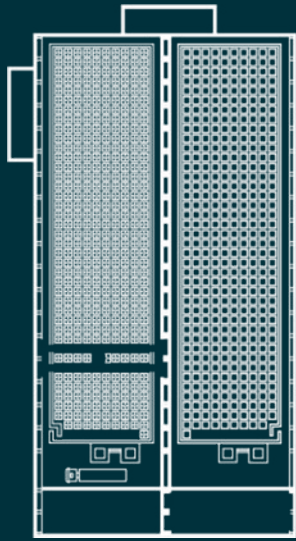
Alongside assurance interventions from the Infrastructure and Projects Authority, Nuclear Decommissioning Agency, Projects and Investment Committee of the Department for Business, Energy and Industrial Strategy and Her Majesty's Treasury the project is now on course to complete detailed design in late 2023 and receive FBC approval from HMG in 2024.



## Box Encapsulation Plant Product Store (BEPPS2)

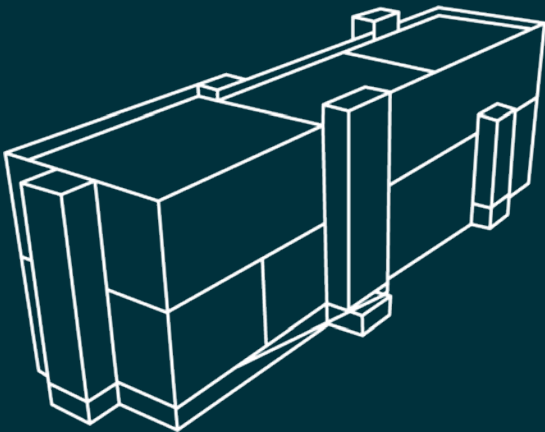
BEPPS2 progressed well in Year 3 to complete concept design stage and move into preliminary design stage as well as commence the OBC. A review of Sellafield Ltd enterprise priorities led to an evaluation of BEPPS2 timescales and the project has worked to optimise the schedule to align with the enterprise funding decisions. When the decision was taken to slow down the project PPP successfully relocated most of the resource across other PPP projects to help address their resources challenges, as faced by all of the industry. A revised plan for OBC 'get to gate' has been agreed with stakeholders and is currently being implemented.





## Lightly Shielded Store (LSS1)

Through the year the LSS1 project team progressed towards production of the OBC and commenced resource mobilisation. The project had looked for opportunities to optimise the store layout and manage programme waste assumptions associated with radiological shielding working collaboratively with the programme and Client team. During production of the estimate and schedule, a number of programmatic interfaces and dependencies were identified and a strategic pause was initiated March 2022 to enable the interfaces to mature, specifically land availability and clearance. The Sellafield Ltd strategic decision will allow the land programme to evaluate scope and schedule to ensure alignment with the LSS project scope and schedule assumptions and enable Sellafield Ltd to manage overall programme delivery and integration. This will enhance the land management strategy for the benefit of all projects. This scenario has shown the benefits of the PPP model and demonstrates the portfolio approach to project delivery mitigating the risk (cost and time) of demobilisation and remobilisation, has led to no contract cancellations, and has enabled the retention of knowledge and key skills.



## Site Ion Exchange Effluent Plant (SIXEP) Continuity Plant (SCP)

PPP has had a good year delivering the SCP project with year-end schedule performance in line with the Major Project Baseline. The project started the year working collaboratively with the Client team to set the Major Project Baseline and finished the year delivering all in year milestones. Significant process was made on Project Wide Objective 1 (the first of seven milestones) namely the completion of the first 2 large stainless steel process vessels, ready for performance testing early in Year 4.

The procurement and installation of the construction tower cranes was a critical enabler to commencing structural steel work erection and was enabled through the PPP strategic decision to procure rather than lease the cranes which could subsequently be utilised on other projects and ensure value for money, with a cost saving of near £1m.

Whilst the project has had strong progress, the challenge remains that there is a substantial body of work ahead with the procurement of key suppliers, equipment and mechanical and electrical work to occur and the project will need to remain focused to ensure delivery.

## Safety

PPP performance against accident metrics is better than typical national Construction accident data and the number of Zero Harm days (instances where no injuries occurred) achieved is at 95%. However, this year the Client observed an emerging pattern of minor injuries, which led to a survey that showed a disconnect between leadership and operational roles. That data has been used to create a Safety Hub around twelve key themes, three of which will be a key delivery focus in Year 4. Activities from the Safety Hub will be used site wide, demonstrating PPP bringing best practice to the wider enterprise.

## Benefits

Benefit realisation progress has seen steady achievement that is ahead of the timelines in the Full Business Case (FBC), however strong Client pressure remains to increase the ambition around the level and speed of benefits that can be realised. In advance of PPP FBC timelines, £1.075 billion of benefits have been identified, of which £130.8m have been validated over the PPP lifetime. New benefit initiatives launched in Year 3 include:

- **Ideas Portal:** PPP's Ideas Portal has been launched with 135 improvement ideas submitted to date. The implementation of the Ideas Portal is providing a simple portal for the PPP to submit ideas and best practice with the plan to expand to the wider supply chain soon.

- **Introduction of Benefit B8:** The level of Sellafield Ltd and PPP's shared ambition, paired with the global importance of social impact and sustainability, means there is now a jointly developed eighth Benefit that will positively impact workforce, communities and the environment.
- **'Good to Great' Performance Acceleration Programme:** The 5 Good to Great Workstreams are bringing benefits through the unlocking of the programme approach, digital delivery, project delivery processes, high performing team development and skills and talent development.

The priority for Year 3 of PPP was to bring a step change from strategy development to full implementation and early benefits realisation. Significant progress has been clearly demonstrated in this area over the last 12 months, at both a programme and project level. Going into the fourth year of the contract PPP is in a strong position to capitalise on these early successes.

Turner & Townsend undertook an independent benefits review of the PPP, noting:

"It is pleasing to report that overall, there has been good progress in realising the PPP FBC benefits. People are clearly excited by the opportunity of being part of a long-term partnership between SL and the PPP, creating an enduring capability which is recognised for efficient and effective delivery of the Sellafield Mission – to safely and securely remediate the Sellafield site to benefit the industry, nation and region. It is evident through our interviews and meetings that the PPP is very passionate and committed to delivering great project outcomes for Sellafield Ltd and to the benefit of its wider community."





## **EHSSQ Assurance**

PPP assurance activities conducted during Year 3 found some gaps in the self-assurance programme prepared by PPP and the availability of resource to meet current and future demand. It also found some documentation anomalies and the need for further integration of the assurance across PPP. There was also uncertainty in the direction for the Collaborative Management Plan and some specific findings relating to fire safety on construction sites.

Actions are in place to follow up or remedy these findings. The PPP Client continues to mature a joined-up approach to assurance, spanning PPP services, the Aligned Delivery Teams and Client.

Use is still being made of the assurance maturity framework to provide a risk-based outcome focused approach and assessments completed in 2021 show that most activities are now at the 'Defined' category of assurance maturity.

## **Cultural Maturity**

A collaborative working culture is at the core of making the PPP model a success for all parties. Year 3 saw significant improvements in the cultural maturity of the PPP. Key foundational activities to support cultural maturity were put in place, as recognised by Deloitte in their independent cultural maturity assessment which saw the PPP performing operational value in the majority of areas, moving from an average score of 3/10 in Year 2 to 5/10 in Year 3. Focus areas for Year 4 will see greater emphasis to embed values and behaviours into people's day to day ways of working including a Line Manager Training Programme, PPP staff excellence awards and the start of the PPP High Performing Teams, focused on bringing all behavioural aspects together in team environments to address live issues and opportunities.

## **Performance Assurance Framework (PAF)**

The Performance Assurance Framework (PAF) for the PPP helps the Client and Partners to assess and drive performance. It is a collaborative and structured scoring process using a scale agreed by all five parties within PPP, which provides an objective assessment of Sellafield Ltd, the Client and PPP performance by using evidence per project.

Year 3 saw the completion of the third PAF Assurance Cycle which found overall steady progress across all workstreams, with a notable increase in the number of performance measures scoring at Operational Value (Level 2) compared to Minimum Requirements Met (Level 1).

In addition, output measures are scoring higher, meaning that improvements made through input efforts (enablers) in previous cycles are starting to show results (quantitative outcomes). Project measures were introduced for Assurance Cycle 3 for most workstreams for the first time and achieved average input score of 1.3, and an average output score of 1.8. Apart from Environment and Sustainability, which lags due to its lack of early involvement in projects, the introduction of Project Level scoring in Cycle 3 has highlighted strong performance and progress in discrete project initiatives. In contrast, there is relative immaturity at programme level of implementing these best practice initiatives consistently across the portfolio, which is a clear area of improvement targeted for future cycles.

## Key Targets

Key Targets are agreed between Sellafield Ltd and the Nuclear Decommissioning Authority as the key areas of performance that will be measured in year.

In 2021/22 there were two Key Targets in relation to PPP of which both achieved a performance rating of excellent:

- Schedule Adherence for SCP and SRP.
- Demonstrable progress towards the delivery of the PPP Critical Success Factors.

## Key Performance Indicators

Sellafield Ltd and the PPP Partners agree KPIs for the PPP to measure in-year performance. The KPIs were jointly proposed and agreed between the Lot Partners and the Client through a collaborative process focused on project specific targets such as RAP Preliminary Design Completion, alongside strategic and behavioural objectives such as Social Impact Improvement and Collaborative Behaviours.

Eleven of the twelve KPI were fully achieved by the Lot Partners, with the remaining KPI partially achieved. This meant achievement of 98% of the available Contract Specific Profit (CSP) weighted on the KPIs.

## Sellafield Ltd

Sellafield Ltd continues to mature as a Client organisation for the PPP delivery model. The PPP Client has established effective governance and assurance arrangements to oversee and enable PPP delivery. Through the last year the Client has increased focus on managing the performance of the PPP Partnership and broadened its remit to cover other Sellafield Ltd major projects which presents the opportunity for collective performance improvement. Five strategic drivers are identified for the Client through Year 4 of the contract and beyond to enable improved performance.

To maintain the early momentum gained by the PPP Client in the early years the leadership of the Client organisation has been refreshed in the latter part of the year. Richard Lennard has been appointed Head of Client for PPP with an initial remit to enable delivery and manage the performance of the PPP partnership. To further leverage the capabilities and knowledge of the PPP Client organisation for the benefit of the wider Sellafield Ltd organisation the PPP Client role will expand to cover "legacy" Major Projects including Box Encapsulation Plant (BEP) and Security Projects. This broader remit will enable the PPP Client to share learning more readily across a broader portfolio of projects to improve performance. The "legacy" projects will help inform the "transition" and "future" projects to be delivered through PPP.

## Partners

Performance overall in Year 3 has been good, resulting in examples of excellence. With the leadership and support of the Client team, the Partners restructured their leadership team to respond to the desire to build on efforts to date to achieve consistent project and programme wide performance. Duncan Elliott was brought in as the Head of PPP as well other new additions to the management team to strengthen the focus on performance going forward. As part of this, there has been a strong focus on the PPP Good to Great programme, led by the Integrator, with a range of activities being implemented to improve portfolio and programme benefits alongside project delivery via the Integrator.

PPP continued its growth in Year 3, with an increase in year of 195% overall turnover from Year 2. This increase is almost solely in relation to delivery of Major Projects as SRP and SCP have both moved into the construction delivery phase in year, with significant delivery through the civil construction phases on both projects. Across the board there was a 25% growth in PPP Resources, People resource growth over the year is not proportional to turnover growth. This is as would be expected with the increasing importance of the PPP Supply Chain in delivery of our Major Projects.







## Supply Chain

Year 3 has seen a step change in performance with procurements no longer delivered for individual projects, with significant opportunity now being identified through the PPP Supply Chain Strategy at a programme level. The PPP Supply Chain team have awarded four Multi-Project Procurements (MPPs) and, in doing so, also achieving the first Project Wide Objective on the Sellafield Product and Residue Store Retreatment Plant (SRP).

Four MPPs have been awarded, and, in doing so, has achieved the first Project Wide Objective on the Sellafield Product and Residue Store Retreatment Plant (SRP) (Refer to the Projects section of this report). These MPPs cover key delivery areas such as Heating, Ventilation and Air Conditioning (HVAC), Electrician Instrumentation, Mechanical Pipework and Mechanical Fabrication. These are all key major project delivery challenges and Sellafield Ltd and the PPP have seen new entrants bidding for work due to the scale of the opportunities offered, with significant investment and social value being identified through the successful bidders. The total contract value is up to £800million with up to 8 more MPPs yet to be placed.

## Financial Analysis

Year 1 spend was focused on mobilisation onto projects and the establishment of PPP Services. Year 2 spend supported an increase in construction activity and project delivery. Year 3 has seen a continuation of that trend towards project delivery comprising 85% of total spend (compared to 54% in Year 2). The long-term nature of the PPP model has enabled the Partners to invest with confidence, resulting in 90% of the workforce being directly employed.

## Aligned Incentive Fund

As a result of SRP achieving its first Project Wide Objective, Year 3 saw £7million credited to the Aligned Incentive Fund with current incentive opportunities across SRP and SCP totalling £89million. Year 3 also saw the go-live of the Client's Operational Cost and Profit Model (OCPM) which has been developed for the management of the fund by the Client with Supply Chain Partners. This model enables effective and factual analysis to be conducted against performance of the PPP model with live data, enabling timely decision making.

## Triennial Review

The first triennial was completed in Year 3 and identified that the current incentivisation mechanism within the PPP contracts is operating as planned and is still considered robust. The key finding is that the PPP model should remain unchanged at this time. The review also identified areas for action and monitoring to ensure continued robustness of the incentivisation model up to the point of the next planned review in 2025 which included continued engagement and education on the incentive model through the PPP.

## Pipeline

The Sellafield Ltd pipeline is a live list that responds to the latest Sellafield Ltd portfolio needs. In Year 3 some projects have been added to the pipeline and some projects have been removed, as studies progress and more detail of Sellafield Ltd's lifetime requirements developed over time. The Client and all Partners agree the next priority for PPP in Year 4 will be to look at the pipeline and how to drive innovation, new techniques and design maturity through replication and incorporate the learnings from the first three PPP projects. This will further support programmatic decision making and enable portfolio level decisions to respond to policy and strategic drivers that influence the pipeline.

# Year 4 Lookahead

As PPP moves into the fourth year of delivery the focus will be maintained on delivering successful outcomes on the transition projects while ensuring that future projects are increasingly delivered in the 'PPP Way', with priorities including:



**Focus on enabling PPP delivery through removal of barriers to performance that exist within Sellafield Ltd**



**Striving to ensure that Sellafield Ltd's Key Targets and the PPP Partner KPIs are successfully delivered through the year**



**Greater focus on direct engagement with projects and the PPP leadership team to nurture effective working relationships based on conversation in the first instance**



**Support the establishment of "Delivery Hub" offices at strategic locations across the UK to support PPP in addressing challenges on capability**



**Complete an optimisation review of the RAP project and build identified opportunities into the Major Project Baseline, ensuring lessons learned are embedded in all future projects before they reach the Outline Business Case phase**



**A greater presence on the project sites and in Partner offices to support safe delivery of the programme**



**Devolve authority for decision making and approval of the Aligned Delivery teams into the PPP partnership**



**Continue to support the PPP performance acceleration programme ('Good to Great')**



**Implement pre-approval of PPP sub-contracts to enable accelerated delivery by the Partners**





