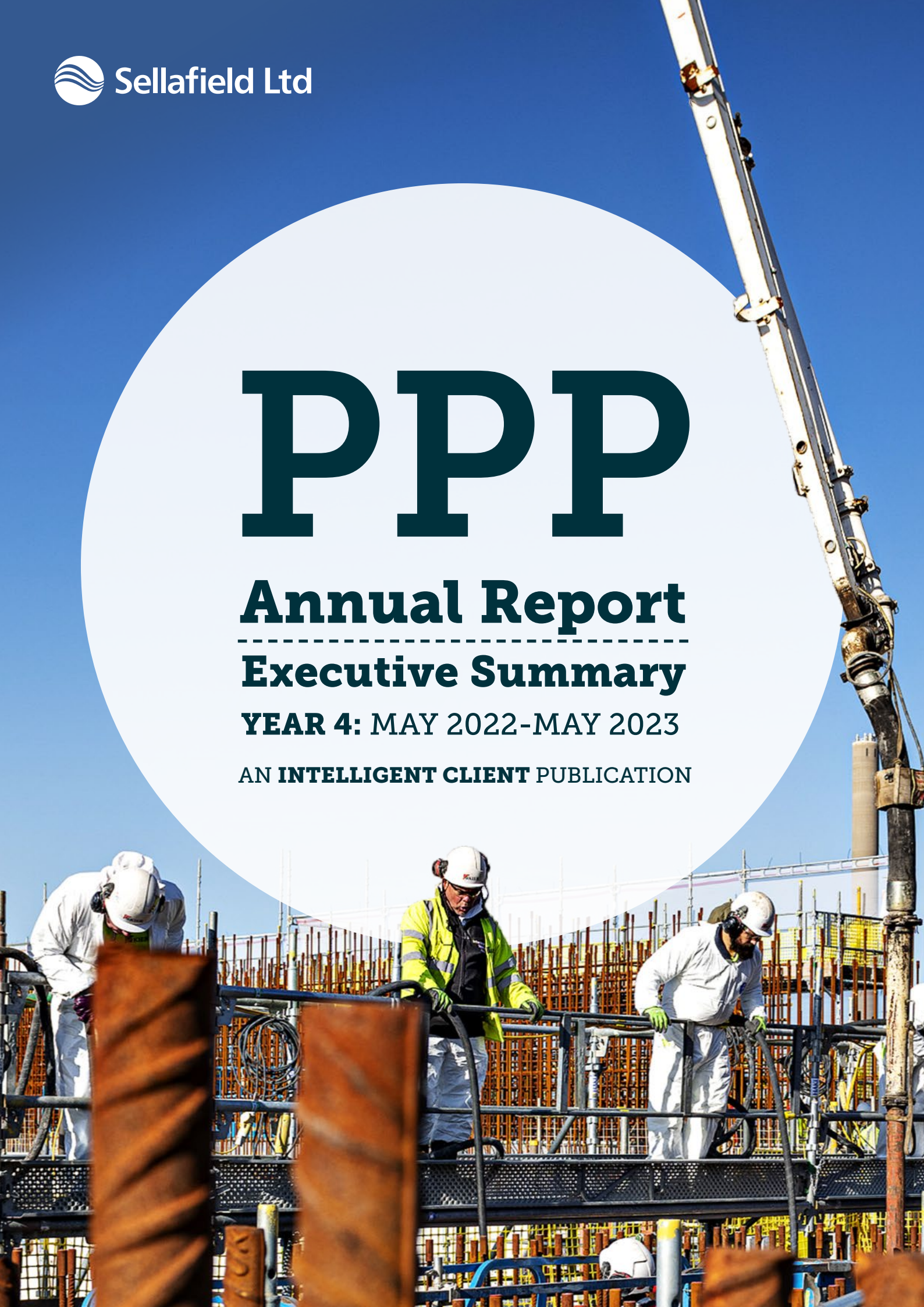


# PPP

## Annual Report Executive Summary

YEAR 4: MAY 2022-MAY 2023

AN INTELLIGENT CLIENT PUBLICATION



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# Introduction

This is the Annual Report for the performance of the fourth year of the Programme and Project Partners (PPP) for the period May 2022 to May 2023, covering all aspects of PPP delivery.

It is undertaken by the Client to provide an impartial and evidence-based view on performance, supported by independent assurance in key areas.

The PPP brings together four delivery Partners to work collaboratively to deliver approximately £7 billion (2019/2020) worth of projects that will treat and store nuclear materials to enable the decommissioning and remediation of legacy facilities.

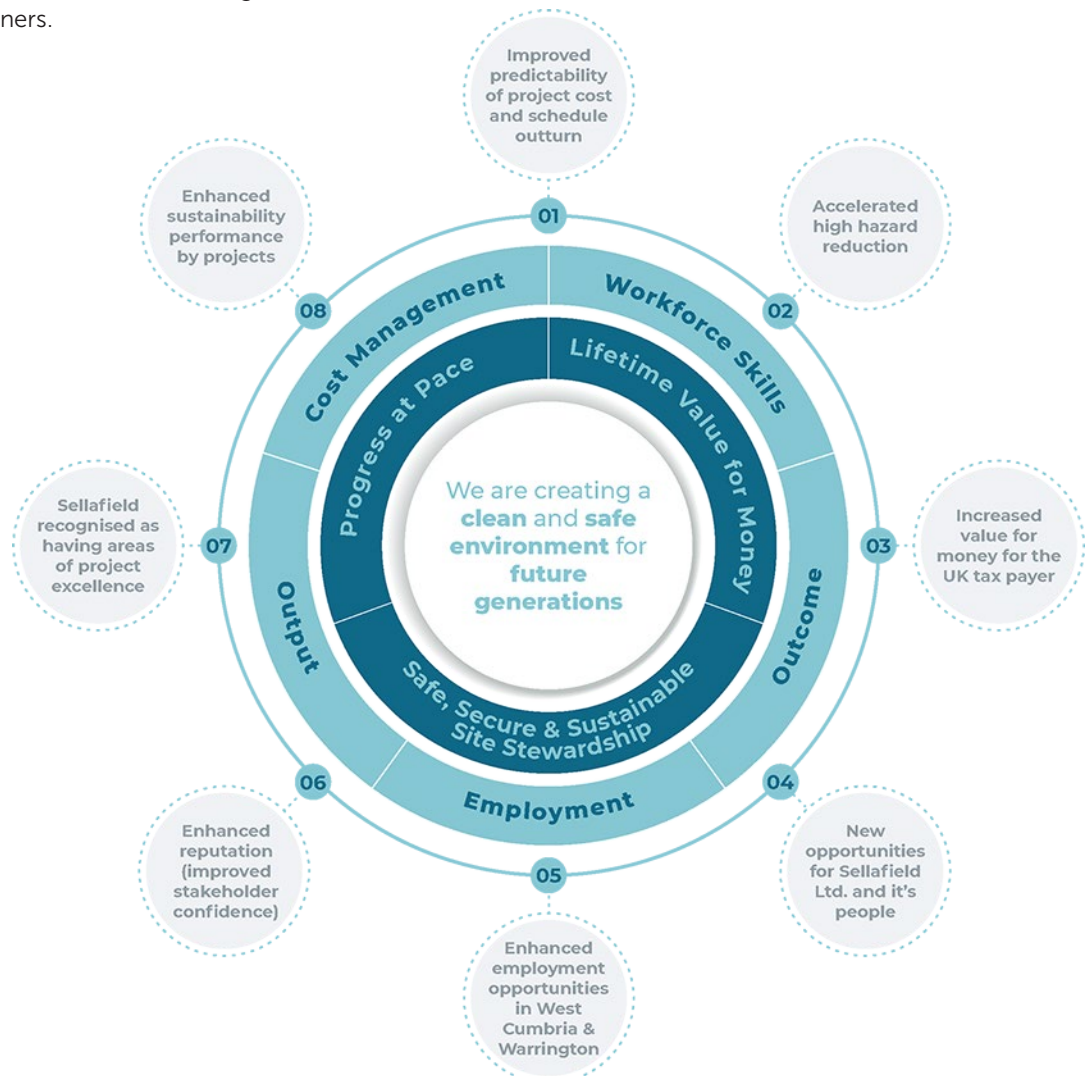
The partnership comprises KBR as the project services provider, Jacobs Clean Energy Ltd as the design and engineering provider, Morgan Sindall as the civil construction management provider and Altrad Babcock (formerly Doosan Babcock) as the process construction management provider. Sellafield Ltd's role in the model is two-fold:

1. To enable and oversee PPP delivery as an Intelligent Client organisation.
2. To deploy capability and capacity into the partnership through delivery roles as a 'Fifth Partner' working for, and on behalf of, the Partners.

Since the launch of PPP four years ago it has successfully taken delivery responsibility for three major projects that transitioned whilst in-flight, the Sellafield Product and Residue Store Retreatment Plant (SRP), Site Ion Exchange Effluent Plant (SIXEP) Continuity Plant (SCP) and the Replacement Analytical Project (RAP). It is also responsible for two future major projects which PPP took over at earlier delivery stages, the Box Encapsulation Plant Product Store (BEPPS2) and Lightly Shielded Store (LSS1).

In Year 4, PPP is also engaged in a further three projects identified in the pipeline for transition, SIXEP Waste Management Receipt Facility (SWMRF), Special Nuclear Materials (SNM) Future Storage and Sludge Handling and Export Plant (SHEP).

Significant performance milestones have been achieved including the first Project-wide Objective (PWO) for SCP and the placement of long-term strategic contracts with a full suite of Key Delivery Partners (KDPs).



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.

This fourth annual report on the PPP from the Sellafield Ltd Client provides a comprehensive overview of the Partnership's performance over the last 12 months across all aspects of the PPP. It is structured into six sections: Partnership, Portfolio, Projects, Sellafield Ltd, PPP Financials and Forward Look.

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

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

### 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.

### 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.

### Output

Early Contractor Involvement (ECI) from project conception ensures 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 five Success Factors in the areas of resource efficiency, improved employer capabilities, procurement efficiency, programme efficiency and programme agility.

## 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 summary

Overall the PPP has performed strongly against expectations through Year 4 with noticeable improvement in leadership, a focus on acceleration and greatly improved performance management and reporting.

Central to this, there is now high confidence the promise to the Government for double-digit potential savings from the PPP model, namely £700 million in Value for Money will be exceeded. £1.5 billion of benefit has been identified, of which £1.1 billion has been validated as credible and £200 million delivered and assured. This is ahead of PPP Full Business Case timelines, which forecasted £200 million of benefit being achieved by Year 13 (in 2031/32).

Whilst PPP remains on course to deliver the Full Business Case benefits and this report identifies many achievements to celebrate, several issues and risks are also identified.

These include rising costs, labour challenges, global material shortages, interface and integration challenges and supply chain resilience, all of which will impact the extent to which the benefits being realised by PPP translate into actual savings for the Government.

Year 4 saw the Replacement Analytical Project (RAP) face continued delivery challenges. Interventions and reviews were initiated at both Senior Responsible Owner (SRO), Client and project levels to strengthen delivery and there now needs to be a period of steady performance to evidence the results of those interventions are having the desired impact.

More generally going forward there is a need to ensure project successes are the result of coordinated programme-wide efforts and occur in an environment where everyone understands and is actively working towards, the wider objectives of PPP. Whilst these challenges are known and under management interventions, the task for Year 5 will be to confirm the interventions are having the desired impact on performance.

A summary of key achievements and challenges is provided on the following pages.



# Achievements

## PARTNERSHIP

**7%**

increase in Full Time Equivalents in PPP across the four Partners, maintaining steady alignment to delivery resource demand.

Stayed within

**9.4%**

of resource demand every month of the year ahead of the 10% target.

PPP Cultural Maturity improved from

**50 to 60%**

**95%**

of people are directly employed by the Partners.

**205**

Sellafield Ltd people working on PPP as the 5th Partner.

**12.3%**

of people directly hired by the Partners were early talent, over the 5% target.



Implemented new senior leadership team structure and integration arrangements.



Launched new 'One Team' PPP identity and implemented.



Successful onboarding of Altrad following its merger with Doosan Babcock.



PPP achieved accreditation with the National Centre for Diversity as an Investor in Diversity, a 1st for nuclear and for a partnership.



Sellafield Ltd and PPP together won the Institute for Collaborative Working's 2022 Excellence award in the category of Supply Chain.



# Achievements

## PORTFOLIO

# £1.5bn

of benefits identified, £1.1 billion of which validated as credible, and £200 million is delivered and assured.

# 100%

successful completion of the 'Good to Great' performance acceleration programme and developed the PPP Strategy.

Achieved "**Excellent**" results for the three Sellafield Ltd Key Targets with the NDA that related to PPP, including monthly resourcing targets.

Achieved

# 19.5/20

Key Performance Indicators (KPIs).

Actively supported the Sellafield Ltd **Health, Safety and Well-being** Hub driving innovation in collaboration to support Zero Harm 24/7.

Actively contributed to Sellafield Ltd achieving **10 million**

hours worked without a RIDDOR Lost Time Accident in December 2022.

# 93%

Safety Energy score across all PPP projects and 93% of days were Zero Harm.

# 3,881

observations and 'courage to care' conversations.

# 650

Health and Safety Learning from Experience (LFE) were logged, trended and issued.

# 8

Key Delivery Partners (KDPs) in operation.

# 100%

of PPP contracts over £100,000 include Social Impact KPIs.

# 196

suppliers working in PPP, of which 70% comprises small and medium enterprises (SME) who are receiving 28% of the spend value.

# £14.4m

residing in the Aligned Incentive Fund (AIF) with all Project-wide Objectives achieved to date.

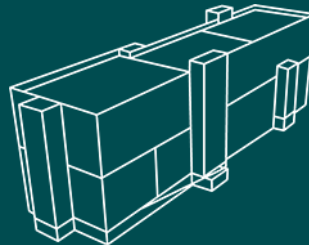
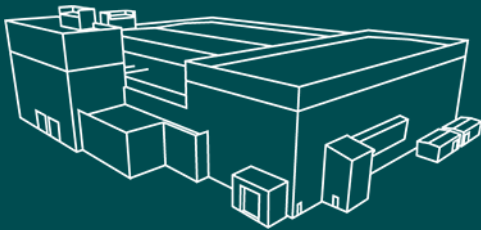
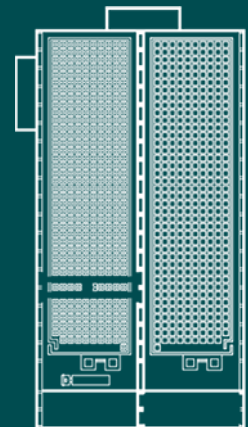
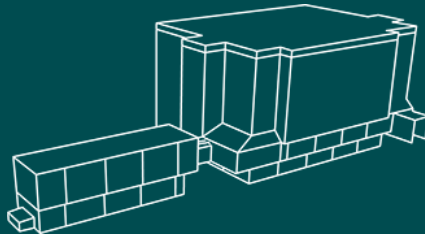
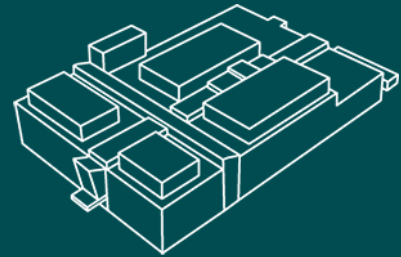
# Achievements

## PROJECTS

# 5

## PROJECTS

are in delivery and a further three pipeline projects are expected to transition across.



## 2 "GREEN"

Delivery Confidence Assessments from the Infrastructure and Projects Authority (IPA) for Sellafield Product and Residue Store Retreatment Plant (SRP) and Site Ion Exchange Effluent Plant (SIXEP) Continuity Plant (SCP) and 11 areas of best practice across the two combined.

## 1 "GREEN"

Delivery Confidence Assessment from the Nuclear Decommissioning Authority (NDA) for the Box Encapsulation Plant Product Store (BEPPS2), using an IPA-style review methodology.

## 1 "AMBER"

Delivery Confidence Assessments from the IPA for the Replacement Analytical Project (RAP), improved from the "RED" assessment and reflect the delivery challenges that remain.



Achievement of the **1st** Project-wide Objective for SCP and the **2nd** overall for PPP, with the manufacture of the first two large stainless steel process vessels.



The BEPPS2 Outline Business Case approved within Sellafield Ltd ready for the Nuclear Decommissioning Authority (NDA) sanction process in Year 5.



Partner commitment to driving value pre-Major Project Baseline, such as the LSS1 value study providing **1st** PPP example of using Modern Methods of Construction (MMC) and Early Contractor Involvement (ECI) to the extent that it may negate the need to build an entire facility (LSS3), providing significant benefits concerning cost, sustainability and land usage.

**87%**

of total spend was on project delivery (compared to 54% in Year 2 and 85% in Year 3) and increased by

**40%**

compared to Year 3 in keeping with the increasing delivery demands of all 5 projects.



**Completion** of the Concrete Batching Plant, which is now fully operational and supporting not only PPP projects but the wider Sellafield site.

Launched the Intermediate Level Waste East Zone (ILW EZ) project, a site-wide improvement to help repurpose prime Sellafield land to alleviate the physical congestion of the site for the benefit of many new build projects up to

**2040**

initially including LSS1 and BEPPS2.

**Award-winning 4D Building Information Modelling (BIM)** technology approach implemented on SRP and SCP, improving safety, mitigating risks and exploiting opportunities.



# Challenges

Key external and internal challenges that had to be navigated by PPP projects in Year 4, and will continue into Year 5, are noted here and covered in more detail throughout this report.

## External



### Capacity and capability

Providing the required levels of resourcing for design, engineering, manufacture, construction, commissioning and pre-operations, has been, and remains a significant concern, principally because of demand from other major projects including in the nuclear and defence sectors.



### Macro-economic factors

The Consumer Prices Index (CPI) remains very high, with an increase of 10.1% over the past 12 months. The high inflationary environment is eroding sanction and contract/framework headroom, particularly those with significant material demands. NDA is engaging with HMG on a group-wide sanction relief approach for inflation.



### Construction labour

Linked to capacity and capability challenges, the UK is currently seeing high levels of wage inflation across all construction job roles.



### Supply chain resilience

A supplier of two building cranes for the SIXEP Continuity Plant (SCP) is currently subject to insolvency proceedings. Arrangements have been made to extract the cranes when 'mechanically complete' and to finish the works with another supplier in the UK.



### High inflation

The Consumer Prices Index (CPI) remains very high, with an increase of 10.1% over the past 12 months. The high inflationary environment is eroding sanction and contract/framework headroom, particularly those with significant material demands. NDA is engaging with HMG on a group-wide sanction relief approach for inflation.

## Internal



### Cultural maturity

In Year 4, PPP laid the foundations to move from a group of partners working together into a more mature partnership, including leadership changes and development of the PPP Strategy. Continuing to mature the partnership, with credible leaders with demonstrable behaviours, will remain an ongoing challenge.



### Supply chain management

PPP has successfully procured the strategic and long-term delivery arrangements through the Key Delivery Partners (KDPs). PPP now needs to evolve from a procurement focus to an onboarding and management focus to leverage the value of its supply chain.



### Evolving from project performance to portfolio performance

PPP has made strong gains in the performance of its projects. It also laid the foundations for stronger focus at a portfolio level. The Client expects strong portfolio performance going forward to support project delivery for new projects (e.g. LSS1, BEPPS2 and future pipeline projects).



### Common data environment

Progress in delivering the Common Data Environment (CDE) has been slower than expected due to the constraints of the Sellafield Ltd security environment. This has resulted in bespoke solutions being pursued by the projects which will need to be addressed as the PPP portfolio approach matures.



### Function of integration in the partnership

Through sharing of experience with industry (e.g. Project 13) it has become apparent that enterprise delivery organisations that spread integration responsibilities and collaborative behaviours throughout the partnership are achieving greater integration value than those that allocate responsibility to just one party.



### Stakeholder environment

Due to the large and complex programme PPP is delivering for Sellafield Ltd, it relies on the support and participation of a wide range of stakeholders both internal and external to PPP and Sellafield Ltd. The Client and PPP must continue to invest and focus on transparent stakeholder engagement as a priority.



### Replacement Analytical Project

The Replacement Analytical Project (RAP) faced continued delivery challenges over Year 4. Interventions and reviews were initiated at both programme and project levels to complete the define stage to Full Business Case (FBC) and ensure that the strategic need can still be met.



### Installation interfaces and systems integration

For projects in delivery and construction phases, Year 4 saw the early stages of transitioning into the more complex phases of installation and systems integration. Typically projects at this stage will encounter a broader set of challenges across a greater number of interfaces.



## Foreword

I am delighted to introduce this year's PPP Annual Report, my third since joining Sellafield Ltd in 2021.

Last year, I mentioned that our focus was on ensuring the safety and high performance of our projects. The report discussed various changes and initiatives that started in Year 3 to help accelerate high performance. I am extremely proud of the achievements made by our Partners and the Client in Year 4. We have made progress, but there is still a lot more to do, and we must remain vigilant.

We have formalised the vision I set out last year to become a top-performing infrastructure delivery organisation into Sellafield Ltd's plan for the next two years. That plan sets us up for delivery success over the next twenty years, building on what we started last year, emphasising our focus on achieving zero harm 24/7; delivering projects on time, within budget and to high-quality standards; developing our skills and capabilities; raising our reputation in the industry; implementing our supply chain strategy; and incorporating sustainability throughout the project lifecycle.

The Sellafield Ltd Board has recognised our efforts, acknowledged our accomplishments over the past year, and encouraged us to continue our efforts because they are making a positive impact.

In the last 12 months, our projects have received multiple independent delivery confidence assessments, including "Green" ratings from the Infrastructure and Projects Authority (IPA) and the Nuclear Decommissioning Authority (NDA), placing us in a select group.

Our Partners have helped Sellafield Ltd achieve key target results of "Excellent" and meet all operating plan milestones.

We have also won awards, celebrated staff academic achievements, received positive feedback from stakeholders, and hosted visits from numerous major infrastructure companies who wanted to learn from us and allow us to learn from them.

We must continue to deliver on the commitments we have made to continue to earn the trust placed in us to execute a vast and complex infrastructure programme.

I am pleased to see the Partnership has grown stronger as a result of leadership changes we initiated in Year 3. This is evident not only in the united approach to addressing issues like the underperformance in the Replacement Analytical Project (RAP) but also in forward-looking initiatives such as the successful first year of the Sellafield Safety Hub, the development of the PPP Strategy, and PPP's accreditation as an Investor in Diversity, which is a first for the nuclear industry and for a partnership.

I am excited to see the Partnership bring the new PPP Strategy to life in Year 5, benefiting our major capital programme and contributing to Sellafield Ltd's mission of creating a clean and safe environment for future generations.

### **Andy Sharples**

Executive Projects Director for Sellafield Ltd

# Foreword

It is a genuine pleasure to introduce our fourth PPP Annual Report for 2022/23, a process I look forward to every year.

It allows us to reflect on what we have achieved, our challenges and how we plan to move forward. It also brings into focus our role as a client that enables performance and holds to account in equal measure.

This past year has seen the performance of the PPP continue to improve following the changes and growth that took place in Year 3.

We have put a lot of effort into driving the performance of our projects, resulting in a Client and PPP more focused and in tune with delivery risks and opportunities and the collective responsibility we have to our project teams to support them in their challenges.

This was recognised by the Infrastructure and Projects Authority (IPA) in several delivery confidence assessments they made during the year. The Sellafield Product and Residue Store Retreatment Plant (SRP) and SIXEP Continuity Plant (SCP) achieved 'Green' delivery confidence assessments, and the Replacement Analytical Project (RAP) improved from a 'Red' assessment to 'Amber'. The Nuclear Decommissioning Authority (NDA) also used the IPA review methodology to give the Box Encapsulation Plant Product Store (BEPPS2) a 'Green' confidence assessment.

We also saw the Lightly Shielded Store (LSS1) return to delivery after a study optimised arrangements and, in doing so, reduced the need for additional storage facilities in the future, which is a great outcome in terms of cost and sustainability for our busy site. Our people should be proud of their efforts, as there are many achievements to highlight.

While these achievements are impressive, it's important to note that they don't guarantee overall success. We must remain alert and focused on consistent and systematic performance. The IPA's delivery confidence assessment is their view of the likelihood of the project delivering its objectives to time and cost – it's great to have but at the same time it's not a guarantee of future performance.

In Year 4, this was particularly evident in the case of RAP, where the Client observed underperformance and implemented specific measures in response. The Partners responded to these measures with a positive and clear plan, along with key performance indicators (KPIs) that instilled confidence in the Client and our stakeholders.

In Year 5, we need the Partners to consistently meet performance targets to provide evidence for that confidence. It is encouraging to see the collaborative investment the Partners made in RAP in Year 4, strengthening the partnership for the benefit of all current and future PPP projects. This work highlights the strength of the PPP model and emphasises the importance of working together to solve problems during challenging times.

Driving project performance was a key focus this year. In Year 5 that focus needs to evolve to portfolio performance, so that we can see high performance happening consistently for the benefit of all projects.

We must also continue to work closely with our stakeholders both internal and external to PPP and Sellafield Ltd. In particular, those in the NDA, the IPA, the Department for Energy Security and Net Zero, the Office for Nuclear Regulation, and our significant supply chain,

We must continue to fulfil the commitments we have made to maintain the trust placed in us to deliver a vast and complex infrastructure programme.

I want to take this opportunity to thank everyone for their efforts over the last year. Whilst we continue to have the ongoing challenge to create a collaborative and high-performing team across many projects, sites and organisations, the commitment, skills and drive of our people and their desire to collaborate will help PPP to rise to this.

I also want to thank our Industry peers, particularly those on Project 13, where we all continue to share our experiences and knowledge generously. I am grateful for their support and feedback that PPP is continuing to lead the way in its maturity as a collaborative enterprise.

I am proud of all that has happened in my first full year as Head of the Client and am very excited to help PPP achieve more in Year 5.

## Richard Lennard

Head of Client for Project Delivery, Sellafield Ltd





## Response from the Partners

This past year was my first full year as Managing Director of the PPP. It has been a busy and challenging time, but I am thrilled to lead the Partnership in delivering one of the most exciting and complex infrastructure programs in the UK.

After experiencing the past year, I can confidently say that I am immensely proud and excited to be part of something that will revolutionise how major capital projects are delivered.

The key to our success is our people. My main focus is to ensure that we deliver our projects safely, making sure that no harm comes to anyone working with or in the PPP team.

We have achieved a great deal in my first full year, but we have also faced challenges, and we will continue to encounter challenges in the future. These include the growing competition for skilled workers and materials, as well as the local impact of global conflicts and issues like climate change. We have also responded to the challenge of strengthening the delivery of the Replacement Analytical Project.

Based on how I have witnessed the Partnership continue to gain strength and increased alignment and integration to achieve success and solve problems, I am confident that our ability to deliver will keep improving. We will mature and fully embrace the trust placed in us to be a leading example of the new collaborative approach to project delivery.

I am particularly excited about the new generation of projects coming through the pipeline that will enable us to show the power of the PPP collaborative approach from the outset. I am delighted that Sellafield Ltd has already enabled us to embed PPP resources into three pipeline projects that are likely to be the next to transition across to the Partnership because, as we all know, we have significant scope to drive improvements and value during the earliest stages of a project.

I look forward next year to PPP driving greater value before and after the setting of Major Project Baselines and having more examples of how our activity impacts. This year we had a fantastic example with the Lightly Shielded Store (LSS1) project value study. This piece of work showed how, by involving partners early and using modern methods of construction, we have been able to find an innovative solution that is likely to negate the need to build an entire facility (LSS3). In terms of benefit, not building a facility, on a congested site with limited available space, not to mention the significant savings in cost, time and sustainability, is one of what I expect will be many examples of new and different solutions we will deliver in collaboration with Sellafield Ltd and our supply chain partners. The implementation of our focused strategy, our measurement and monitoring of performance against this support our confidence in driving value, making savings and providing benefits.

On a personal note, I cannot be prouder of our accreditation during the year as an Investor in Diversity with the National Centre for Diversity. Having a PPP where everyone feels valued, accepted and appreciated is my second goal only to keep them safe. In fact, it is central to our Zero Harm 24/7 ambition and expectation. I thank everyone in PPP who made this a reality.

### **Duncan Elliott**

Managing Director, Programme and Project Partners (PPP)









# 1 Executive Summary

# Executive Summary

This Annual Report finds there is a body of evidence supporting the view that PPP has overall had a strong fourth year of performance, with observable achievements from the leadership changes and performance acceleration and reporting changes.

Central to this, there is now high confidence the promise to the Government for double-digit potential savings from the PPP model, namely £700 million in Value for Money will be exceeded. £1.5 billion of benefit has been identified, of which £1.1 billion has been validated as credible and £200 million delivered and assured. This is ahead of PPP Full Business Case timelines, which forecasted £200 million of benefit being achieved by Year 13 (in 2031/32).

Whilst PPP remains on course to deliver the Full Business Case benefits and this report identifies many achievements to celebrate, several issues and risks are also identified. Whilst these are known and under management interventions, the task for Year 5 will be to confirm the interventions are having the desired impact on performance.

This Annual Report is structured into six sections: Partnership, Portfolio, Projects, Sellafield Ltd, PPP Financials and Forward Look.

**£1.5 billion**

OF BENEFIT HAS BEEN IDENTIFIED, MORE THAN DOUBLE THE ORIGINAL COMMITMENT TO THE GOVERNMENT OF £700 MILLION.

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# Partnership

The performance of the Partnership in Year 4 has been generally strong as reflected in the various reviews and assessments described throughout this report. These include successful project assurance reviews, external awards and recognition, the outputs of the Performance Assurance Framework and a step change in benefit identification.

The impact of the leadership changes made in Year 3 has been seen to be making a positive difference. The leadership team appears to be more stable and unified in their approach than in previous years and is putting the measures in place that will see that improvement trend continue. Examples of this include the refinement of management and leadership team meetings and governance, the successful completion of Good to Great and the development of the longer-term view in the PPP Strategy.

The Partnership has made progress in the performance of projects at an individual level, yet work still exists in seeing these changes flow into a consistent delivery methodology across the wider project portfolio. The Partnership is still seeing an inequality in the allocation of the partners across project delivery. Limited progress was made in-year to move this position which, if not acted upon, could ultimately affect partner pay-out levels as projects reach completion. The ability of the Partnership to effectively collaborate is still challenged by the delay in the delivery of the Common Data Environment and delivery of modern delivery solutions in areas such as commercial management for the benefit of all partners and projects. The early signs of greater programme-level strength and depth are being seen in areas such as supply chain engagement, resourcing, the new PPP one team identity, the greater presence of the Programme Management Office and improvements in staff engagement.

In Year 5 the expectation is that these pockets of success will expand to see more improvements at the programme and portfolio level, realising the value of full collaboration with a suite of integrated modern systems.

The ability to build an aligned and collaborative supply chain will support and shape early-stage projects, and see the forming of long-term outcome-based relationships that will further drive for opportunities in delivering shared milestones in both the SIXEP Continuity Plant (SCP) and Sellafield Product and Residue Store Retreatment Plant (SRP).

In response to last year's report, a programme of cultural development work occurred in Year 4 covering technology enablers, training, diversity and inclusion activities, improvements to staff communications and staff awards and recognition. The impact of that work was recognised in several independent activities, including becoming accredited as an Investor in Diversity with the National Centre for Diversity, PPP supporting Sellafield Ltd's re-certification to ISO 44001 (the international standard for collaborative business relationships) and winning the Institute for Collaborative Working's 2022 excellence award in the category of Supply Chain.

Importantly, the PPP achieved substantial improvement again in the annual cultural maturity assessment undertaken by Deloitte for the Client, moving from an average of **5/10** to **6/10** and seeing all areas move into operational value.



The target for Year 5 is to continue to improve generally and specifically move at least one of the ten cultural maturity areas into strategic value. To do this the focus will be on improving the PPP's Employee Value Proposition to be a top-performing 'best places to work'. Additionally, PPP will also look at how to expand the 'one team' cultural development activities more widely through the Key Delivery Partners (KDP) and supply chain.

# Portfolio

## Safety

PPP safety performance has seen both positive and negative influences during Year 4 with the highlight being PPP's active contribution to Sellafield Ltd's achievement of 10 million hours worked without a RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) Lost Time Accident, achieved in December 2022.

Accident performance is better than typical National Construction Industry accident data and this is reflected in the LTA Rate and RIDDOR Rate which were both below the Sellafield Ltd target. Performance metrics do reflect an increase in minor injuries, however, 93% of days worked were recorded as Zero Harm days where no first aid was required to be administered to any PPP worker.

Several significant events on Morgan Sindall-led projects across the site including the Sellafield Product and Residue Store Retreatment Plant (SRP) project and the Infrastructure Strategic Alliance (ISA) prompted a letter of improvement from the Sellafield Ltd Supply Chain Director and a subsequent Client-led investigation into the PPP-related events. The events involved work at height, falling objects and vehicle safety during the early part of 2022. This resulted in the production of a Safety Improvement Plan compiled by Morgan Sindall in response to the letter. Many of the recommendations from the investigation have been implemented and the improvement actions identified in the plan were signed off by the Sellafield Ltd Supply Chain Director in September 2022.

## Environment

Environmental performance during Year 4 has remained consistently strong across PPP, evident with zero (0) environmental Sellafield Incident Reports (SIRs) being raised. The SIR data feeds into the SL Environment Events Rate (e-TRIR) which is an indicator of environmental performance across Sellafield Limited and contributed to the achievement of a rate of 0.06 against a performance target of  $\leq 0.12$ .

## Quality

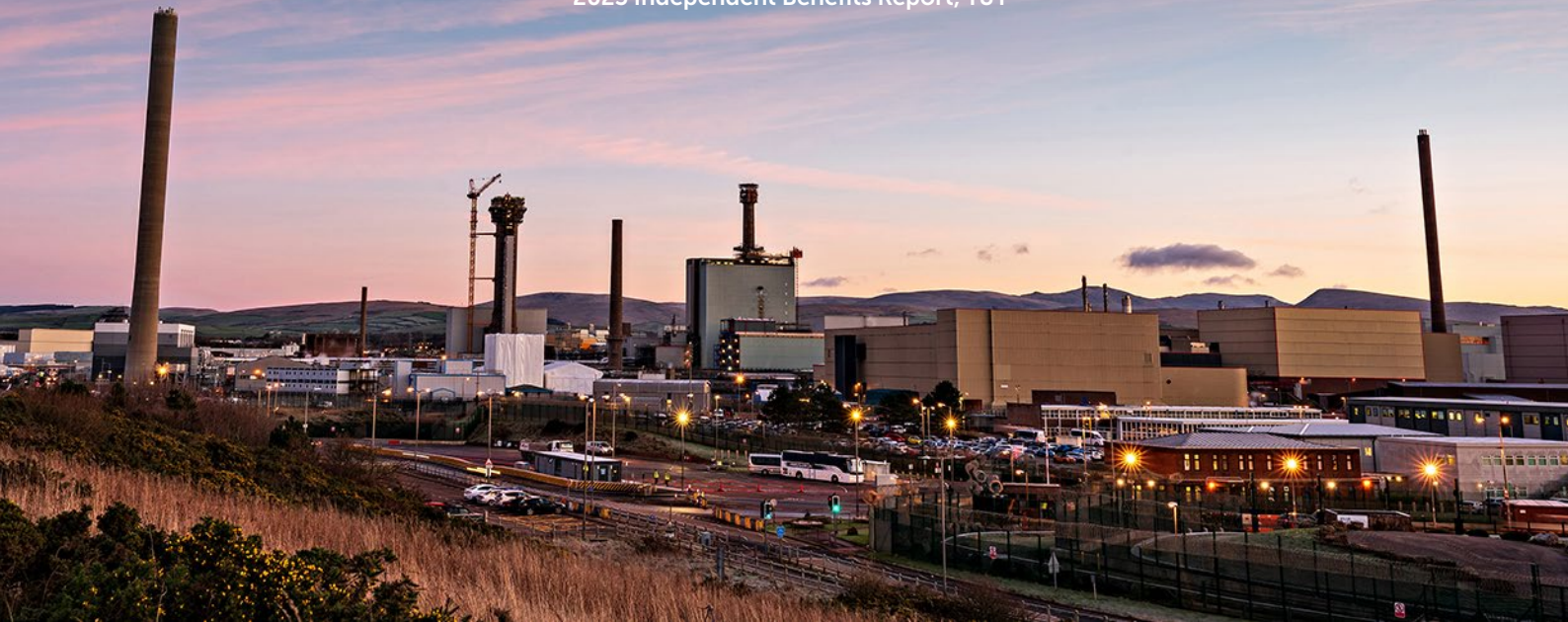
PPP Quality performance over the year has been very good. The Quality Transformation Plan outturn completion score was 93% and the Performance Assurance Framework programme and project scores were at the top end of Operational Value (scoring 1.9/3.0).



*“The PPP has made great progress working towards the outlined benefit areas, including making significant progress on Benefit 3: Value for Money in addition to noteworthy developments toward collaboration efforts across the PPP from supply chain to senior leadership.*

*The PPP has commenced the journey of moving toward a new system and tool to support the tracking of benefits through the duration of the lifecycle. This demonstrates the awareness and understanding that as the PPP grows greater focus is required on how they track larger benefit values, over longer periods of time.”*

2023 Independent Benefits Report, T&T



## Benefits and site-wide improvements

Year 4 saw high confidence that the promise to the Government for double-digit potential savings from the PPP model, namely £700 million in Value for Money will be exceeded. £1.5 billion of benefit has been identified, of which £1.1 billion has been validated as credible and £200 million delivered and assured. This is ahead of PPP Full Business Case timelines, which forecasted £200 million of benefit being achieved by Year 13 (in 2031/32). The year also saw a substantial evolution in the benefits and site-wide improvements approach as verified in an independent Benefits Report undertaken by T&T at the end of the year.

## Benefit 8. Sustainability

PPP progress on the newer PPP Benefit 8 for sustainability has accelerated over the past year. The PPP Sustainability Strategy has been refined, with defined objectives, which have been signed off at both Management Board and Senior Leadership Team levels. There has been an increased focus on carbon reduction through incorporating sustainability principles into the very earliest stages of projects, thereby maximising the potential for carbon reduction. In support of that, a Sustainability in Design Manual was developed in collaboration with Sellafield Ltd.

Whilst PPP initially calculated its Whole Lifecycle carbon baseline in 2021 (a first for major projects at Sellafield Ltd), a proportion of that baseline was based on industry estimates.

In Year 4, PPP worked to increase accuracy and set ambitious yet realistic carbon reduction targets going forward, supporting Sellafield Ltd's goal of an 80% reduction in Scope 3 emissions by 2050 and PPP's ambition to be net-zero by 2039. Learning from PPP's experience in embedding social value into the tendering process, it is working with our Key Delivery Partners to embed carbon management into incentivised profit arrangements.

PPP is clear that every job is a sustainability job and that people should be upskilled to deliver sustainability within their roles. For that reason, sustainability is now included in the PPP Corporate Induction and plans have been developed to roll out accredited Carbon Literacy training in Year 5.

## 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 covering eight workstreams and using a scale agreed upon by all five parties within PPP, to provide an objective assessment of Sellafield Ltd, the Client and PPP performance by using evidence per project.

Year 4 saw the completion of the fourth PAF Assurance Cycle which found substantial progress at PPP enterprise level and a positive impact on project delivery. Cycle 4 found evidence that best practices and learnings are being shared and implemented across projects, to continue to build the PPP enterprise approach. The focus for the next Cycle in Year 5 will be on how the PPP has embedded and implemented the new PPP strategy.

## Key targets

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

In 2022/23 the three key targets concerning PPP achieved performance ratings of 'Excellent' and comprised:

- **Replacement Analytical Project (RAP)** – Completion and Handover of Construction Command and Welfare Facility (Construction Village).
- Acceleration of PPP through the delivery of significant critical enablers, building confidence through creating the environment for demonstrable project delivery performance.
- **Schedule Adherence** – including the SIXEP Continuity Plant (SCP) and Sellafield Product and Residue Store Retreatment Plant (SRP) projects).

## Key performance indicators (KPI)

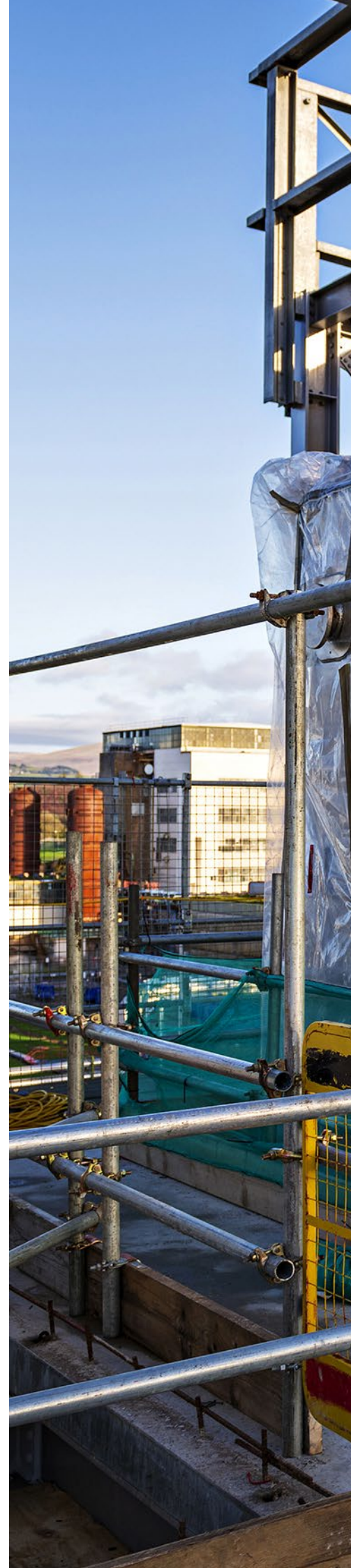
Sellafield Ltd and the PPP Partners agree on KPIs for the PPP to measure in-year performance. The KPIs were proposed by the Lot Partners and agreed upon by the Client through a collaborative process focused on project-specific targets such as SRP underground enabling works, alongside strategic and behavioural objectives such as the implementation of a PPP Human Performance Coaching Programme.

Nineteen of the twenty KPIs were fully achieved by the Lot Partners in Year 4, with the remaining KPI partially achieved. This meant the achievement of over 95% of the available Contract Specific Profit (CSP) weighted on the KPIs.

## Supply chain

Key achievements in Year 4 include:

- The Multi-Project Procurement approach is in action which enables long-term opportunities for small to medium enterprises (SMEs).
- Eight Key Delivery Partners (KDPs) combining both Sellafield experience and Industry best practice through long-term delivery frameworks with specific contract obligations to SMEs.
- SME Matchmaking Service operationalised – putting KDPs in direct contact with SMEs who will support delivery.
- A Social Impact KPI is embedded into 100% PPP contracts (where the value is over £100,000).
- 196 suppliers currently working in PPP, 70% are SMEs.







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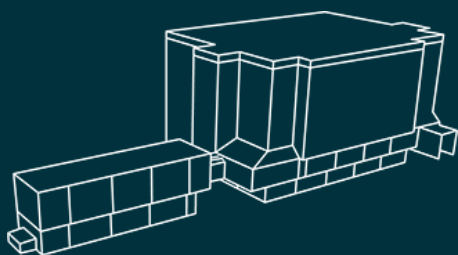
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# Projects

The Partners are accountable and delivering five of the major projects critical to Sellafield Ltd's purpose, namely Sellafield Product and Residue Store Retreatment Plant (SRP), Site Ion Exchange Effluent Plant (SIXEP) Continuity Plant (SCP), Replacement Analytical Project (RAP), Box Encapsulation Plant Product Store 2 (BEPPS2) and Lightly Shielded Store (LSS1).

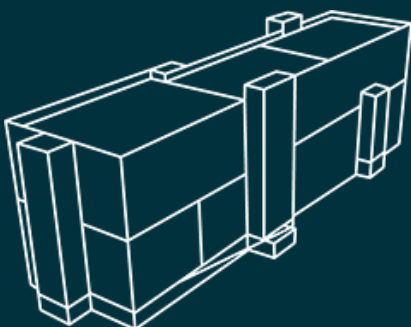
In addition, the Partners are supporting the delivery of a further three pipeline projects expected to transition across to PPP, including the SIXEP Waste Management Receipt Facility (SWMRF), Special Nuclear Materials (SNM) Future Storage and the Sludge Handling and Export Plant (SHEP).

The year has seen strong performance in project delivery for most projects, though the ongoing challenges for one project in particular, combined with a range of issues and risks occurring within all projects, reinforce that individual achievements are not to be confused with overall programme success.



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

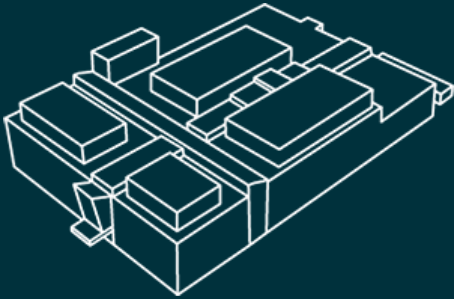
SRP continues to deliver in line with its Major Project Baseline (MPB) and Full Business Case (FBC). The Infrastructure and Project Authority (IPA) completed their annual independent 'Gate 0' project assurance review of SRP in September 2022, affording the project a Delivery Confidence Assessment (DCA) Rating of "GREEN". The assessment identified five areas of best practice: PPP model, use of 4D BIM modelling, offsite manufacture and testing, use of Earned Value Management (EVM) and Quantitative Risk Analysis (QRA) and future transition to operational readiness. Civil construction works have progressed well, and the project continues to move its focus to the more complex and challenging installation and systems integration of the key Glove Box and the Mechanical, Electrical, Instrumentation, Control and Automation (MEICA) work packages. The erosion of project float is giving some cause for concern, but the project is using Quantitative Risk Analysis (QRA) effectively to consider and understand the potential impacts of the issues and risks.



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

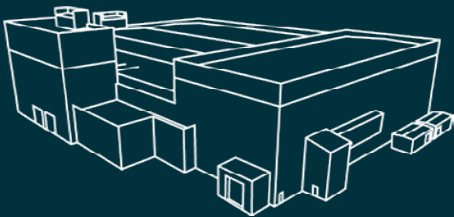
SCP also continues to deliver in line with its MPB and FBC. The project started the year by achieving the first Project-wide Objective (PWO) early, completing the manufacture of the first two large stainless steel process vessels that enabled the commencement of performance testing. Despite some challenges earlier in the year that impacted short-term progress on civil construction, significant progress has been made on the construction of both the Process Building and the Services Building, with the second PWO (weathertight Services Building) currently forecast to be achieved ahead of schedule in Year 5. The IPA independent 'Gate 0' project assurance review resulted in a "GREEN" DCA rating, identifying six areas of best practice: Commercial Strategy, 4D BIM Planning, Project and Programme Management, Risk and Opportunity Management, use of Learning from Experience (LFE) and Health and Safety Management.

## Replacement Analytical Project (RAP)



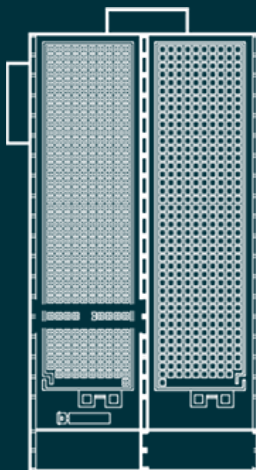
RAP has faced continued delivery challenges over Year 4, and performance trends have further challenged both the programme's strategic tolerances and the Outline Business Case (OBC) performance ranges. Performance interventions and programmatic reviews have been initiated to strengthen delivery, to set the project up to complete the define stage to FBC and to ensure that the strategic need can still be met. In support of this work, RAP was slowed down in mid-2022/2023 whilst the programmatic case was reviewed. The activities undertaken to regain control of delivery together with the revalidation of the strategic and economic cases led the IPA to adjust their DCA assessment of RAP from "Red" to "Amber". Whilst the "Amber" rating reflects the challenges that remain, there is now a much clearer environment in which to deliver this complex transition project through to FBC. The Client will continue to provide progressive assurance of design maturity, risk reduction, schedule and estimate benchmarking and working arrangements. This will ensure a fully agreed path for scope sanction and funding routes is understood by all ahead of FBC and that the right progress is made towards the Client setting the Major Project Baseline.

## Box Encapsulation Plant Product Store (BEPPS2)



BEPPS2 was the subject of a slowdown in Year 3. In Year 4 the project has performed well, hitting key delivery milestones and drawing on LFE from other PPP projects. It has progressed towards the define stage with assurance and governance taking up most of the year, including achieving a "Green" rating from an independent IPA-style review commissioned by the NDA. The project has implemented IPA best practice changes to the gated process and estimating techniques to achieve a significantly more mature estimate than is typically the case at this stage. The PPP model has also allowed the project to benefit from having the supply chain in place to accelerate delivery into the next phase. The project is an NDA Beacon project for sustainability, gaining a better understanding of the project life cycle carbon footprint and identifying opportunities to reduce the future carbon footprint. The BEPPS2 OBC was approved within Sellafield Ltd at the end of the year ready for the NDA sanction process in early Year 5.

## Lightly Shielded Store (LSS1)



LSS1 was paused in March 2022 as a result of an enterprise decision, and consequently, the project was demobilised to a paired-back focused team to re-evaluate the solution against the strategic and economic case. The established oversight was paused and a steering group convened to oversee key interfaces with land and the programme to ensure issues were being addressed and the LSS1 project was aligning to an enabling land project (Intermediate-level Waste East Zone (ILWEZ) Phase 1). A value management process was undertaken to evaluate the scope options involving PPP construction partners with invaluable experience in modern construction methods which influenced thinking on the building structure and roof design and then the final option selected. This process has been a great success for PPP and also led to optimisation of the store configuration to increase capacity which will potentially negate the need for a future project to build LSS3. From a sustainability and land usage perspective, this brings great benefit to Sellafield Ltd.

# Sellafield Ltd

Sellafield Ltd continues to evolve as a Client organisation for the delivery of major projects. The focus on managing the performance of the PPP Partnership has continued and oversight arrangements for the broadened remit to cover the other Sellafield Ltd major projects have been established to ensure effective governance and assurance.

Learning is being shared across all major projects (PPP and non-PPP delivered) and the deployment of the client across the broader remit is proving effective. Several strategic drivers are identified for the Client to further improve performance and are summarised in the Forward Look section of this report.

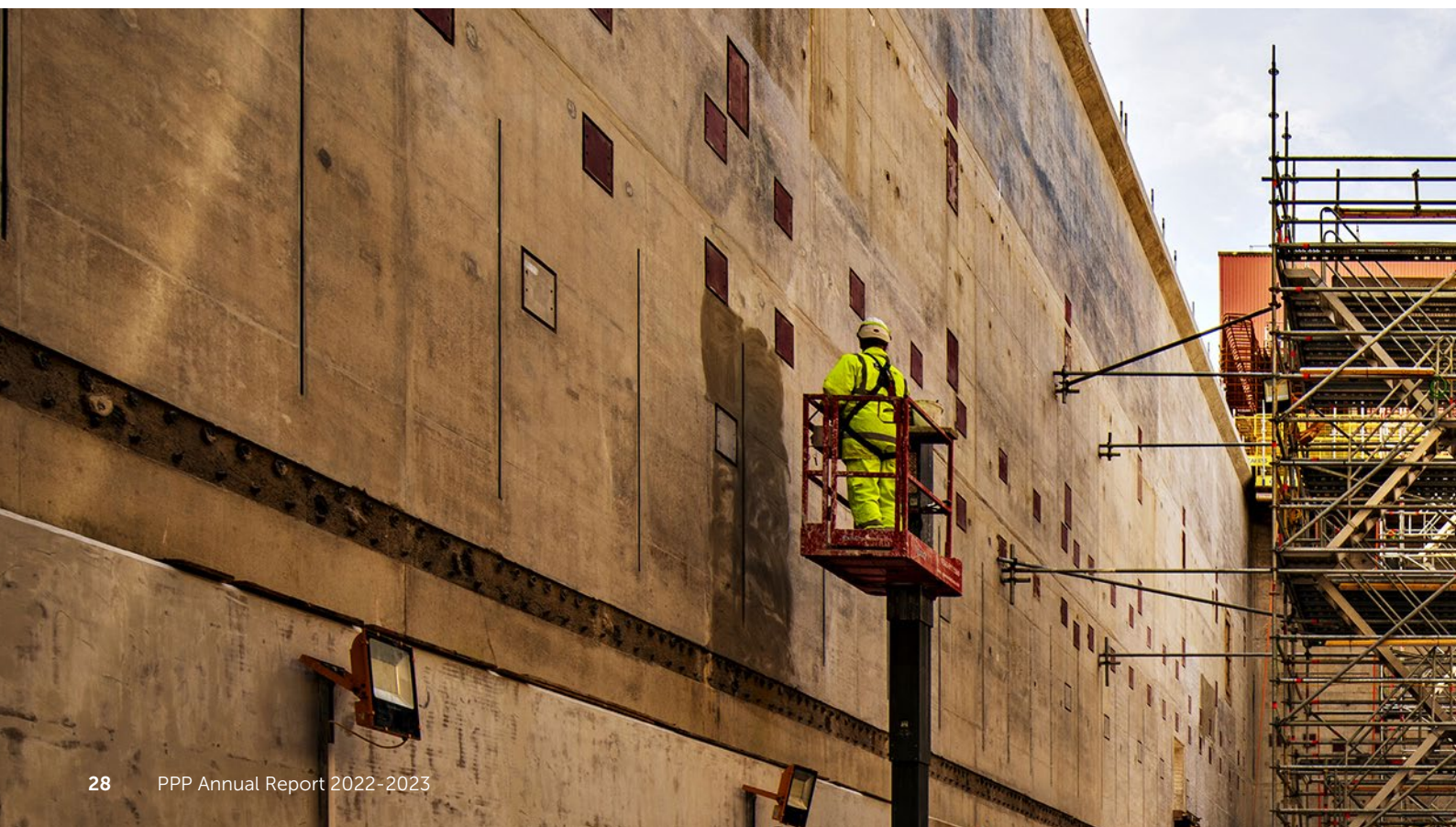
PPP Intelligent Customer arrangements continued to progress during Year 4 with feedback from the Office for Nuclear Regulation (ONR) that PPP is setting the standard both within Sellafield Ltd and further afield throughout the Nuclear Industry. In 2022 the ONR conducted an inspection against Licence Condition 17, focussing on Sellafield, the SCP project and West Cumberland Engineering (a key manufacturing supplier to Sellafield).

This inspection was rated as Green which underpinned the effectiveness of the collective arrangements with the supply chain.

Key findings and observations from Intelligent Customer assurance activities undertaken during the year were:

- Availability of resources to meet current and future requirements
- A shortfall in Nuclear Safety and Security awareness in some areas of the workforce
- Inconsistent competency assessment and recording
- Inconsistent communication between the Intelligent Customer, Projects and PPP Services

The Intelligent Customer function continues to champion a collaborative approach to assurance activities across the Client, PPP Programme Management Office and the Aligned Delivery Teams (ADT). The assurance maturity framework is still being used as an annual self-assessment tool to gauge the delivery performance of assurance activities and in Year 4 improvements saw all eight delivery performance categories deemed to be at least at Maturity Level 3 (out of a Maturity scale of 1-5) with three assessed to be at the Maturity Level 4, compared to two areas being at Level 2 and no areas at Level 4 in Year 3.



# PPP Financials

## Financial Analysis

Year 1 spend was focussed on PPP mobilisation, the transition of live projects and the establishment of the PPP model. Year 2 spend maintained the mobilisation theme whilst supporting an increase in construction activity and project delivery. Like Year 3, Year 4 has seen a continuation of increased project delivery comprising 87% of total spend (compared to 54% in Year 2 and 85% in Year 3).

The long-term nature of the PPP model has enabled the Partners to invest with confidence, resulting in 95% of the workforce being directly employed, this supports the Critical Success Factors and is a step change in performance from previous delivery models.

## Aligned Incentive Fund

The Aligned Incentive Fund (AIF) is a key part of the PPP incentive model, becoming available on the creation of a Major Project Baseline. It acts as a mechanism to reward performance (5% of the Major Project Baseline) via the identification and completion of Project-wide Objectives (PWOs), which are cardinal delivery milestones in the achievement of the functional specification.

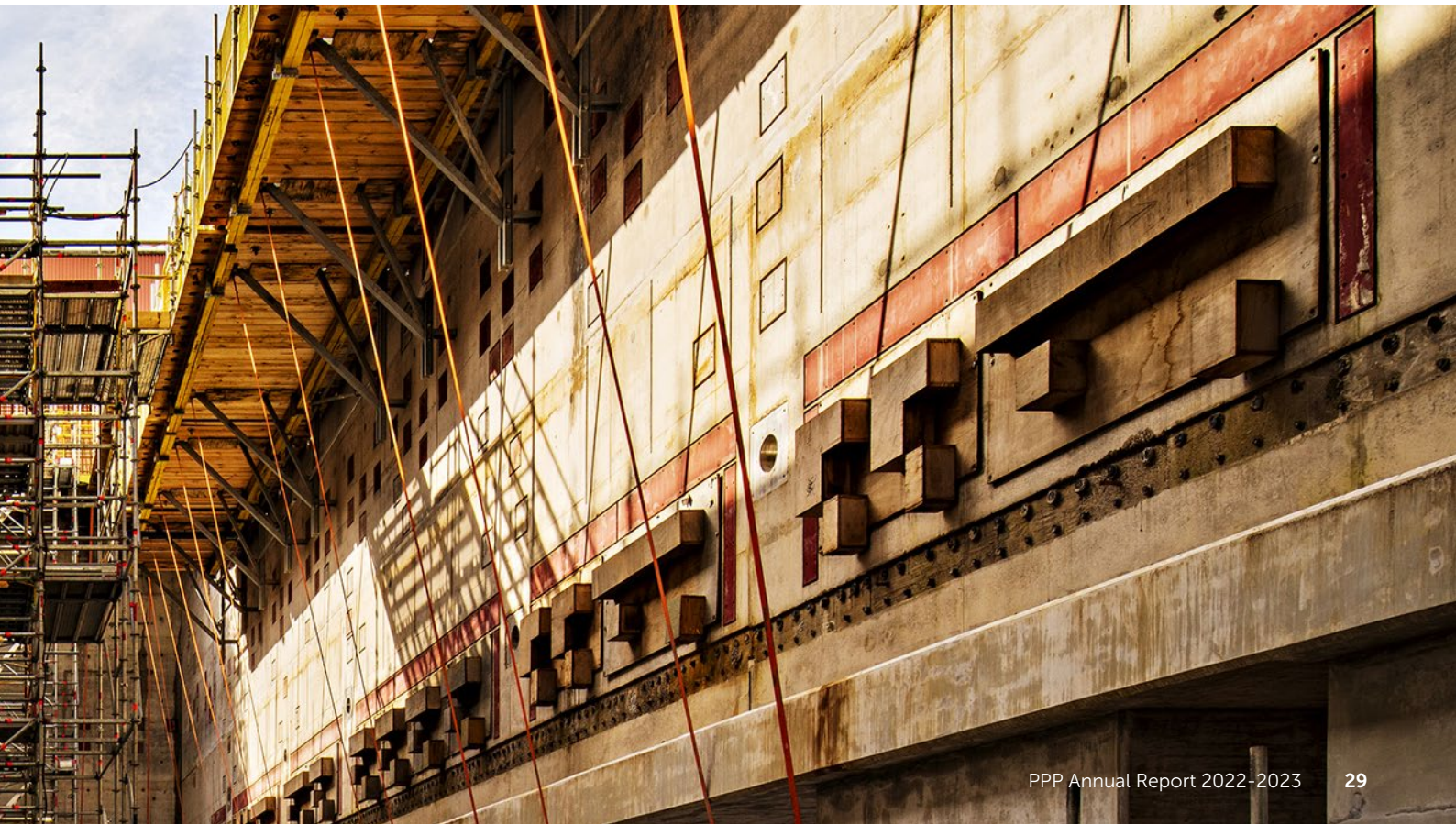
Following the achievement of the first PWOs for the Sellafield Product and Residue Store Retreatment Plant (SRP) and SIXEP Continuity Plant (SCP), there is currently £14.4million residing in the AIF, with current incentive opportunities across the SRP and SCP totalling £97.6million.

YEAR 4 HAS SEEN A CONTINUATION OF INCREASED PROJECT DELIVERY COMPRISING

**87%** OF TOTAL SPEND

CURRENT INCENTIVE OPPORTUNITIES ACROSS THE SRP AND SCP TOTAL

**£97.6m**





## Forward Look

### Pipeline

Sellafield Ltd's future pipeline has 11 potential projects. The majority of these are still in the very early studies phase of the project lifecycle.

This means that a need has been identified, however, how it will be addressed and by when is yet to be defined. The nature of the pipeline is therefore dynamic and, as studies mature, it inevitably changes.

The estimates are also indicative and, for the majority, were considered some time ago therefore, as with the scope, these are likely to change as the programme matures.

The process to transition projects into PPP has been refined in Year 4 based on Learnings from Experience (LFE) as a result of work to date. Integrating PPP resources and capabilities into the early stages of the project lifecycle, ahead of the formal transfer of delivery to PPP, leads to greater input from the Partners into the project delivery strategy, readiness to deliver and the development of PPP culture, resulting in a more seamless transition. This is critical to maximise the benefits of the PPP model.

The next three projects due to transition are listed below. An initial review indicates an opportunity for these to transition within the next few financial years.

This will be underpinned and assured to ensure project maturity and a Gatekeeper Review undertaken before confirmation of transition.

Overview presentations and site visits to the three transition projects have been given to the PPP Lead Team and the PPP Client Lead Team.

To support the early PPP engagement in these projects a member of the PPP Lead Team will be aligned to each. The PPP Lead representative will attend the relevant Programme Boards to ensure a full understanding of the projects and PPP input into decision-making at the appropriate level.

## Site Ion Exchange Effluent Plant (SIXEP) Waste Management Receipt Facility (SWMRF)

The SIXEP programme will be seeking approval of the Strategic Outline Business Case for the SIXEP Waste Management Receipt Facility (SWMRF) during the summer of 2023.

This facility will enable continued abatement of effluents arising from Sellafield’s high-hazard reduction operations through the provision of extended storage capacity for the secondary solid waste arisings from this effluent abatement. Between the existing SIXEP facility and the in-delivery (by PPP) SIXEP Continuity Plant (SCP), there is insufficient remaining capacity to store all their future waste arisings from effluent abatement. Based on current predictions, SWMRF will be required from a point between 2032 and 2037 when existing storage will be exhausted until waste treatment becomes available.



## Sludge Handling and Export Plant (SHEP)

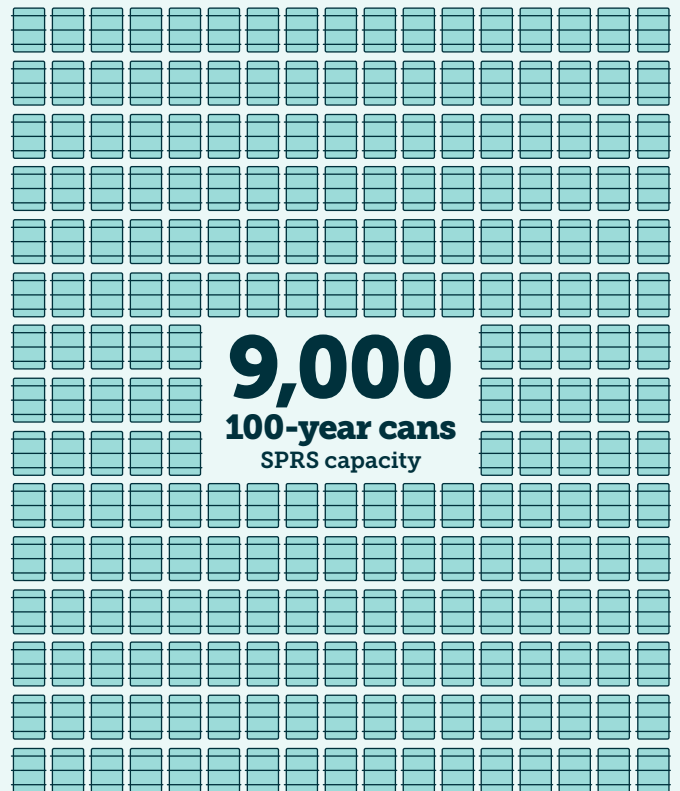
This facility provides the capability to containerise legacy pumpable intermediate-level wastes, currently buffer stored in SPP1 (Sludge Packaging Plant) to facilitate ongoing, safe interim storage in a finalised waste form until geological disposal is available.

Based on technical retrieval and remobilisation risks of retention of these wastes in SPP1 over a longer term there is a key strategic Programme driver to make this capability available at the earliest opportunity – currently forecast 2033.

## Special Nuclear Materials (SNM) Future Storage

The Sellafield Product and Residue Store Re-Treatment Plant (SRP) project is being delivered by PPP. It provides the capability to retreat and repackage existing plutonium material and place it in a ‘100-year’ package which meets the conditions for acceptance into the Special Product and Residue Store (SPRS).

However, as it stands SPRS does not have sufficient storage for all packages post SRP treatment. SPRS has the capacity to hold approximately 9,000 100-year cans. Once all civil plutonium stocks have been re-packaged into 100-year cans there will be approximately 28,000 cans requiring long-term storage. This leaves a shortfall in the available storage capacity of approximately 19,000 can spaces. Current understanding of waste storage requirements indicates a required by date of 2034.



**19,000**  
shortfall

**2034**  
required date

# Year 5

As PPP moves into the fifth year of delivery the focus will be maintained on delivering successful outcomes for all projects whilst improving the maturity of delivery at a programme and portfolio level, with priorities including:

Achieve the Key Targets agreed between Sellafield Ltd and the Nuclear Decommissioning Authority (NDA) on the performance of the PPP concerning schedule adherence and on the realisation of benefits from the PPP in the areas of resource management, supply chain performance, opportunity realisation and benefits realisation.

Achieve the 20 KPIs agreed between Sellafield Ltd and the PPP for Year 5. These KPIs reflect a maturing PPP and allow the Partners to earn in-year profit through their individual performance as well as through collaboration across the partnership. Each Partner has four individual KPIs and contributes to the delivery of four shared KPIs.

Continued focus on enabling PPP delivery through the removal of barriers to performance that exist within Sellafield.

Implement the PPP Strategy and play a key part in supporting the wider Sellafield Ltd organisation to implement key activities as part of the '2 for 20' programme.

Continue the proactive performance management ethos that was embedded in year 4, including seeking continuous improvement opportunities to optimise delivery.

Ensuring interfaces between PPP projects and the broader Sellafield Ltd organisation are effectively managed.

Continued focus on direct engagement with projects and the PPP leadership team to nurture effective working relationships based on having a conversation in the first instance.



Progress the RAP project, including developing the underpinning for the Full Business Case and associated Major Project Baseline.

Optimising the pipeline of future PPP projects to enable Sellafield Ltd to make strategic choices to deliver the best value.

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

Improving the PPP's Employee Value Proposition to be a top performing 'best places to work'.

Facilitating the deployment of a Common Data Environment (CDE) to enable collaborative project delivery.

Expand 'one team' cultural development activities more widely through the Key Delivery Partners (KDP) and supply chain.

Deliver the successful final phases leading up to transitioning the next three pipeline projects into PPP.

