Sellafield

Issue 03
April 2016

Clean-up milestone

Retrieving the last bulk fuel from our legacy pond

Welcome to our town

A special feature on keeping the site operating

Model change

Find out more on page 11

Sellafield Ltd

Cleaning up Sellafield
Beyond legacy ponds and silos

In Focus: PFCS
Decommissioning the Pile Fuel Cladding Silo

Jamie Reed MP Interview
On his passion for Sellafield and Cumbria

Sellafield Ltd

class of their own

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Our resident photographer around the town of Sellafield page 48

Our team removing the last bulk fuel from one of our storage ponds page 10

Megan interviewing Jamie Reed, MP in Westminster page 68

Making sure that this issue brings you the key information on the new model for Sellafield. page 11

Sellafield is changing, and the scale and pace of that change is creating a real buzz across the site and around the business.

We are retrieving waste, sludge, fuel and equipment from our legacy ponds – something that we have talked about and planned for many years. We are taking strides in our preparation for waste retrievals from our legacy silos and building a fleet of new waste plants. We are also moving closer to completing our reprocessing mission on the site.

Another significant change for Sellafield Ltd is the change of our ownership from Nuclear Management Partners to the Nuclear Decommissioning Authority (NDA).

We have been working together since January 2015 to make sure that when our shares transferred to the NDA on 1 April 2016, we will hit the ground running and focus all of our combined attention on accelerating the clean-up of Sellafield.

Our feature starting on page 11 sets out everything that you need to know about the new operating model for Sellafield. In this feature we take a look at the progress that has been made on the site under the ownership of Nuclear Management Partners, we sit down with the new chairman on his first day, and get to know the rest of the team in charge. We also take a look at the work that the new model has been created to accelerate, setting out the key delivery dates for the site over the coming years, and the scale of the decommissioning challenge beyond our legacy ponds and silos.

Elsewhere in this issue the Member of Parliament for Copeland, Jamie Reed, sets out his vision for Cumbria as the Centre of Nuclear Excellence, we celebrate the removal of 70% of the radioactive content of one of our legacy storage ponds, and look at how our mapping capability is helping the Japanese in the clean-up of Fukushima.

We would love to hear what you think about the magazine and your ideas for future content. You can email us at editor@sellafieldmagazine.com

Don't forget that there are lots of ways that you can keep up to date with what is happening at Sellafield:

Visit **www.sellafieldsites.com** to learn more about Sellafield, our mission and progress, register for our newsletter at **www.sellafieldsites.com/newsletter-registration/** or follow us on Twitter **@SellafieldLtd**

We've gone digital

We have launched a digital version of the Sellafield Magazine on www.sellafieldmagazine.com to bring you additional and exclusive content including videos and image galleries.

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An interview with Member of Parliament for Copeland

"I enjoy being part of a really big team"

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WHAT IS…

Decommissioning?

IF YOU'VE HEARD ANYTHING ABOUT SELLAFIELD IN THE LAST FEW YEARS, THE CHANCES ARE YOU WILL BE FAMILIAR WITH THE WORD 'DECOMMISSIONING'. HOWEVER, HOW MUCH DO YOU KNOW ABOUT WHAT IT IS, WHAT IT LOOKS LIKE AND WHAT IT MEANS FOR THE CHANGING SELLAFIELD SITE?

In 2020, Sellafield will have completed its reprocessing contracts, and another era in the site's rich history will be over. This follows the end of commercial electricity production which ceased when Calder Hall closed in 2003.

Once this happens, our mission will be very different – but very clear. Our primary purpose will be the clean-up of the Sellafield site.

Although billions of pounds worth of decommissioning work has already been carried out, moving to site-wide decommissioning is a big change from what we do now. Where we currently operate a number of manufacturing plants, using set procedures and with clear processes, we'll be moving to a programme of post operational clean out of facilities, decontamination of these, managing the waste we produce, followed ultimately by demolition.

This work requires a different approach and skills – as we'll no longer be doing the same job, day-in, day-out, but instead looking for the best solution for the specific and individual challenges a facility presents.

The changing nature of Sellafield's role from the early days of developing the nuclear deterrent, to delivering the atomic age as well as fuel reprocessing and waste management has brought a complex nuclear site that has become the most congested and complex nuclear site in the world.

This means that each facility requires a different decommissioning approach, which depends on how it was built, what the contents are, what the waste management approach will be and where it is located. In some cases, we won't know what challenges we might face, and therefore what the approach will be, until we start the process. This brings obvious planning and financial uncertainties.

Modern nuclear facilities are built with decommissioning in mind. This means that they benefit from the years of decommissioning experience here at Sellafield and elsewhere in the world, so that they are easier to shut down and clean out. However, our decommissioning experience was earned through tireless work exactly because our earliest facilities weren't designed this way.

This means that not only are no two decommissioning projects the same, it's unlikely the tasks within the project will be either.

A lot of decommissioning work has already started. We have completed the removal of the reactor core from the iconic Windscale Advanced Gas-cooled Reactor (or Golf Ball as it's also known), and the Windscale Pile Chimney which was damaged by fire in 1957 is now disappearing from Sellafield's skyline.

On top of this, more than 100 buildings have already been demolished, creating valuable space on the site for new waste processing and storage buildings. We currently have eleven of these major construction projects under way so the demand for land on the Sellafield site has never been more important.

Head of decommissioning, Steve Slater, said: "We are absolutely focused on delivering the clean-up and decommissioning of the Sellafield site. We know that this is a long-term programme and that there will be huge challenges along the way. We also know that our knowledge will change over time, and that will shape the future programme massively.

"But with key projects like the demolition of the Windscale Pile Chimney and the Windscale First Generation Reprocessing Plant Stack making progress, decommissioning is moving forward in a visible and demonstrable way."

Whilst decommissioning will ultimately lead to the clean-up and managed closure of Sellafield, the site has never been more active. Waste retrieval relies on the availability of modern storage facilities, an endeavour that has seen large parts of the site transform into busy construction sites.

Our need for a blend of off-the-shelf and innovative solutions to retrieve waste, fuel and sludge from legacy buildings has also created a hotbed of research, development and innovation across our supply chain. Steve said, "We are delighted that local businesses are achieving growth by developing technology for us and then going on to sell their expertise to national and international markets – benefitting UK PLC."

At its simplest, decommissioning refers to the process of dismantling a nuclear facility to the point where it no longer requires measures for radiation protection. This is part of our wider plans for the ultimate clean-up of the Sellafield site.

Since January we have...

WELCOMED...

our new Chairman, Tony Fountain, see page 16

COMPLETED...

final preparations for the new model arrangements for the Sellafield site and the establishment of Sellafield Ltd as a Nuclear Decommissioning Authority company

NDA
Nuclear Decommissioning Authority

AWARDED...

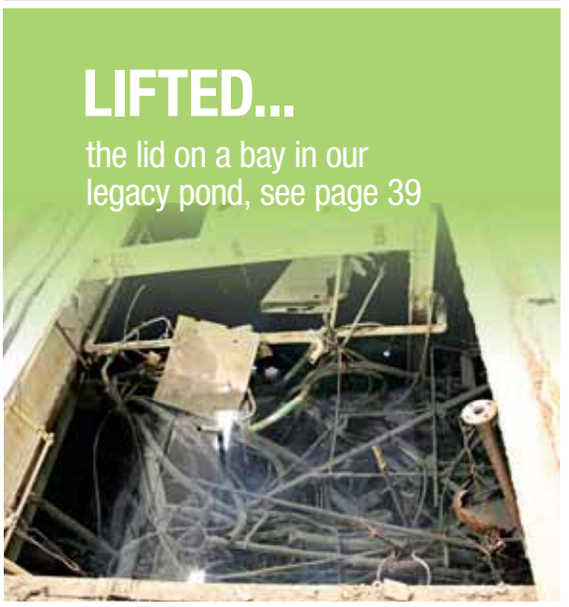
the first ever public procurement that guarantees benefits for the community, see page 86

CELEBRATED...

being recognised for our outstanding contribution to apprenticeships in the North West

LIFTED...

the lid on a bay in our legacy pond, see page 39



OPENED...

the door for smaller companies to access an £80m portfolio of contracts linked to four major projects at Sellafield, see pg100

COACHED...

local young people to develop the skills and confidence they need to make apprenticeships their 'plan A' after leaving school

REACHED...

the half-way point in the installation of the Silo Emptying Plant in the Magnox Swarf Storage Silos. When complete, the machine will lift waste from the legacy facility

INTRODUCED...

our apprentice, Philip Marwood to the Prime Minister, David Cameron to discuss the importance of apprenticeships

TAKEN...

our most significant stride in the 100 year mission to clean up Sellafield with the removal of the entire bulk stocks of historic nuclear fuel from the Pile Fuel Storage Pond, see page 10

Nuclear clean-up milestone achieved

Sellafield Ltd has taken its "most significant stride ever" in the 100 year mission to clean up the UK's most complex nuclear site.

Workers have now removed the entire bulk stocks of historic nuclear fuel from the Pile Fuel Storage Pond.

The work means radioactivity levels at the 68-year-old pond have been cut by 70 per cent, vastly reducing the risk it poses to people and environment.

The milestone is the most visible sign yet of progress in the century long programme to clean-up the legacy of Britain's early nuclear industry.

The removed fuel has been transferred to a modern storage building at Sellafield where it can be held in a far safer environment.

Attention will now switch to clearing the remaining contents of the pond – chiefly made up of a radioactive sludge-type residue.

The facility is scheduled to be ready for dewatering in 2019 – 20 years ahead of the original schedule date – it will then be fully decommissioned and demolished.

The pond played a pivotal role in the development of the UK's original nuclear deterrent, which guaranteed Britain a seat at the global power table throughout the 20th century.

It was used to cool nuclear fuel rods after they had been burned in the old Windscale Pile reactors to create weapons material.

This was at the height of the Cold War in the 1940s and 50s as a global arms race developed against a backdrop of simmering tension between the USA and the Soviet Union.

Some of the fuel used in that military campaign had sat in the murky depths of the Pile Fuel Storage Pond ever since.

And among those containers were fuel rods which were frantically pushed through the core of one of the reactors as workers bravely battled to tame the 1957 Windscale fire – still the UK's worst nuclear accident.

More than half a century on, Sellafield is now Europe's biggest environmental restoration project.

Paul Foster, managing director of Sellafield Ltd, said: "This is a truly landmark moment in the decommissioning of Sellafield.

"Removing decades-old corroded fuel from an aging facility and placing into modern containment makes Sellafield, and the whole of the UK, a far safer place.

"The enormity of the challenge cannot be underestimated – the pond was built with no design for how its contents would be removed. We have had to retro-fit an export process and then safely execute it in one of the most challenging environments imaginable.

"In order to achieve this we had to embrace new ways of working focusing on collaboration, removing barriers, fit for purpose solutions and embracing innovation.

"This ethos was first introduced by the G6 group, an alliance including Sellafield Ltd and other key Government and regulatory stakeholders which identifies and helps overcome obstacles to progress.

"It is essential we embed this change of approach across Sellafield Ltd to ensure we build on the achievements at Pile Fuel Storage Pond and successfully deliver our mission."

Sellafield is changing

1 April 2016 is a pivotal date as Sellafield Ltd becomes a Nuclear Decommissioning Authority (NDA) subsidiary. It is the starting gun for making the wider improvements that will bring about accelerated and more efficient decommissioning and high hazard and risk reduction at Sellafield. The good news however, is that we are running towards the starting line together.

1 April may be day one for the new arrangements, but it's over 12 months since the NDA and Sellafield Ltd set out to create the best possible future for the Sellafield site.

The decision for Sellafield Ltd to become a subsidiary of the NDA was not taken lightly. It was based upon a detailed review, which concluded that Sellafield's complex, technical uncertainties are not suited to the parent body organisation model. Despite it delivering some success at Sellafield it would not deliver the rate of progress of value for money required.

The relationship between the NDA and Sellafield Ltd as a subsidiary will be more flexible than that which is based on a commercial contract. It will therefore be better able to cope with uncertainty and focus on long term outcomes.

We are no longer in a position where we have to communicate across a contractual interface, which has the potential for misalignment. Instead we will be aligned and working together for the greater good of the mission.

We must grasp this opportunity to push the boundaries and challenge our organisations and the unrivalled skills of the Sellafield Ltd workforce and supply chain to deliver the success we all wish to see at the site.

The following pages set out how the NDA and Sellafield Ltd will work together, the skills and experience of the teams involved and a look back at the progress made at Sellafield under the leadership of Nuclear Management Partners. They also cover the encouraging signs of change that are already coming out of the site as well as the challenges that we will face together.

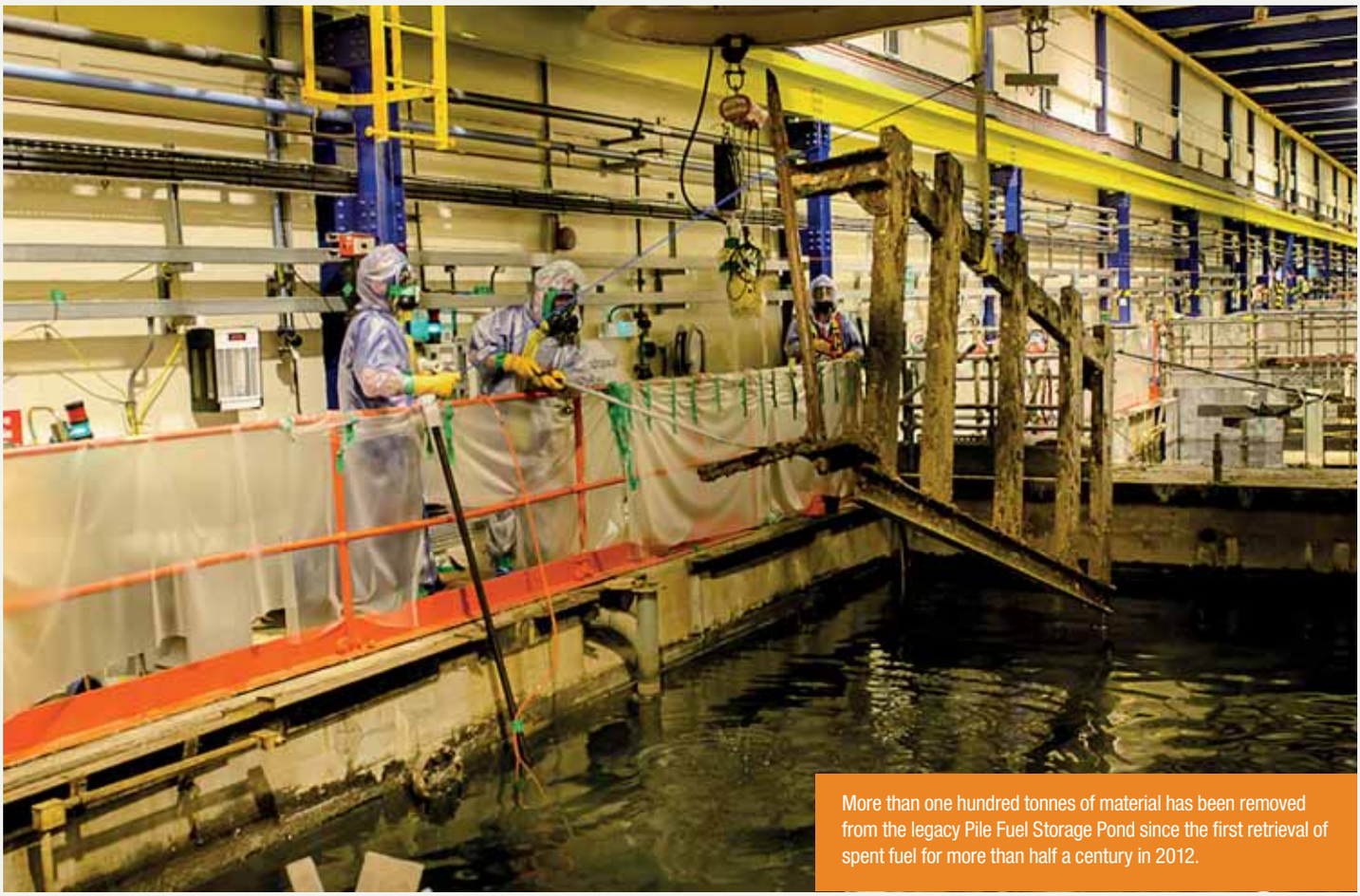
We must grasp this opportunity to push the boundaries and challenge our organisations and the unrivalled skills of the Sellafield Ltd workforce and supply chain to deliver the success we all wish to see at the site.

John Clarke,
Chief Executive Officer, NDA

Nuclear Management Partners

NMP over 7 years

As we say goodbye to Nuclear Management Partners, we look at the progress that we have made across our operations. We have delivered decommissioning firsts and changed the skyline of the Sellafield site. These achievements have created a strong foundation and decommissioning mind-set that we will take into the new model for delivery at Sellafield.



More than one hundred tonnes of material has been removed from the legacy Pile Fuel Storage Pond since the first retrieval of spent fuel for more than half a century in 2012.

The structure of the Magnox Swarf Storage Silos has been strengthened and active liquor has been removed and safely treated.

The 530 tonne filter gallery that sat at the top of the 110 metre high chimney contaminated during the Windscale Fire in 1957 has been demolished.

Radioactive sludge has been retrieved from the legacy First Generation Magnox Storage Pond for the first time.

The sixth highest hazard on the Sellafield site was eliminated when legacy plutonium contaminated material filter stillage was repackaged and moved into engineered stores.

Europe's largest asbestos removal project at Calder Hall has been safely completed.

12 new construction projects to build waste treatment and storage facilities needed to support the clean-up of legacy ponds and silos have been initiated.

Sludge being retrieved for the **1st time**

Magnox Swarf Storage Silo strengthened

100te of material removed

Engineered Product Store 3 completed

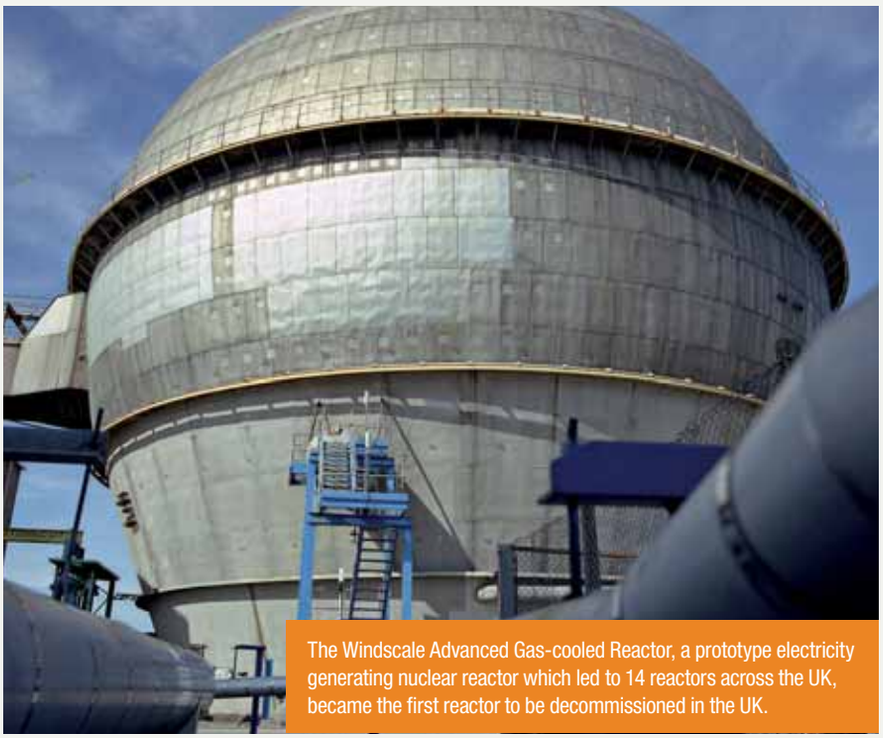
12 new construction projects initiated

Best overall **safety performance** ever

New model for Sellafield

A world class store for nuclear material has been designed, constructed, commissioned and is fully operational.

World class store, constructed, commissioned and operational



The Windscale Advanced Gas-cooled Reactor, a prototype electricity generating nuclear reactor which led to 14 reactors across the UK, became the first reactor to be decommissioned in the UK.

1st reactor to be decommissioned

The latest generation of intermediate level waste stores – Encapsulated Product Store 3 – was completed.

6th largest hazard eliminated and material moved into engineered stores

70% reduction in radioactivity levels in the Pile Fuel Storage Pond

Provided the Nuclear Decommissioning Authority and Government with a greater understanding of the extent of Sellafield's challenges and risks, as detailed in the Sellafield Plan and subsequent Performance Plan.

Our workforce achieved the site's best ever industrial safety performance.

A £240 million Sludge Packaging Plant has been successfully commissioned to handle historic radioactive waste from one the First Generation Magnox Storage Pond.

Who is responsible for what at Sellafield?

Nuclear Decommissioning Authority

Nuclear Decommissioning Authority

- Legal owner of Sellafield Ltd and the Sellafield site
- Allocates funding to Sellafield and other civil nuclear sites in their estate
- Appoints the Chair of Sellafield Ltd
- Nominates NDA non-executive directors to the Board of Sellafield Ltd
- Sets governance and financial control frameworks
- Agrees performance targets and measures performance against Sellafield Ltd's Operating Plan

Sellafield Ltd

Sellafield Ltd

- Holds the Nuclear Site Licence for the Sellafield site
- Responsible for the safe and secure operation of the Sellafield site
- Directly accountable for the people, assets and liabilities under its control
- Creates and delivers the Sellafield Ltd strategy
- Creates and delivers the baseline plan for Sellafield

The 3 Plans

Three plans form the basis for our planning:

Baseline Plan 100 years +

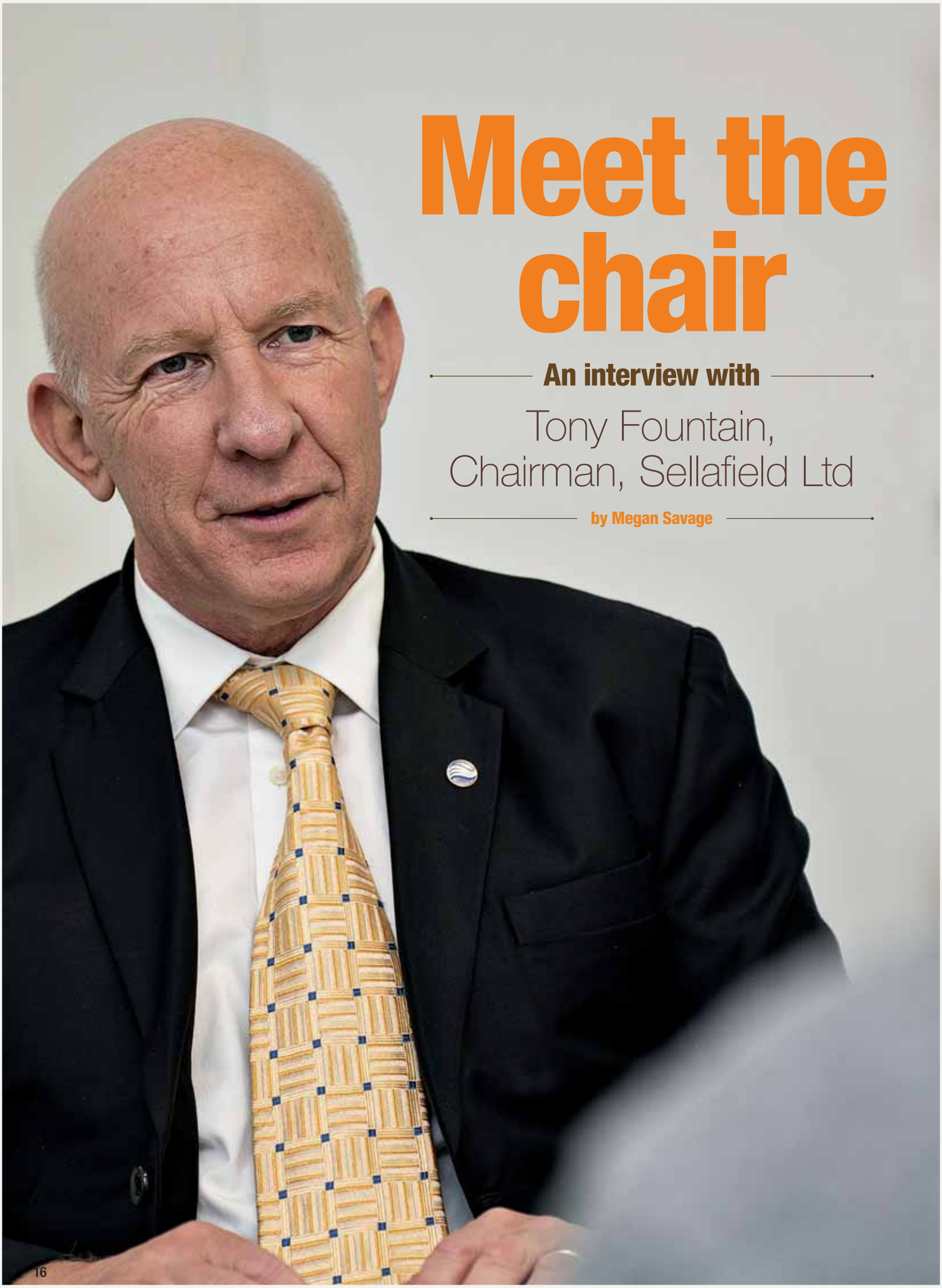
The Baseline Plan will include the baseline scope, schedule and costs for the activities at Sellafield over the site's lifetime.

Corporate Plan 20 years +

The Corporate Plan spans 20 years and will communicate the short and medium term objectives at Sellafield linked to the strategic themes and priorities outcomes. It will include a summary snapshot of the key milestones in the Baseline Plan plus information on how these will be delivered through our enabling and improvement strategies.

Operating Plan 0-3 years

The Operating Plan will communicate the short-term priorities at Sellafield linked to the NDA's priority outcomes. It will include a snapshot of the key milestones in years 0-3 from the Baseline Plan plus key milestones and activities in the functional and improvement plans. It will be refreshed each year and will form the basis of the agreement with the NDA on what will be delivered at Sellafield.



Meet the chair

An interview with

Tony Fountain, Chairman, Sellafield Ltd

by Megan Savage

Tony Fountain, was working in Mumbai as Chief Executive of Reliance's refinery and marketing business when the Nuclear Decommissioning Authority (NDA) announced that he would be returning to the Sellafield mission as chair of the Sellafield Ltd board.

When I sat down with the former Chief Executive Officer of the NDA on his first day in his new West Cumbrian office, his passion for Sellafield was clear. Which begs the questions; why did he leave in 2011 and what brought him back?

"It was odd to leave really because I was greatly enjoying my role at the NDA," he explained. "But the opportunity to work in India was really one of those 'if you don't do it now, you never will' so I returned to my oil industry background."

"In terms of the work programme at Sellafield, it definitely felt like I was leaving early, so when I saw the opportunity to come back, and be part of a mission that is critical for the country and beyond, I jumped at it."

The trip overseas was the latest in a series of international appointments for Tony. The son of a serviceman, he and his family moved from their native Cornwall to Norway when he was very young. The travel bug has seen him live in the United States of America four times, as well as Scotland, Spain and India. He said: "When you work in the oil industry you get to travel around most parts of the world at some point.

He started his career as an economist for BP before becoming more broadly involved in the oil industry taking up roles in marketing, trading, and even helping to drill for oil in the North Sea.

While envious of the deep roots that people develop when they don't move around a lot, he is grateful for the experiences that he has had. "Life is all about trade-offs. Travelling as a tourist is obviously great fun, but working abroad is a different experience again. You don't have deep roots in one location, but you have a network of friends and colleagues that stretches around the world. You also get a deeper insight into the places and the cultures of the countries that you make your home."

Where is home now?

"I split my time with my family in Sussex, and my home in Greysouthen in West Cumbria. Even when I left the NDA I kept my house in Greysouthen and it will be great to be able to spend more time here. To be at the top end of the Lake District is lovely, it is a bit quieter and there is nothing I enjoy more than exploring the area and the fells."

"I think one of the things that I'll take from India is just the notion of aspiration."

How does West Cumbria compare with Mumbai?

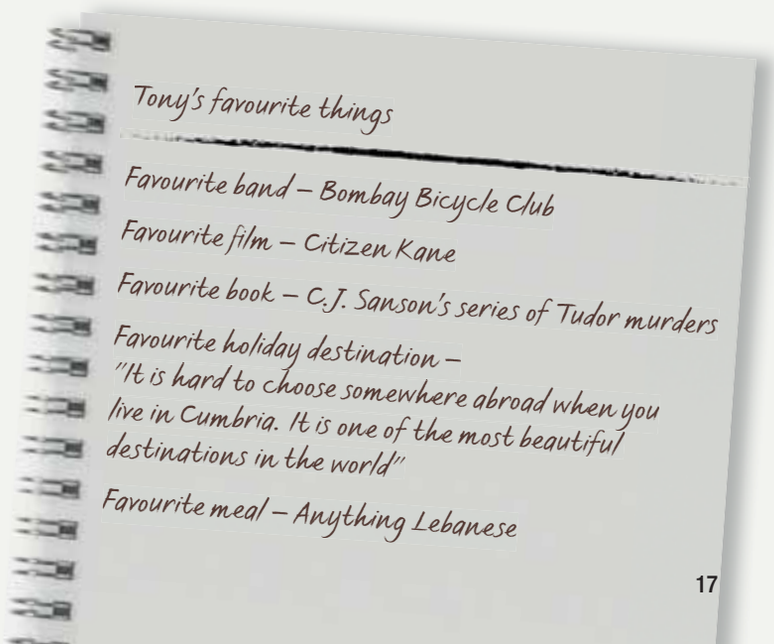
"Obviously compared to the UK, Mumbai was very hot. It is a city which is probably geographically the size of Manchester but it has 22 million residents. It has a frantic energy and frantic traffic but you can really sense from working there and seeing the city that India is definitely going to be the country of the next several decades. I think that slowly but surely it will become the third largest economy in the world.

"West Cumbria has a different pace and a different culture, but I believe that it has the potential to make its own mark on the world, particularly in the nuclear decommissioning, innovation and technical industry."

"Generally speaking the people in India are very warm, generous and welcoming. People always want you to join in, come meet their families and eat with them. I think that people in West Cumbria are equally warm and welcoming.

"Mumbai also has a very talented workforce. They have over one million engineers a year coming out of their colleges. Of course at the top end, competition for places at the top academic institutions is intense and the quality of people that emerge is high so you get to work with some really motivated people.

"I think the UK has a lot of skilled employees in a lot of sectors and tremendous capability which is one of the reasons why the country is doing so well relative to a lot of countries around the world and certainly in Europe at the moment."



"Even more locally, Sellafield Ltd has an unmatched depth of nuclear capability and knowledge, and of course the challenge of renewing that. Part of my new role is to make sure that we use that capability and make sure that we develop it not only for Sellafield Ltd, but that we create a workforce who can choose to use that capability with other organisations right across the world."

If he could bring one thing from Mumbai to West Cumbria, what would it be?

"I think one of the things that I'll take from India is just the notion of aspiration. India is in an earlier stage in its development and I guess in general a lot of people are coming into the workforce from poorer backgrounds with tremendous aspirational culture, people want to do better, and they want their children to do better, so people work incredibly hard."

"They also have a relentless drive to get things done. When I first started there I would outline the work programmes and the time it would take to get the work done. I would have a reasonable timescale of one or two months, but if I was lucky I would be given 48 hours, and if I was unlucky, 24 hours. The pace that they want to move things, the way that they don't accept things as normal, and their drive to try things in a different way are some of the lessons that I will bring from India to Sellafield, because we can apply them here. Obviously, whatever we do has to be done in a safe and appropriate way for the nuclear environment, but that's not the same as not having great ambition."

Can that same ambition be brought to Sellafield?

"Every time that I have been into buildings or projects at Sellafield and Hinton House, and met with the teams doing the work, there are always people who say to me, 'we could do this better', or 'we could do this differently', but there are always barriers that stop those great ideas from manifesting. The key is how you get to an environment where those ideas are released and people have a sense of change and movement. My role is to help identify the levers that will make the ideas that people have a reality."

What else does a Chair do?

"Although I have sat on many Boards, this is my first time as a Chairman. Broadly speaking, the Sellafield Ltd executive are the hands-on team who are responsible for working with the Board to set the strategy, and then for getting the work done in a safe and appropriate way. The role of the Board is to hold the executive team to account. In a very simplistic way, that is the task."

"My broader role is to work with the executive; to support them and to bring the skills that the Board members have, and that I have, to help them form the right strategy and plans. We are here to support capability development and to bring in thought partners. We are here to help with communications and to talk about what Sellafield is, not only in the local community, but also in London with our national stakeholders, to ensure that what we are doing at Sellafield is well understood."

Where will he start?

"This is my first day, but I believe that there are three key things to focus on at Sellafield. The first is the safety and security of the Sellafield site itself and ensuring that they remain our priority. The second is the need to deliver more value for money. What can we do to deliver our mission in a more innovative or productive way to bring better value for money? The third is the one that I am most passionate about. It is about the capability of the workforce; the role they play in the community and getting that to be more diversified. How can we – Sellafield Ltd and local private enterprises – share the talent and capability to drive local growth and to see Cumbria become the nuclear equivalent of Aberdeen to the oil industry."

How would he like to be able to describe Sellafield in five years?

"If you can see the sense of ambition – a set of innovation and transformation – if you can see that manifesting in the people who work here, and the clarity of the strategy that has been refreshed to think about what is the right thing to do and plans that are clear, accountabilities are clear in terms of executing that. The most important thing is to see a change programme that allows the ambition that exists here to come through."

Sellafield Ltd Board Structure

Tony Fountain
Chair

Paul Foster
Sellafield Ltd
Chief Executive Officer

Tim Chittenden
Non-executive
Director

Andrew Jupp
Sellafield Ltd
Executive

Rob Higgins
NDA nominated
non-executive Director

Dolores Byrne
Non-executive
Director

Jon Seddon
Sellafield Ltd
Executive

Nigel Smith
Non-executive
Director

Andrew Carr
Company Secretary
attends but does not vote

Introducing the Non-executive members:

Dr Dolores Byrne OBE is a Non Executive Director at Sellafield Ltd and also at RSSB. She is a Chartered Engineer and has served as a Vice-President and Trustee of the Institution of Engineering and Technology (IET) and is currently Chair of the IET Impact Engineering Fundraising Campaign. Dolores has held senior executive positions in private and public sector engineering and technical services organisations in the defence & aerospace and security sectors. Until 2010 she was Managing Director Innovation at QinetiQ.

Dolores has been a Board member of the Skills Council for Science Engineering & Technology (SEMTA), a Board member of the South East England Development Agency (SEEDA) and chair of their Science Engineering and Industry Committee and a Board member on other public sector bodies.

Nigel Smith is a highly experienced senior executive and non executive Director with deep technology and industrial sector expertise. He is Non Executive Director of Sepura Plc, a global leader in the design, manufacture and supply of digital radio products, systems and applications for mission critical communications in the public and private sector. He is also a Non Executive Director of Obillex Ltd, a venture capital backed business providing innovative supply chain finance solutions to the public and private sectors. Nigel was in HM Treasury as Permanent Secretary, Board Member and Chief Executive of the Office of Government Commerce, an independent office of HM Treasury, responsible for Government Procurement, Major Projects and the central Property Estate. Prior to HM Treasury he was CEO of a number of International Footsie and global industrial businesses.

Rob Higgins is a Chartered Civil Engineer and a practising solicitor who has been with the NDA since 2009, initially as Head of Legal and Senior Information Risk Owner and, since 2014, as Director of Business Services.

Rob is the Chair of NDA Properties Limited, NDA's property company, and of NDA Archives Limited. Rob is also a Board member and chair of the audit committee of Radioactive Waste Management Ltd.

Prior to this Rob was Legal Director at Atkins plc with particular interest in major infrastructure projects, Private Finance Initiative (PFI) and Pubic Private Partnerships (PPP).

Before qualifying as a solicitor, Rob worked for 12 years as a construction engineer in the transport and water sectors.

Rear Adm Tim Chittenden joined the Royal Navy in 1971 and spent nearly 35 years as a specialist nuclear engineer rising to the rank of Rear Admiral. Leaving the Royal Navy in 2005 he joined the board of BAE Systems Submarines as Programme Director for the Astute SSN build programme moving on to become the Safety and Assurance Director for the business before retiring in 2011. Tim combines a continued interest in nuclear engineering with the enjoyment of his growing family of grandchildren and his lifelong interest in sailing. He was awarded the Institute of Nuclear Engineers Prize for Nuclear Engineering during post graduate training in 1974 and has been a member of the Institution of Nuclear Engineers (INucE) and subsequently, the Nuclear Institute (where he was President from December 2013 to January 2016) ever since.

An interview with

Dolores Byrne

The role of non-executive directors is to bring independent scrutiny, knowledge and experience to company boards. This is exactly what Dolores Byrne brings to the Sellafield Ltd Board.

With a CV that includes years of working at the very top of her engineering profession with the Ministry of Defence and in industry, providing solutions to challenging situations linked to maritime, aerospace and security, Dolores brings to our top table a range and depth of experience that has benefited the company since she arrived in January 2015.

Her experience includes strategic planning, business performance, people, security and safety management and customer relations, all extremely beneficial to the company during the transitional period to becoming a Nuclear Decommissioning Authority company, and beyond.

Her background also includes executive leadership of major organisational change during the privatisation from the public sector to the private sector of QinetiQ.

She said: "I bring to Sellafield Ltd a commercial and engineering background including experience in safety and security regulation. As I have not had any direct involvement with the nuclear industry prior to Sellafield, I have brought to the Board an independent, strategic level perspective providing constructive challenge."

Dolores sees the adoption of the change programme to deliver our future mission, which involves major transition points such as the end of reprocessing, as the biggest challenge over the next few years.

She said: "Successful delivery of our future mission will require a more flexible and multi skilled workforce and this will benefit our workforce and the business in the long term, as well as generating enhanced socio-economic benefits for the region.

"With a new Chairman, several new Directors in the Executive team, a re-vitalised mission and under the stewardship of the Nuclear Decommissioning Authority, Sellafield Ltd is fully embracing the future and the opportunities which will arise.

"I'm looking forward to working alongside my Board colleagues to ensure that changes and improvements provide a strong foundation for the company's future."

On our safety performance, Dolores said: "Sellafield Ltd should be most proud of its track record, achieved through the hard work, commitment and vigilance of the workforce. Walking round site, I see that people are very engaged with their particular programmes of work, and ensuring safety is a priority.

"We need to continue with our endeavours in regard to safety, developing and improving, to ensure that we have the best ever record for our business and the nation."

In addition to her non-executive roles, Dolores is Chair of the Institution of Engineering and Technology (IET) fundraising campaign, Impact Engineering.

"Closing the skills gap and reaffirming the importance of engineering in shaping solutions to many of the complex challenges facing society requires a major drive to get more young people engaged.

"With demand for engineering skills in the UK set to outstrip supply, the Impact Engineering campaign offers scholarships and bursaries to encourage and support young people in pursuing careers in engineering. The Campaign also seeks to inspire the pipeline of engineering talent for the future through a number of projects for budding young engineers 9-16 years old.

"We are particularly keen to attract and encourage more young women into engineering, and I'm delighted to see that Sellafield Ltd has a strong track record in this area. The 2015 cohort of Sellafield apprentices and new graduates includes a strong representation of young women which we hope to build up in future years.

"Engaging with schools to communicate with young people about the creativity and challenge of careers in science, technology, engineering is so important, and Sellafield Ltd has an impressive number of young ambassadors actively participating in this national initiative."

"I bring to Sellafield Ltd a commercial and engineering background with experience in safety and security regulation. I've had no direct involvement with the nuclear industry prior to Sellafield so I have brought to the Board an independent, strategic level perspective providing constructive challenge."

Selecting Team Sellafield

As any sports fan knows, putting together a winning team isn't easy.

Signing the most expensive players or bringing in big names doesn't guarantee success – Leicester City's remarkable season in football's Premier League proves that a collegiate team of professionals pulling in the same direction are far more effective than an expensively assembled one.

But if it was easy to make the right decisions, bring in the right people, and find the winning formula, everyone would do it.

Just what does it take to put together a successful team?

Our human resources director Colin Reed has spent the past 14 months working with Chief Executive Officer Paul Foster to put together the new team to manage Sellafield Ltd through some of the biggest changes the business has faced in generations.

"For me it's about getting the blend right – you need people with a range of different skills and experiences that they can bring to the table, but above all, you need personalities that can work together.

"It has been a hard job to find the right people. Paul and I have spent many days together, up here and in London, talking to lots and lots of people who would have loved to have the opportunity that we've got – they'd have jumped at the chance to come and work at Sellafield.

"There were some days when we spoke to some wonderfully talented people but didn't meet a single one that either of us wanted to employ here, because they just wouldn't have worked.

"We were determined that we weren't just going to recycle people who'd been here or who were known in the industry either – unless they were demonstrably the best person for the job – this was about us finding the right people and they had to be able to come in and make the right contribution."

And Colin is delighted with the squad he has helped to assemble ready for April 1st 2016.

The 12 strong team features a blend of new and familiar faces – with some people taking their first steps onto the site and others stepping up from the ranks.

"We have got a great mix – we have Steve Livingstone and Jon Seddon who have been here before but who come back having been successful elsewhere; some of the work Steve has done during his time away has been very impressive.

Combined experience:

Sellafield Ltd · EDF Energy · AWE · BBC · Heathrow · Balfour Beatty · Cabinet Office · Toyota · GSK GlaxoSmithKline

(**Selecting Team Sellafield** Cont.)

"I really hope that people at Sellafield will look at Euan and Rebecca and see them as great examples that you can work your way to the top of the business."

"We've also got some continuity, with the likes of Steve Bostock, Andrew Carr, Mark Neate and, for now at least, Scott Reeder staying on to head up Waste Retrievals. We've changed the title of that role, which was previously held by Tom Foster, to reflect the work that is carried out in the directorate." There are some new external people, in Martin Chown and Andrew Jupp, who bring great experience and insights gained elsewhere that they can share with us.

"Perhaps the most pleasing thing from my perspective is that we've got Euan Hutton and Rebecca Weston stepping up from within.

"One of the problems with the old model was that the majority of the directors were appointments from the Parent Body Organisation. There were some very good people, and this isn't anything personal about any of them, but for me as an HR Director it is the wrong thing for an organisation to effectively have a glass ceiling, because our senior leaders knew that they couldn't get a seat at the executive table when appointments were made by the parents, almost always from within their own organisations.

"I really hope that people at Sellafield will look at Euan and Rebecca and see them as great examples that you can work your way to the top of the business. It doesn't always happen for everyone but there is a chance that it could. We should be looking within the

Sellafield Ltd Executive Structure

Paul Foster
Chief Executive Officer

Key
- SL Board Appointment
- In attendance at SL Board

Executive Members

Andrew Carr
General Counsel & Company Secretary

Steve Cockayne
Chief Engineer

Mark Neate
Security & Resilience Director

Colin Reed
HR Director

Steve Bostock
Chief Operating Officer

Scott Reeder
Waste Retrieval Director

ranks now for the next Paul Foster or the next Rebecca Weston or Euan Hutton, and helping nurture their careers so that they can reach their potentials. It's the right thing to do, both for them and for the business."

Colin, now the self-confessed 'elder statesman' of the Executive team, at 62, had the foresight to insist on joining the business as a Sellafield Ltd employee when he joined in 2013 – something that made putting the new team together somewhat easier.

"I really wanted the job and asked Tony (Price, then Managing Director) if I could be employed by Sellafield Ltd directly, not via the parent companies.

"I had nothing against them, but I felt that for me to be authentic in the job I had to have the same skin in the game as the workforce representative sitting across from me – most of whom are lifetime Sellafield workers.

"It was a stroke of fortune really because it has helped me be in a position where I could be objective in helping Paul build the team.

"Could I have done that if I'd been on a secondment? Probably, although possibly not as well or as objectively.

"That was part of the problem with the ownership model – the leaders, however talented some of them undoubtedly were – they were always having to be aware of more than just Sellafield.

"The new ownership model is much cleaner, and there is no conflict about creating profit for NMP or worrying about what another company in the UK or France of the USA thinks – we only have to serve Sellafield Ltd, and the only relationship we need to worry about is the one we have with the Nuclear Decommissioning Authority."

"The new ownership model is much cleaner, and there is no conflict about creating profit for NMP or worrying about what another company in the UK or France or the USA thinks – we only have to serve Sellafield Ltd, and the only relationship we need to worry about is the one we have with the Nuclear Decommissioning Authority."

Rebecca Weston
Technical Director

Euan Hutton
EHS&Q Director

Martin Chown
Supply Chain Director

Steve Livingstone
Projects Director

Jon Seddon
Programme & Finance Director

Andrew Jupp
Strategy Director

Team Q&As

We sat down with some of the new and existing members of our executive team to discuss Sellafield's challenges and opportunities


Steve Bostock


Andrew Carr


Martin Chown


Steve Cockayne


Euan Hutton


Andrew Jupp


Mark Neate

What is the biggest challenge for Sellafield over the next five years?

EH: We're focused on reducing risk and hazard. With some of our ageing assets we can't employ a traditional, zero- based risk approach – we can't switch off legacy plants. Therefore, to get work done with the urgency needed, we face the challenge of doing different work in a different way. This will involve balancing the transient increase in risk against reducing the overall risk and hazard whilst maintaining control.

SC: There are a number of challenges facing the business – and all of these relate to the fundamental change we are making to what we do. We'll be transitioning from reprocessing to a waste management focus – this is a huge change, and it will be an emotional one, not least for those who have been involved in the fifty years of reprocessing work.

SB: Reprocessing has been our day-to-day business for more than 50 years, over the next four years that is going to change as we transition to the Post Operational Clean Out (POCO) phase, so we need to adapt to that. It's a big cultural shift for our workforce so we need to make sure we are ready, this will involve re-training people so that they can take on other tasks or be deployed elsewhere in the business.

What makes you most proud about Sellafield today?

SC: The simple answer is our people. We've got a lot of different activities going on and competing demands, and despite this we're continuing to deliver our mission in changing times. In fact, we've had a successful twelve months, and that is a reflection of this hard work and commitment.

EH: I'm most proud that we continue to place safety as our number one priority. We manage a complex industrial as well as nuclear site and face mainly challenges daily. This involves design and build, commissioning, operations, decommissioning, waste management and demolition. We have thousands of people working daily in this diverse environment. I'm proud that every single day I see people looking out for each other, challenging when things are unsafe, focused on continually improving safety.

MN: From a security and resilience point of view, it's 'keeping the genie in the bottle' and, as we continue to progress, ensuring we continue to deliver safe, secure site stewardship as the 'genie' is moved to more robust waste management facilities. Sellafield is one of the most diverse and challenging sites in the country, we should be proud of everything we do to manage the risks on behalf of the nation and our community.

SB: I am most proud of dealing with the nuclear legacy that has been left from the past decades at Sellafield. We now have less than two thousand tonnes of Magnox fuel left to be reprocessed; we have removed 70% of the hazard in Pile Fuel Storage pond; we are on the cusp of diverting the Separation Area Ventilation system to our new state of the art facility and we have removed radioactive sludge from the pond – these are just a snap shot of the work that has been carried out.

What does success look like for Sellafield in five years?

MC: We will have worked together and in partnership with the supply chain to make visible progress against a single mission, the clean-up of the Sellafield site.

AC: Continued safe secure operations with minimal impact on the environment, continued commitment to improving the way we work, and safe secure environmental custodianship of the site.

EH: Success in the next five years will be that our programme of remediation and risk and hazard reduction has substantially reduced the risks and hazards from our legacy facilities. To put it simply we will be removing waste from the old facilities and storing it in more modern, safer stores awaiting final disposal. We will be doing this routinely, consistently and with operational efficiency.

SB: For me, there are many things that spell success; the smooth closure of the reprocessing programmes and transition of both the plants and the people to POCO; the establishment of the Site Remediation and Waste Management (SRWM) organisation; fuel leaving the First Generation Magnox Storage Pond; export of the material from Magnox Swarf Storage Silo; the demolition of the Windscale chimney and the first generation Magnox reprocessing plant chimney, both are massively visible changes to the outside world as they will drastically change the skyline at Sellafield, then there are our people, having them re-skilled and re-trained to carry out broad front decommissioning tasks is what success looks like.

AJ: We will have achieved the government commitments around closure of reprocessing, started up a new decommissioning and waste management business, spent every pound given to us in the most effective and efficient way and created one Sellafield team. When everyone feels part of that, from the security guards at the fence, to the operational team, to the support functions, to the supply chain helping us deliver capital projects, and can describe their personal contribution day in day out, we will have achieved success at Sellafield.

What do you think is the biggest opportunity for Sellafield?

EH: Our biggest opportunity is taking advantage of alignment of the G6* collaborative approach to challenge our current paradigms and break down barriers to doing the vital risk and hazard reduction work that is needed. This will help delivery of accelerated risk and hazard reduction, in a safe and effective way.

*****G6 is made up of six key organisations whose input is essential to the processes and work streams at Sellafield. They include the Nuclear Decommissioning Authority (NDA), The Department of Energy and Climate Change (DECC), the Office for Nuclear Regulation (ONR), The Shareholder Executive, the Environment Agency (EA) and Sellafield Ltd. Its aim is to work collaboratively to `safely and securely accelerate hazard and risk reduction at Sellafield.*

MN: Our people. Individually we must demonstrate nuclear professionalism. Collectively we must work towards the shared vision.

AC: This change in delivery model presents us with a significant opportunity to lead the change agenda in the way we deliver the strategy for Sellafield on behalf of the NDA and government. It is a chance to take control of our own destiny and demonstrate we are the company to be trusted with the £2billion the government is investing in the site each year and make continued improvement in performance.

SB: Our biggest opportunity is to deliver the broad front hazard reduction and for it to be valued rather than seen as an on-cost. Demonstrating our capability to do this enormously important piece of work and allowing our track record to show that Sellafield Ltd is best positioned to take on new missions.

If you could change one thing at Sellafield today, what would you do?

EH: Change the underlying culture to one where everyone is empowered to change how things are done and we recognise the difference we can all make for the benefit of our business and our community.

SC: Recognising the scale of the changes ahead, I think we need to have a strong and close working relationship with our trade union and workforce representative colleagues. We have to be able to have open and honest dialogue about what we're all trying to deliver, so that we move through this change together – for the benefit of the company, our employees and the community as a whole.

MN: Nuclear safety, along with security, is the primary consideration in all that we do – and rightly so. However, we need to ensure we have only those checks and balances necessary to deliver the job. We can do this by being more sophisticated in our understanding of process, it is there only to support an outcome. Management processes, correctly applied, are important but, in some areas, they are stifling leadership.

SB: To reset perspective and find a balance between the business needs and individual requirements. We all want Sellafield to be a great place to work, but we need to balance that with delivering the missions. Also if we could make changes to the relationships between Sellafield Ltd and the supply chain so that we work in a partnered approach with the aim of supporting West Cumbria capability in delivering beyond the Sellafield mission.

Modernising the Sellafield Ltd Workforce

As Sellafield starts to change a number of things are likely to happen which will impact on our people – both those already with the company and those who join in the future.

It is important to draw the distinction between those changes which we may make in order to make the company more productive, more efficient and more flexible, and those changes which the Government is making, through legislation, and which will impact on everyone in the public sector.

The Office for National Statistics defines public sector organisations as 'organisations in which the Government (local or national) has a large degree of control or provides a significant proportion of funding'.

We, therefore, are a public sector organisation, and always have been – the same as Magnox Ltd, Direct Rail Services, International Nuclear Services, Low Level Waste Repository Ltd and Dounreay Site Restoration Ltd, regardless of the various different ownership or parent body relationships that apply to some of those companies across the estate.

So – if the government makes legislative changes on pensions or introduces exit caps on those leaving public sector organisations it is likely that those would apply to our employees.

Other changes, such as new terms and conditions for new starters, and a new pay and grading structure, are being introduced by us in order to help reshape the business.

It is important to draw the distinction between those changes which we may make in order to make the company more productive, more efficient and more flexible, and those changes which the Government is making, through legislation, and which will impact on everyone in the public sector.

Key benefits of the new model for Sellafield

1. New ways of working between Sellafield Ltd and the NDA, built on openness and trust will focus collective efforts on hazard reduction and decommissioning.

2. Simpler management arrangements between the NDA and Sellafield Ltd. A 35-page Services Agreement will replace the Management and Operation Contract, a document with 900 pages.

3. The removal of the commercial contract will enable resources to be redirected to mission focused activity.

4. Significantly reduced baseline plan, progressively moving from 9,000 to 3,000 documents.

5. Fewer change controls.

6. Fewer documents and reports will come about as a result of changes to performance management and reporting. With the aim of greater collaboration between the NDA and Sellafield Ltd, one set of executive documents and a streamlined executive meeting structure will be used by both organisations.

7. Assurance will be focused on achieving better outcomes and a ‘right first time’ approach.

8. The creation of a Sellafield Ltd Independent Performance Assurance Group with Sellafield Ltd and NDA staff will support a first line of assurance at the delivery level.

New model for Sellafield

Under the new model arrangements for Sellafield, our shares transferred from Nuclear Management Partners to the Nuclear Decommissioning Authority (NDA)

While this represents a change in the corporate relationship between us and the NDA and to how our work is planned and assured, the Sellafield site has always been at the heart of the wider NDA estate and the UK's nuclear industry.

SUPPORT

Through our Magnox reprocessing operations Sellafield is supporting the defuelling and decommissioning of the other Magnox stations within the NDA estate.

GENERATE

Through our Thorp reprocessing operations we continue to generate a commercial income for the NDA which helps to offset some of the cost of cleaning up the site.

INCOME

Beyond the estate, we also generate commercial income for the NDA through spent fuel management for EDF's Advanced Gas-cooled Reactor power stations.

RECEIVE

We receive low level waste from consigners, including other nuclear site operators, universities and hospitals, and compact it before it is sent to the Low Level Waste Repository.

TWINNED

The world's first civil nuclear power station, Calder Hall, is twinned with the Chapelcross station in Scotland and led to the development of 9 Magnox power stations across the UK.

INSTIGATE

The Calder Hall design also led to the development of the Latina station in Italy and the Tokaimura station in Japan.

CATALYST

The Windscale Advanced Gas-cooled Reactor led to the development of 7 stations and 14 reactors across the UK

AGR STATIONS

- DUNGENESS B
- HARTLEPOOL
- HEYSHAM 1
- HEYSHAM 2
- HINKLEY POINT B
- HUNTERSTON B
- TORNESS

MAGNOX STATIONS

- BERKELEY
- BRADWELL
- CALDER HALL
- CHAPELCROSS
- DOUNREAY
- DUNGENESS A
- HARWELL
- HINKLEY
- HUNTERSTON
- OLDBURY
- SIZEWELL
- TRAWSFYNYDD
- WINFRITH
- WYLFA

WORLD FIRST

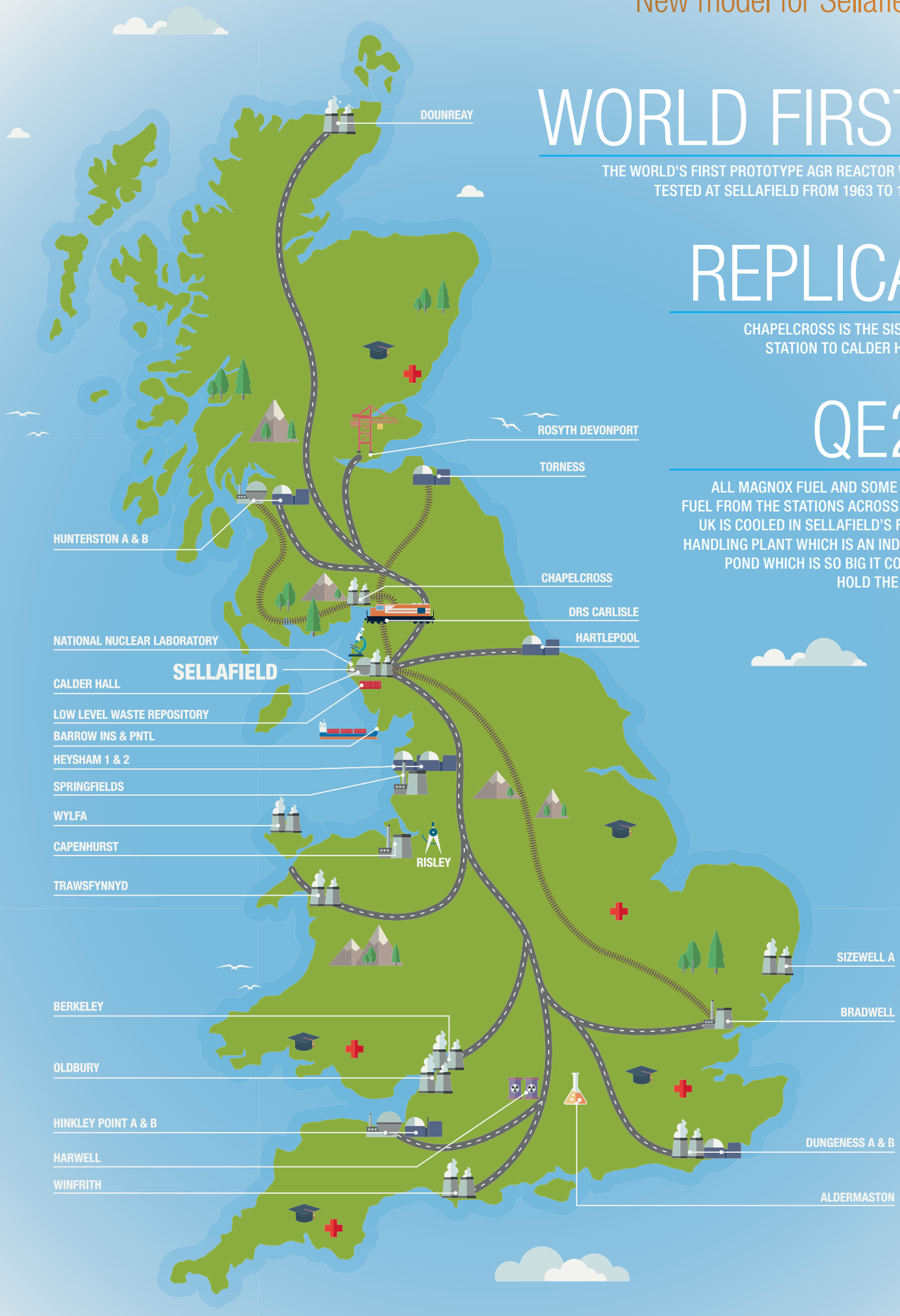
THE WORLD'S FIRST PROTOTYPE AGR REACTOR WAS TESTED AT SELLAFIELD FROM 1963 TO 1981

REPLICA

CHAPELCROSS IS THE SISTER STATION TO CALDER HALL

QE2

ALL MAGNOX FUEL AND SOME AGR FUEL FROM THE STATIONS ACROSS THE UK IS COOLED IN SELLAFIELD'S FUEL HANDLING PLANT WHICH IS AN INDOOR POND WHICH IS SO BIG IT COULD HOLD THE QE2



Model change and socio-economics

Stakeholder relations director, Rory O'Neill, explains how the new model for Sellafield is a key enabler for our new socio-economic strategy and approach

WHAT HAS BEEN THE IMPACT OF MODEL CHANGE ON SOCIO-ECONOMICS?

Previously we had three organisations – the Nuclear Decommissioning Authority (NDA), Nuclear Management Partners, and Sellafield Ltd – working to three different but aligned socio-economic strategies. Following the model change we are responsible with NDA oversight. This makes things simpler and more efficient for us and easier to understand and access for our communities.

WHAT ELSE IS CHANGING?

Model change also gives us the opportunity and confidence to think about socio-economics far beyond 'input', such as how much cash or time we invest. We can now look at the enterprise effort – everything we do – for instance driving positive socio-economic impact from procurements in a way that would have been harder before. Also, rather than thinking simplistically about what we put in, we are now able to target what we get out – 'outcomes'. These must, of course, benefit both our business and communities.

YOU HAVE SPOKEN PREVIOUSLY ABOUT A CULTURE OF DEPENDENCY ON SELLAFIELD LTD IN CUMBRIA. DO YOU STILL FEEL THAT?

Not as much. We are seeing a shift in thinking within our communities to be more business and partnership focused. Also, driving socio-economics into our procurements is already starting to have an impact. The smarter supply chain partners are already on board and we are starting to see a better socio-economic team effort. This offers us the opportunity to now step back and coordinate when appropriate and let others lead. Both of these factors when taken together present an exiting opportunity for the Sellafield system and local partners to work together and make a real difference.

HOW DOES THE NDA'S ROLE FIT WITH OUR SOCIO-ECONOMIC ACTIVITY?

Under the new model we are now solely responsible for all socio-economic activity on behalf of the NDA in Cumbria and Warrington. That work will be overseen by the NDA which will help us to ensure we take account of national development and support the delivery of the NDA's socio-economic priorities. It will also help to ensure that we are held to account on our responsibilities.

SO SOCIO-ECONOMICS IS ABOUT MORE THAN SIMPLY SIGNING CHEQUES?

It is much more than that. Everything we do needs to be considered through the socio-economic lens. The way we procure for instance will be critical. If we can drive a greater benefit from the £1bn that we spend with the supply chain each year, that will make a big difference. To do that we have to ensure that socio-economics is embedded in both what we ask our supply chain partners to do and how we measure their delivery. Martin Chown, supply chain director, and his team and mine will be working hand in glove.

ARE YOU POSITIVE ABOUT THE FUTURE?

The early signs from the first contract awards that fall under this 'responsible procurement' approach are very positive. With support from both the NDA and Nuclear Management Partners this approach has seen a step-change in approach and contractual commitment from successful bidders. (For more on how socio-economics has been embedded in our Decommissioning Delivery Partners contract, see page 86).

SO WILL THE NEW MODEL DRIVE BETTER SOCIO-ECONOMIC IMPACT?

Definitely. Although, just like some other aspects of the new model, things may possibly not be perfect from day one, they will be better and I know we are all determined to continuously improve. I truly believe that the future for socio-economics and therefore our business and communities is both bright and exciting. I know that we, the NDA, local businesses and community leaders are determined to work together to get there.

SOCIO-ECONOMIC THEMES:

community

skills

growth

Sellafield Ltd programme

Nuclear Decommissioning Authority programme

Performance on the Sellafield site

Doing things differently

Our mission at Sellafield is changing. Within the next four years we will have completed our reprocessing operations and will be into full scale waste retrieval and decommissioning work.

To succeed in this new mission we need to reskill and retool our teams to deliver decommissioning and waste retrieval work and to create an organisation which is more efficient and agile.

Embedding these changes will take time, but we are already seeing our teams adopt and implement new ways of working as the following case studies show.

Reskill and retool

There are some areas of the Sellafield site where people can't work safely because of the radiation levels. Nevertheless work needs to be done, so this is often through using remote control equipment and robotics.

One such area is D-Bay in the First Generation Magnox Storage Pond. This particular wet bay was used as the depositing area for a lot of the pond's highly radioactive sludge. But there are also solids and large pieces of metallic debris in among the sludge which will need to be removed using a robotic manipulator arm.

Using this machinery requires new skills and we are keen to train our own people rather than solely relying on the services of external contractors. The manipulator arm will be used across the site for a range of decommissioning jobs so the more options we have available to us, the better.

Our teams developed and deliver the six week training programme at the Rovtech facility in Barrow docks.

Leanne Wilson, a process operator in the First Generation Magnox Storage Pond, could see that we would need people with the skills to use remote technology and is keen to build her skills accordingly. She said: "It's not every day people get this opportunity. At the beginning I was a bit worried because it's the unknown. I didn't know what I was expecting, but it's been really interesting.

"I think it's important for Sellafield workers to be trained to run our own site, because it's our job to do."

Flexible

Sometimes completing a job on the Sellafield site involves taking a look at what we are attempting to do and turning the way we normally work on its head.

That is exactly what we did on a project to remove a horizontal section of redundant ventilation duct as part of the programme to decommission a redundant plutonium purification plant. We temporarily changed our working arrangements to get the job done.

Due to the complexity of the project and the type of environment the team were working in, the team had to wear air-fed suits and could only work in the area for limited amounts of time within each shift.

Instead of continuing work at this slower pace the team changed their working times to better align with the other teams that they needed to support the work, such as health physics monitors. Through working the same times as the monitors, the team was able to make more safe entries into the building within the same time period.

The temporary change meant that we finished the work ahead of schedule.

Efficient

Changes to working patterns are happening all over site. The craft shift workers in our encapsulation plants moved to their new 12 hour working pattern recently on a six month trial basis.

Ben Jacques and Lee Hunter from the electrical and instruments team in the Waste Encapsulation Plant share their experiences of the change to their working arrangements.

Lee said: "The alignment of the shifts means that we can get more done. With all disciplines working the same patterns, it means we have all the people needed for a job on plant at the same time. So it is better for the business, productivity and on a personal level."

"After trialling our current 12 hour rota for the past six months and finding it works very well from a business and personnel point of view, we are changing to a pattern where we work four shifts and then have six days off.

"We are happy working the 12 hour pattern and feel it is definitely the way forward, regardless of the pattern you work to."

As well as being in line with what the business needs, there are also benefits to individuals, as Ben explained: "With any change that can impact on your life there is bound to be apprehension but I have to say the new working pattern is great.

“Collaboration not Control…”

Pete Lutwyche, NDA Programme Director for Sellafield

That is the message from Pete Lutwyche, NDA Programme Director for Sellafield, on the new subsidiary model.

The new arrangements for Sellafield have been planned with one objective in mind – to create an environment that enables Sellafield Ltd to accelerate progress in risk and hazard reduction and deliver it more efficiently.

On the arrangements, Pete Lutwyche, says “It’s about collaboration not control. There are obviously duties that the Nuclear Decommisioning Authority (NDA) has to fulfil as shareholder and site owner. Our role is equally about supporting the Site Licence Company to achieve improved progress year-on-year.”

“The NDA and Sellafield Ltd have secured a world-class Board and Executive team to run Sellafield Ltd but their task is enormous. They are responsible for one of the most complex industrial challenges in the UK and our job is to ensure they can be successful in delivering the mission. The NDA for example takes the lead in the relationship with Government, ensuring the site has the necessary support and funding in place. The NDA is also in the unique position of being able to take a broad view across our estate of nuclear sites to identify best practice that in turn can help Sellafield Ltd.”

With the removal of the parent body organisation and associated contractual complexities, it is much easier for the NDA and Sellafield Ltd to develop a collaborative relationship. Pete adds: “Any contract brings with it the opportunity for a win/lose relationship where one side benefits from the other’s loss. The new arrangements have completely changed that. This is about collective success against a hugely important mission.”

Asked what success looks like, Pete responds: “There is a mixture of hard and soft successes. One of the most obvious demonstrations of success will be the ability to deliver work at Sellafield more efficiently.”

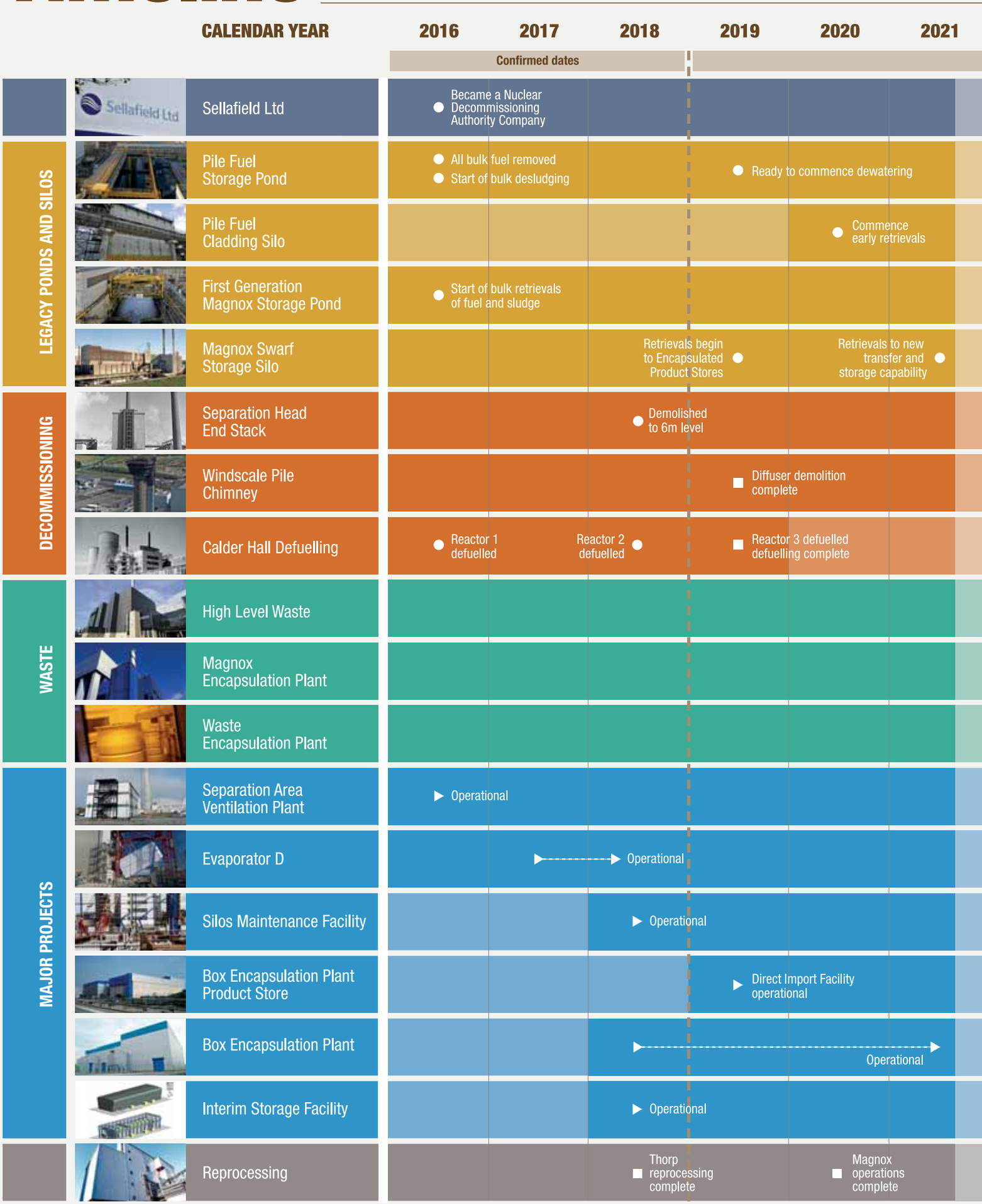
Also on the list of Pete’s success criteria is a more buoyant local economy delivered through restructuring the supply chain and a culture that sees continual change not only accepted but welcomed by our workforce.

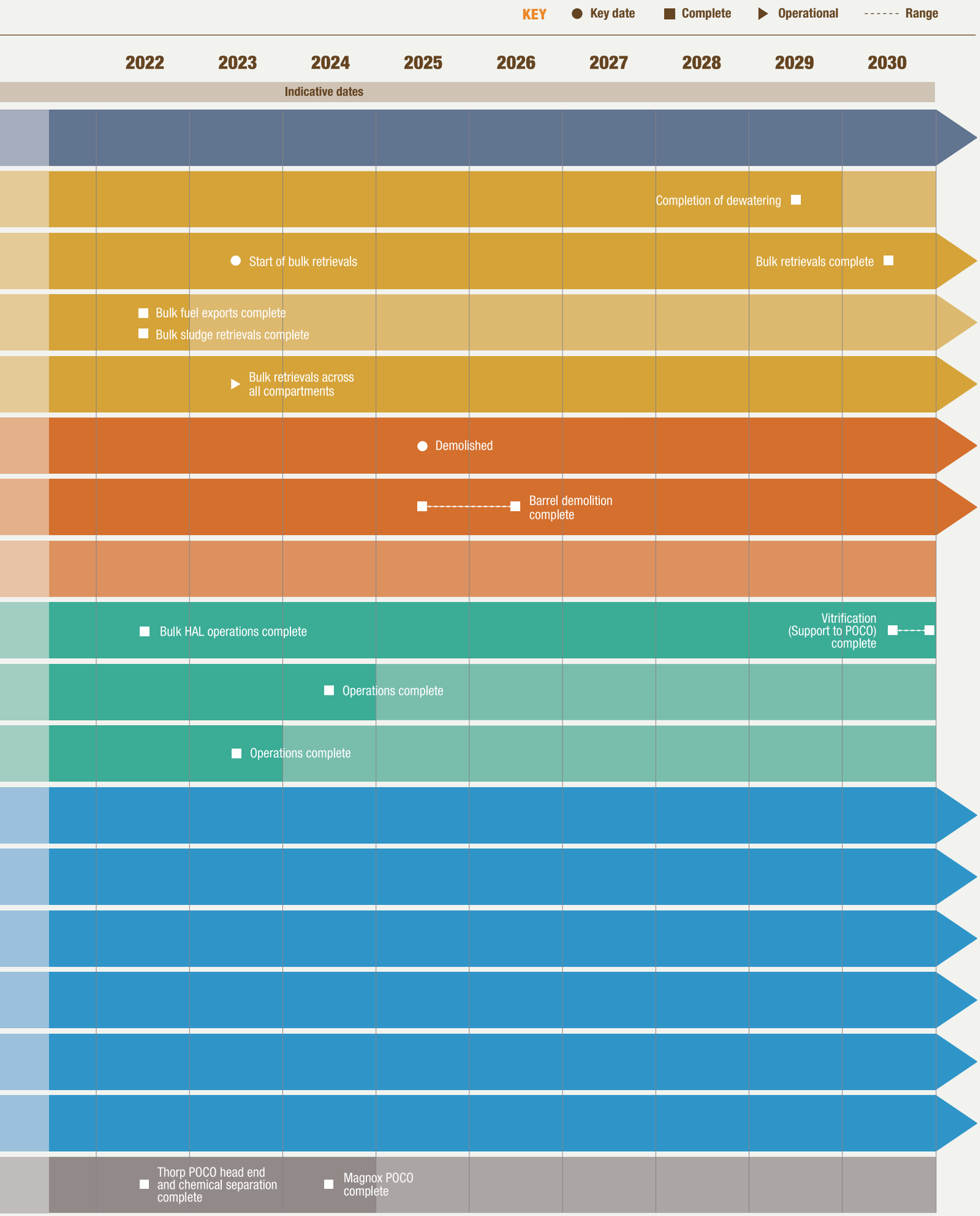
On change however, it’s not just Sellafield that needs to evolve. Pete adds “For ten years the NDA’s priority has been to break up the old nuclear industry structure, develop the strategy for decommissioning the UK’s legacy nuclear sites and ensure that the right delivery arrangements are in place for each one. The successful delivery of the new arrangements for Sellafield Ltd brings about a natural closure to that part of the NDA’s history; the next is about driving maximum performance across the estate. Accordingly, our organisation will go through a period of change.”

The first changes to the NDA are already coming about as a result of the Sellafield Model Change Programme. NDA professionals will work with Sellafield Ltd colleagues as part of the Sellafield Ltd Independent Performance Assurance Group. Building on good practice, the group is focusing on providing the right assurance at the right time with a real drive for better achievement of outcomes. Meanwhile, the NDA Owner’s Representative Team has replaced the current NDA Sellafield Site Facing Team. The smaller, more focused group of NDA staff will be led by Pete, who comments: “This group will support, advise and challenge Sellafield Ltd to help facilitate good performance at the site."

> “More and more we will see the NDA develop into an organisation that can provide expert advice and support to the site licence companies adopting a flexible, consultancy based organisational structure.”

Timeline


CALENDAR YEAR
2016
2017
2018
2019
2020
2021
Confirmed dates
LEGACY PONDS AND SILOS
DECOMMISSIONING
WASTE
MAJOR PROJECTS
Sellafield Ltd
Became a Nuclear Decommissioning Authority Company
Pile Fuel Storage Pond
All bulk fuel removed
Start of bulk desludging
Ready to commence dewatering
Pile Fuel Cladding Silo
Commence early retrievals
First Generation Magnox Storage Pond
Start of bulk retrievals of fuel and sludge
Magnox Swarf Storage Silo
Retrievals begin to Encapsulated Product Stores
Retrievals to new transfer and storage capability
Separation Head End Stack
Demolished to 6m level
Windscale Pile Chimney
Diffuser demolition complete
Calder Hall Defuelling
Reactor 1 defuelled
Reactor 2 defuelled
Reactor 3 defuelled defuelling complete
High Level Waste
Magnox Encapsulation Plant
Waste Encapsulation Plant
Separation Area Ventilation Plant
Operational
Evaporator D
Operational
Silos Maintenance Facility
Operational
Box Encapsulation Plant Product Store
Direct Import Facility operational
Box Encapsulation Plant
Operational
Interim Storage Facility
Operational
Reprocessing
Thorp reprocessing complete
Magnox operations complete


KEY
Key date
Complete
Operational
Range
2022
2023
2024
2025
2026
2027
2028
2029
2030
Indicative dates
Completion of dewatering
Start of bulk retrievals
Bulk retrievals complete
Bulk fuel exports complete
Bulk sludge retrievals complete
Bulk retrievals across all compartments
Demolished
Barrel demolition complete
Bulk HAL operations complete
Vitrification (Support to POCO) complete
Operations complete
Operations complete
Thorp POCO head end and chemical separation complete
Magnox POCO complete

Change and Efficiency

These two words are set to dominate our lexicon over the next five years

The site is entering the most crucial period in its modern history as reprocessing ends and decommissioning and waste management become the focus.

This seismic shift will happen against an extremely challenging funding climate.

The public finances remain under pressure, as the Government attempts to balance the books, and commercial revenue at our soon-to-be-owner, the Nuclear Decommissioning Authority, are set to fall as its last remaining electricity generating power station, Wylfa, is turned off.

As a result, we will be expected to squeeze every last drop of value from the annual budget it is given. In a word: efficiency.

In 2016/17 this will mean completing a scope of work worth about £2.3bn with an annual budget of £2bn.

"This means doing more for less and ensuring we are extracting the maximum value possible from the budget we are given."

That doesn't mean that we are not being generously funded – £2bn is a record sum for the site – but it does mean that the company must scrutinise everything it does to ensure value for money is being achieved at all times.

Every one of our departments has a savings plan which specifies where efficiencies will be made in their area.

One key focus is commercial expenditure – ensuring value for money in contract awards – with roughly 60 per cent of our annual spend going to external organisations.

The hunt for efficiencies has already yielded some eye-catching results.

More than £1.2 million was saved on our travel and subsistence bill in the first six months of 2015/16; £95,000 a month saved by switching to a new printing platform; and £75,000 a year saved following improvements to 'steam traps' in the Magnox Reprocessing plant.

This sharp focus on efficiencies will remain throughout 2016/17, and beyond, to ensure the business remains in budget.

The 2016/17 funding figure was made public in the NDA's draft business plan, which was published in January following confirmation in the Government's Spending Review, announced last November.

John Clarke, chief executive of the Nuclear Decommissioning Authority, said:

"This level of funding for Sellafield reflects tremendous support from Government and this will enable us to make vital progress on cleaning up the high hazard facilities at Sellafield, particularly the legacy ponds and silos. But we have made an unequivocal commitment to Government that in return we will expect Sellafield Ltd to place the greatest possible emphasis on value for money."

Our Chief Executive, Paul Foster, said: "We are pleased that the Nuclear Decommissioning Authority has been able to secure this level of funding for us.

"We must repay the trust shown in us by investing our budget in a way that delivers safe, secure and cost-effective progress on site as well as a return for the taxpayer and the greatest possible contribution to local economic growth.

"Although this represents increased funding for the site, the scope of work we need to deliver in 2016/17 will outstrip our budget unless we drive greater efficiency into everything we do.

"This means doing more for less and ensuring we are extracting the maximum value possible from the budget we are given.

"We are entering a crucial phase in the history of Sellafield as our mission changes from being an operational nuclear facility into a fully-fledged decommissioning site and we transition into a new management model as a subsidiary of the NDA.

"It is vital that we continue to change to ensure we are fit-for-purpose and able to rise to these challenges."

£1.2m

Saved on travel and subsistence bill in the first six months of 2015/16

£2bn

Budget to complete scope of work worth about £2.3bn

Sellafield is a site of national importance and we are the largest employer in West Cumbria. For these reasons, and more, our activities are closely monitored by a number of community groups and stakeholders. We asked some of them for their views on the new model for Sellafield, what the benefits might be, and the changes they are looking forward to seeing on the site.

Stakeholder views

JAMIE REED, MP FOR COPELAND

Transition isn't easy; not for the workforce, the supply chain or the community, but I do think that the change is right and justified. I think it will ensure better focus, better delivery of the Nuclear Decommissioning Authority's mission and better value for money for taxpayers.

Anything which improves efficiency at Sellafield has got to be good for taxpayers by-and-large. I think we need to understand in more detail what workforce reforms means – this is a very big issue. When you have a site which dominates the local economy like Sellafield does, then anything that happens there has a ripple effect. Something as significant as workforce reforms, if it affects not just working practices but also terms and conditions, that is something that everybody will be interested in.

What transition should mean is improvement all around, what transition shouldn't mean is any detriment to the workforce, site or the community. I'm sure that's not the intention – the whole point is make matters better. I am going to continue to do everything that I can to support the workforce and the management team to deliver the site's mission. That includes continuing to ensure that the government stands by us to give us the resources we need to get the job done. I don't see transition affecting that. If anything, it will improve it.

DAVID MOORE, CHAIR OF WEST CUMBRIA SITES STAKEHOLDER GROUP

I have already noticed a recent shift in focus towards the acceleration of hazard and risk reduction. This has also been a key focus for the local community for as long as I have been involved.

Not only is Sellafield Ltd looking at accelerating risk and hazard reduction, they are also looking at how to do that in a more efficient way to enable best use of taxpayer money.

A recent example being the G6 concept they introduced, where they work with other major players, like regulators and the Nuclear Decommissioning Authority to remove barriers and find fit for purpose solutions to progress.

My understanding is that under the new model we will see significant changes in the way that Sellafield Ltd does work at Sellafield, by using strategic partners to take forward large chunks of work which will hopefully create greater opportunity for our supply chain.

I attended an event at Energus recently – 'Opening the door to opportunities' which was arranged by Sellafield Ltd to show Small to Medium Enterprises how they can get involved in doing work at Sellafield now and in the future. It was a great success and is something that I'd hope to see continue.

Our ambition locally is for this area to be considered as the Centre for Nuclear Excellence, I hope the new model change embraces that and ensures the workforce is recognised for their dedication and expertise to make that happen. Sellafield is the heart of nuclear in the UK and I'd like to see that reputation grow.

ALAN SMITH, LEADER OF ALLERDALE BOROUGH COUNCIL

I would like to thank Sellafield Ltd for their recent help following the floods in December 2015. The Company and Allerdale built strong working relationships during this time and they were instrumental in the organisation of Taste Cumbria Christmas. I hope that this sense of working in partnership to benefit our communities can continue. Allerdale has also been involved in the establishment of the Centre of Nuclear Excellence partnership and I am looking forward to seeing the outcomes.

Looking to the future, I hope to see more socio-economic benefits to the people of West Cumbria, in particular in Allerdale, where many Sellafield employees live and where some of the Sellafield supply chain is based. This could be in the form of equal opportunities and access to jobs for local people, projects in the community or increased partnership working. West Cumbria has a lot of strengths, so I would also like to see the success of West Cumbria Works, as it is a great opportunity for the local people to access jobs in the nuclear industry.

MIKE STARKIE, ELECTED MAYOR OF COPELAND

I sense a real commitment to driving changes and improvements at Sellafield, both in terms of progress with high hazard retrieval, and innovative and efficient improvements in decommissioning processes.

The role of Sellafield as a world class centre for decommissioning capability is part of all our USP for the area and I have been very pleased to see the commitment of Sellafield Ltd to the Centre of Nuclear Excellence. This will help reinvigorate our area's international reputation and cement the role of Sellafield, the workforce and our community in the national economic conscience connected to the Northern Powerhouse.

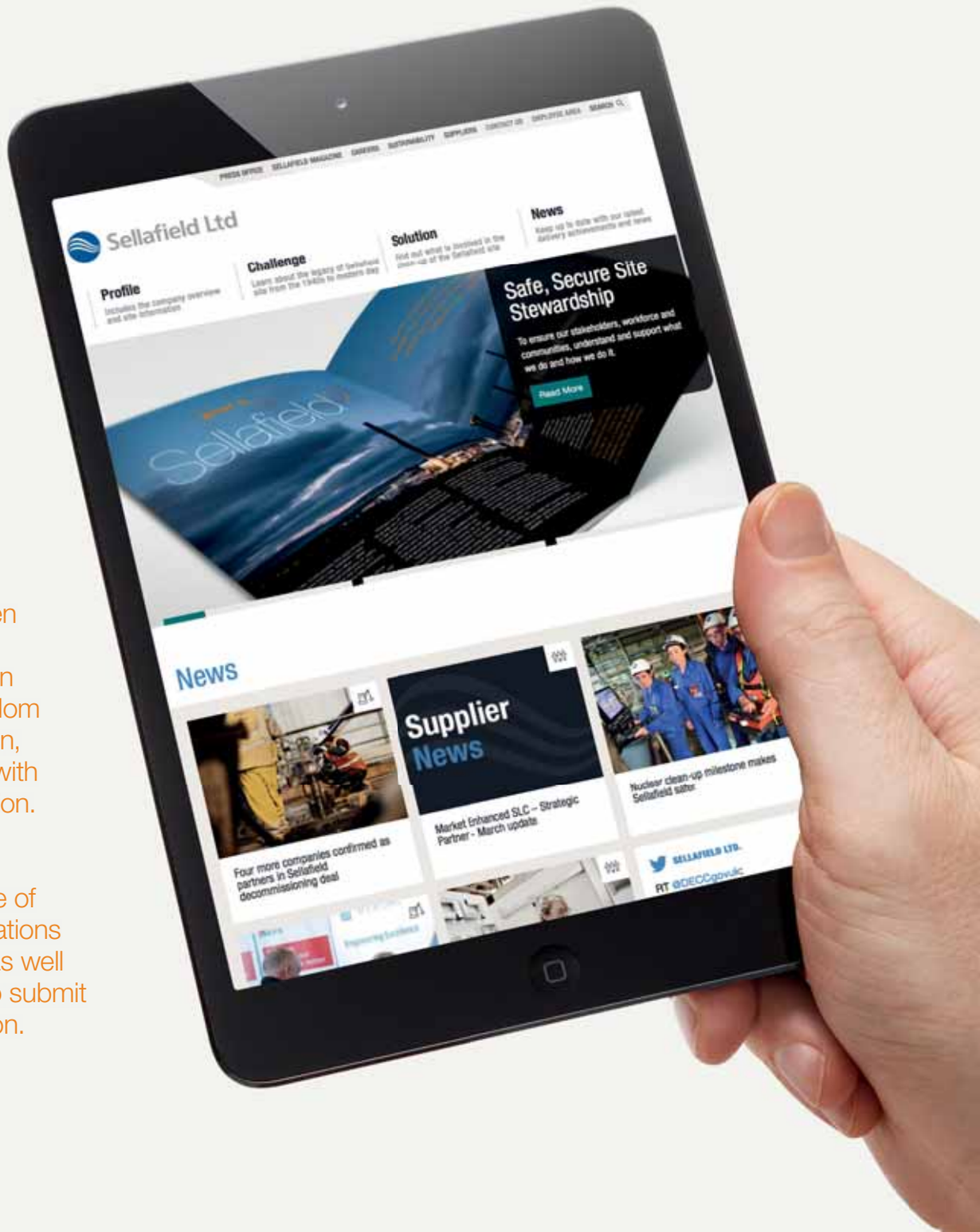
I have also very much appreciated the candour of Paul Foster in setting out his vision for the site moving forward. I welcome Sellafield Ltd's renewed commitment to socio economics, and the shared focus around skills and training, and supply chain development – but also accountability.

I have no doubt that the new model will bring its challenges as well as opportunities. I hope that it will streamline processes, unite the workforce behind a common agenda and bring a modernisation in site approaches and activities.

I will watch performance on key projects with keen interest, and I hope that Sellafield Ltd will become more commercially focused and better able to support the development and growth of the local supply chain. I am also keen to better understand the role and purpose of the supply chain in creating a 'market enhanced site licence company' and how value will be added through that process.

I have no doubt that there will be some difficult times ahead as well as opportunities, but I welcome a more strategic and long term approach to planning the future of Sellafield Ltd both on and off the Sellafield site and feel increasingly confident in the new model, and team in place to deliver it.

Keep up to date with progress at Sellafield



In line with our commitment to be open and transparent in our communications, and in accordance with Freedom of Information legislation, we provide the public with access to our information.

The new Corporate section of our website brings together a range of information and publications about our operations as well as guidance on how to submit a request for information.

Lifting the Lid on the Nuclear Legacy

The last time it saw daylight, the average UK house cost £44,000, Margaret Thatcher had just been made Prime Minister for the third time and The Bangles first started walking like Egyptians.

Now, after 29 years, the huge pre-cast concrete slabs covering the top of A-Bay in the First Generation Magnox Storage Pond have been lifted up to reveal the decommissioning challenge beneath.

The bay, once used as the area where spent Magnox fuel had its casing removed, hadn't been forgotten… there had just been more urgent decommissioning priorities in the pond.

Now the 'lid' is off, a dumping ground of pipes, cables, equipment, tools, fuel rods and sludge below tells the story of a plant struggling to keep up with the pace of reprocessing at a time when the UK nuclear industry was working all out to keep the lights on and The Bangles on the radio.

Despite the challenge of untangling this metallic spaghetti, the team is more than up for the task ahead. They will be using the techniques already used elsewhere in the pond – underwater remote operated vehicles, eagle-eyed operators and the overhead crane – to clear this area piece-by-piece and pump-by-pump.

M+W Group

HOW WOULD YOU DESCRIBE YOUR ORGANISATION'S SOCIO-ECONOMIC PROGRAMME?

We believe that adopting a whole business approach is essential to achieving effective Socio-Economic Development that maximises local benefit and value generation. It's why partnership is at the heart of M+W Group's approach. A community's requirements are always unique and so by understanding the specific local priorities we can develop a targeted programme within a framework based on three core elements:

- **Education and skills development**
  With an emphasis on STEM and technical skills we have a particular focus on encouraging young people and women into engineering and construction
- **Economic development**
  Well established local supply chain and enterprises are a key platform for long term local employment and business growth
- **Social and community development**
  We are keenly aware of the impact our activities can have on the communities in which we operate. We appreciate the opportunity and responsibility we have to make a material contribution to the well-being of the local community. Our aim is to leave a positive legacy for the benefit of all stakeholders.

DO YOU HAVE A SPECIFIC SOCIO-ECONOMIC INITIATIVE/ PROGRAMME THAT YOU ARE PARTICULARLY PROUD OF?

M+W Group's aim is to become an integral member of the design, engineering and construction community in West Cumbria. We believe that the key to long-term success in this area will be built on education, training and skills development. We are therefore keen to support and lead initiatives that promote local employment, education and ongoing support for the local supply chain and SME environment.

We are also proud to support STEM based activities through organisations such as Cumbria STEM Centre and Young Enterprise. As part of our approach we work with school and college leavers within the area to promote engineering and construction, including promoting our apprenticeships programme. We currently have 13 apprentices within the company, two of whom are working on site at Sellafield and we are looking to significantly build on this. Our apprentices are supported through relevant HND qualifications for the industry and we are delighted to have our first female welding apprentice join us in September.

We are only at the outset of our engagement at Sellafield and excited by the opportunity we see to do so much more.

WHAT BENEFITS DO YOU BELIEVE A COLLABORATIVE SOCIO-ECONOMIC APPROACH WILL BRING OUR COMMUNITIES?

With over a century of experience delivering projects that span the globe, we have seen the benefits an effective socio-economic approach can have.

Through education, training and development, we can make sure local communities have a sustainable stream of people with the valuable skills needed to meet the long term needs of the UK nuclear market. We can nurture dynamic, sustainable and prosperous local economies and supply chains for those living near our sites that not only supports and promotes local community wellbeing; but also allows us to inspire the next generation of engineers and scientists that will help shape the modern world. Above all, we can open up unprecedented opportunities in the global nuclear sector that will benefit local communities for generations to come.

13 apprentices

within the company, two of which are working on site at Sellafield

Bill Macaulay, Operations Director, Nuclear, M+W Group

M+W Group

Location:
Leading global design, engineering and construction company, operating in 30 countries worldwide

Established:
1912

Number of employees:
Over 7,000 global employees – over 23% female workforce in the UK

Number of apprentices:
Currently 13 apprentices within the UK business

www.mwgroup.net

factfile

The silo is 21m high and its six individual waste containment compartments hold over 3,400 cubic metres of intermediate level waste, the equivalent of 30 double decker buses.

It has been storing radioactive waste since 1952 – the same year that Queen Elizabeth II ascended to the throne.

Originally, the silo had no dedicated personnel assigned to it, and the facility sending the waste would arrange for its own personnel to tip the waste. This means there are big variances in the quality of information on what has been put there and Sellafield has conducted scores of interviews with now-retired staff to build intelligence on its contents.

It is situated in a highly-congested area of the Sellafield site, surrounded by a maze of active pipelines and similarly sensitive buildings. This makes it very challenging to carry out decommissioning work. Even the installation and use of a crane is a highly-detailed project requiring extensive safety assessments.

The superstructure built next to the silo to house the retrievals equipment is strong enough to withstand a seismic event.

IN FOCUS:

Pile Fuel Cladding Silo

The Pile Fuel Cladding Silo is Sellafield's oldest nuclear waste storage facility and will be the last of the four 'legacy' ponds and silos to start the process of reducing the nuclear and environmental risk by getting the waste out of the old building into a safer place. Although there's been a huge amount learned the hard way on how decommissioning needs to be considered right at the outset of planning and construction, in many ways the team's 'lead and learn' early retrievals approach of today harks back to the 'simplicity first' ethos used when it was built.

It's fair to say that anyone building an Intermediate Level Waste storage facility today wouldn't look to a 1940s North American grain silo for engineering and architectural inspiration. But that's what happened with the Pile Fuel Cladding Silo when it was designed and built in the aftermath of the Second World War.

The rush to secure Britain's place at the world's atomic weapons table in the Cold War was paramount, meaning the solution for dealing with the waste and by-products of plutonium production was way down the pecking order. Put frankly, storage solutions that were 'agricultural' in every sense of the word had to be good enough at the time.

"The people who built the Pile Fuel Cladding Silo did extraordinary things in incredibly short timescales. Their mandate was to develop the first nuclear weapons, not to consider the long-term effects of radioactive waste storage," said Gary Snow, head of the silo programme. "Anywhere in the world where there was a post-war weapons programme has the same issues: waste storage buildings which weren't really built to last; poor and inconsistent record keeping on the contents; and no real thought given to eventual retrievals."

Gary's team is delivering the programme of emptying and decommissioning the building used as the UK's first ever storage facility for intermediate level waste. He says if he could go back in time and say anything to these nuclear pioneers, it would be "make the building more robust and keep good records". But, without the luxury of time travel, Sellafield has instead had to carefully manage and monitor the facility.

In the 1980s efforts were stepped up to upgrade and fortify the building which had been exposed to the Cumbrian weather for nearly 40 years. As well as repointing and rendering, the building has been strengthened by huge supporting bands wrapped around it, like a girdle around the waist of this pensioner of the plutonium age. Other crucial upgrades involved reducing the risk of fire by replacing the air in the silo with the inert gas argon.

But a facility's life can only be prolonged for so long and the focus is now firmly on getting the waste out. This means us, the Nuclear Decommissioning Authority and the nuclear regulators all having an understanding and acceptance that the retrievals process does involve an elevated state of risk, but that is more acceptable than the risk of leaving the waste in there any longer.

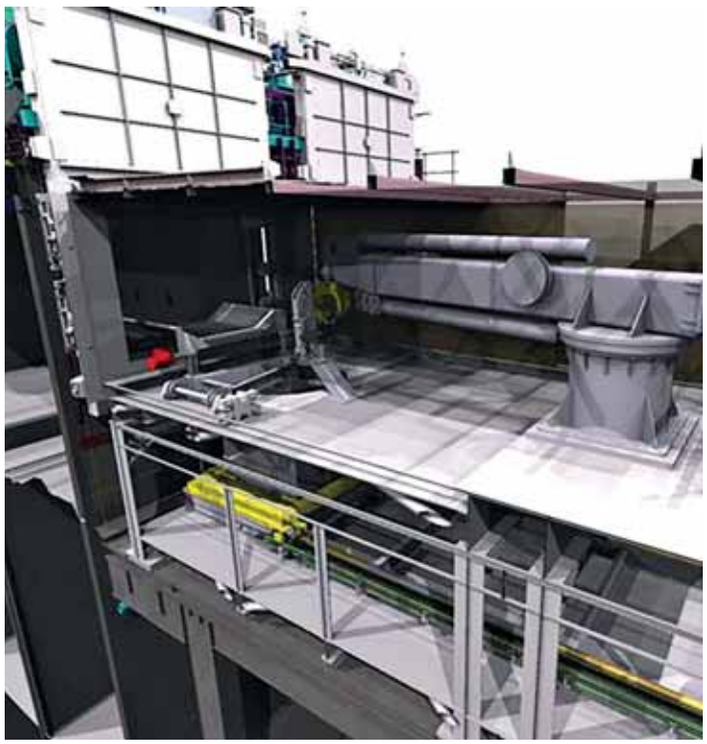
"The time for studies and assessments is over. It's now time for safe action," said Gary. That 'action' will involve getting the silo ready for retrievals to start and installing the retrievals machinery in the reinforced concrete 'superstructure' which has been custom-built right next to the silo.

The business plan used in the current Sellafield Plan from 2014 predicts that retrievals will start in 2022 and the overall cost of the programme will be £904 million. However, a new plan currently being agreed hopes to bring forward the start of retrievals significantly and also reduce costs.

A key way of delivering more quickly and efficiently is to do things as simply as possible. "We've learned from other decommissioning programmes, particularly the Pile Fuel Storage Pond, how productive and effective the 'decommissioning mindset' can be. This means that rather than plan and mitigate for every single outlier or surprise you can think of, you're better off getting on with the job as safely as practicable and dealing with challenges as they arise. We are also trying to make processes and equipment as simple as they can be right across the programme," said Gary.

An early glimmer of this strive for simplicity was shown at the beginning of the millennium in the challenge of removing the waste which was blocking

Left: Deflector plate.
Below: Construction of retrievals facility.
Below right: hole cutting trials.
Opposite: Using a simple solution to poke waste through the compartment.



Overall cost of the programme will be

£904m

up the transfer tunnel at the top of the facility. Ideas were sought for how best to dislodge the tunnel's excess waste into the compartments below. Diagrams were drawn, calculations made, engineering options considered. Yet through this haze of emerging complexity, one of the workers proffered up a low-tech, high-innovation option of simply using a large steel pole and 'poking' the waste so it dropped into the compartment below. It worked and was a lesson in the power of intuitive and simple thinking from our workforce – and a warning against over-engineering and unnecessary complication.

The team is using this learning today to drive the new 'lead and learn' approach through early retrievals from a single compartment rather than all six simultaneously.

"We were originally going up there and building a 'Rolls-Royce' solution for all six compartments. That meant building a very complex system that took account for every single outlier that you didn't yet know was actually going to be necessary."

"The sooner we start retrieving waste, the sooner we will have a view of how it actually behaves and also what the structural integrity is like. We're going to go up there and hopefully prove that you can do this simply," said Gary.

How are we getting the waste out?

In simple terms, getting the waste out of the Pile Fuel Cladding Silo involves cutting six holes in the side of the building, extending a telescopic boom and grabber into the silo, grabbing and lifting the waste so it can be loaded into a $3m^3$ metal box, putting the box into a shielded flask and then transporting it away. Sounds easy. But no humans would survive inside this environment, so everything has to be done remotely, and the silo's needs to maintain the argon atmosphere inside, (even through hole cutting) to eliminate the risk of fire.

Highly-engineered containment doors will be attached to the side of the building and placed into the "open position" before penetrations are made to enable access to the waste inventory. As the holes are cut, the removed concrete monoliths will be placed into sealed bags to maintain contamination and atmospheric control, before the doors are closed.

Pile Fuel Cladding Silo Historic Timeline

1950-1951

Silo is built, at a cost of £90,000.

1952

First radioactive waste is tipped into the silo from the Windscale reactor. The tipping system was so simple it only cost a shilling per cubic foot to deposit it there.

1957

Silo begins accepting decanned Magnox waste from the Calder Hall reactors.

1960

Additional shielding provided on the south and west walls to reduce radiation dose rates in adjacent areas.

1965

Bulk waste tipping operations cease, although some ad hoc waste is still accepted until 1968.

1986-89

First major building upgrades carried out, including new roof covering, stairways and general refurbishment.

1988

Fire-fighting system installed to introduce argon in event of fire.

Project in action:

Removal of deflector plates

The original design of the silo involved tipping the waste onto a metal deflector plate so that it bounced off onto both sides of the compartment below and spread the waste evenly. However, these plates are now in the way of the retrievals machinery and need to be removed.

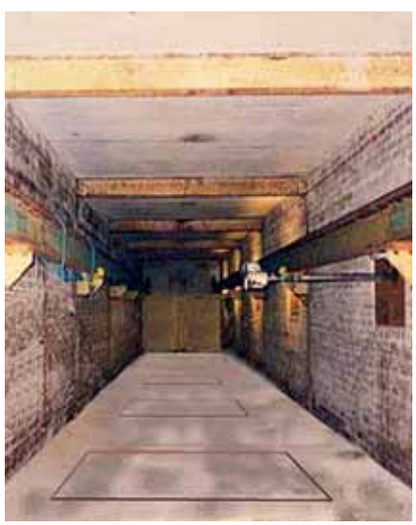
As each of the six deflector plates is about the size of a small car and welded firmly in a place where there is no human access, it's an engineering challenge to get rid of them. The solution has been to cut them up in situ using long-reach tools through small engineered openings in the building – like keyhole surgery on an industrial scale.

Sparks from cutting metal would definitely not be a good thing in this sensitive atmosphere, so the cutting is done with an abrasive jet, blasting a mixture of water and finely ground stone at the speed of sound to cut through the metal.

Removing each deflector plate involves over 150 different carefully planned cuts so that small bits of deflector plate drop into the compartment below. Sellafield Ltd has been practising the technique in a specially built mock-up facility in Egremont run by James Fisher Ltd through the CNSL partnership.

The process of grabbing the waste and loading it into the metal boxes also requires reliable and safe engineering solutions. The telescopic boom and grab will be deployed through the new doors in the side of the silo. This grab will pick up the waste from within the silo, retract and lower the grab full of waste into one of 2,200 3m^3 metal storage boxes, which will be lidded, bolted, swabbed, placed in a flask, and exported prior to treatment and final storage.

The waste is being sent to the Box Encapsulation Plant Product Store – Direct Import Facility, a new above-ground facility which will import and store the nuclear waste until its planned final destination – a Geological Disposal Facility deep under the ground. The above ground store alone is a £267m programme, due for completion in 2019, illustrating the size and scope of just one of the enablers needed to deal with the legacy of the past.



1999

South shield wall demolished and concrete panels removed from North shield wall.

2001

Atmosphere inside the silo compartments switches fully from air to argon, thanks to a new seismically qualified argon inerting plant, vastly reducing the potential risk of fire.

2002

Clearance works begin on the tipping tunnel at the top of the facility using the low-tech, fit-for-purpose 'pokey stick' method of prodding the waste so it falls into the compartments beneath.

2004-5

Charge holes plugged and sealed and entire transfer tunnel demolished and replaced with new roof covering (affectionately known as the 'cricket cover').

2012-13

Construction of 'superstructure' adjacent building to house the retrievals equipment.

2015

On-site work on fitting the silo containment doors begins, with sealing door frames attached to the side of PFCS.

2016

Waste clearance from the deflector plates, installation of silo doors and hole-cutting equipment.

Boxing clever

In 1958 Lego produced the first version of the plastic brick which took over the world.

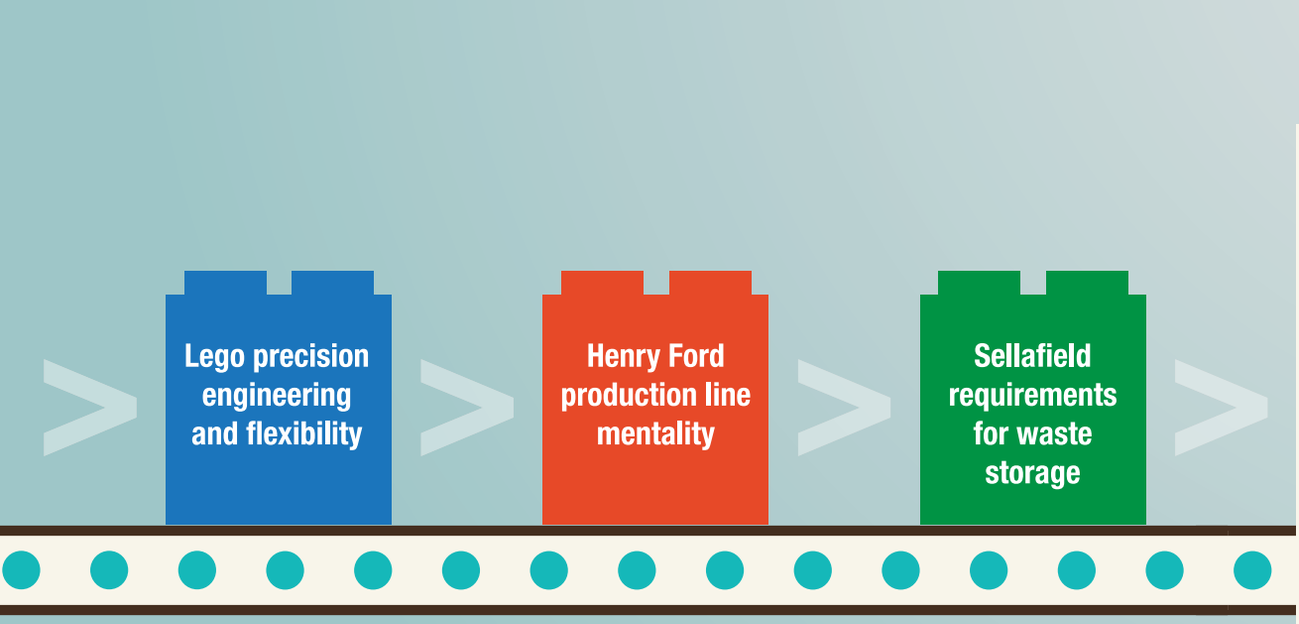
Its dimensions were so precise that you can still fit a 1958 brick on to one produced today, thanks to the machines producing them being accurate to the nearest one hundredth of a millimetre. A great example of precision engineering with one eye on the future and the other on flexibility – six 2x4 Lego bricks can be combined in 915,103,765 different ways.

We are using the Lego ethos in our approach to procuring our own army of 'bricks' – the 3m³ metal boxes which are a vital part of Sellafield's future mission in terms of decommissioning the site and storing radioactive material safely.

The future level of demand for metal boxes is truly eye-opening and we are going to need a very big production line. Emptying the legacy waste out of the Magnox Swarf Storage Silo alone is expected to fill 16,000 metal boxes. Add to this an anticipated demand of more than 55,000 additional boxes for wider site decommissioning and you have a manufacturing output by 2027/28 of around 1,500 3m³ highly engineered metal containment devices a year. That is 29 boxes every week.

The stakes are high. Current estimates show that every £1,000 we can save on the cost of buying a metal box could mean a site-wide saving of around £20 million.

That is why we are taking a leaf out of Henry Ford's (and Lego's) book and applying a 'production line' mentality with as much uniformity as possible in the components of the different boxes.



Designs will need to differ slightly according to the different retrievals processes and material stored, but the underlining principle will be to ensure the containers are: fit-for-purpose rather than over-engineered; one-size-fits-all approach wherever possible, using the steel industry's standard dimensions to reduce waste and costs; manufactured by suppliers who are delivering socio-economic benefits.

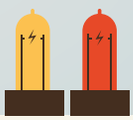
"In many ways we have a great problem," said Chief Decommissioning Officer Tom Foster. "The reason why we need to get cracking on the right designs for the boxes now is because we are bringing forward the delivery dates in our retrievals programme."

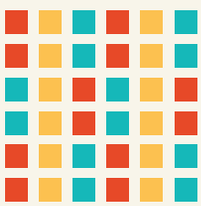
"The acceleration of the mission to get radioactive material out of Sellafield's most hazardous nuclear facilities means that now is the time to plan what our 'Lego tower' will look like in decades to come.

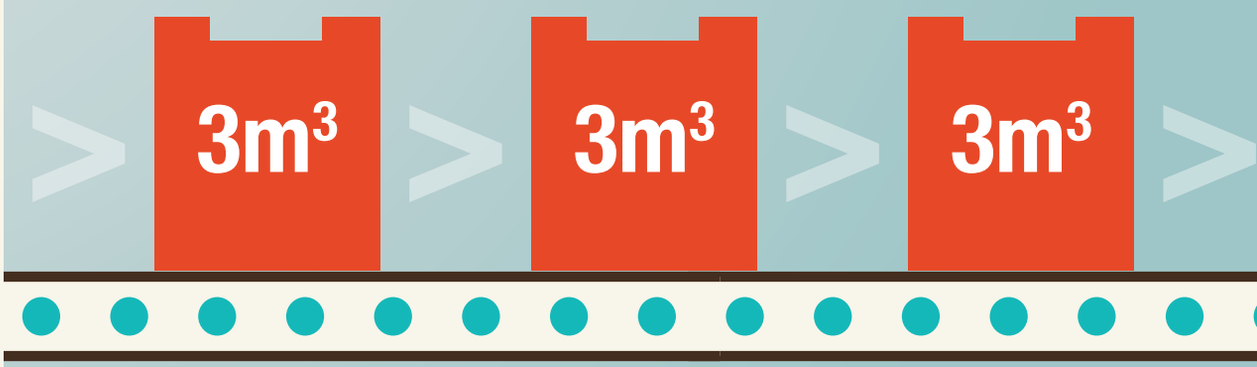
The retrieval of nuclear waste from the Magnox Swarf Storage Silo could be ready to begin in 2018, and the waste will need to go somewhere."

The first two prototype boxes for waste from the Pile Fuel Cladding Silo will be delivered in October 2016, and these will help inform the future manufacturing programme.

The stakes are high. Current estimates show that every £1,000 we can save on the cost of buying a metal box could mean a site-wide saving of around **£20 million**.





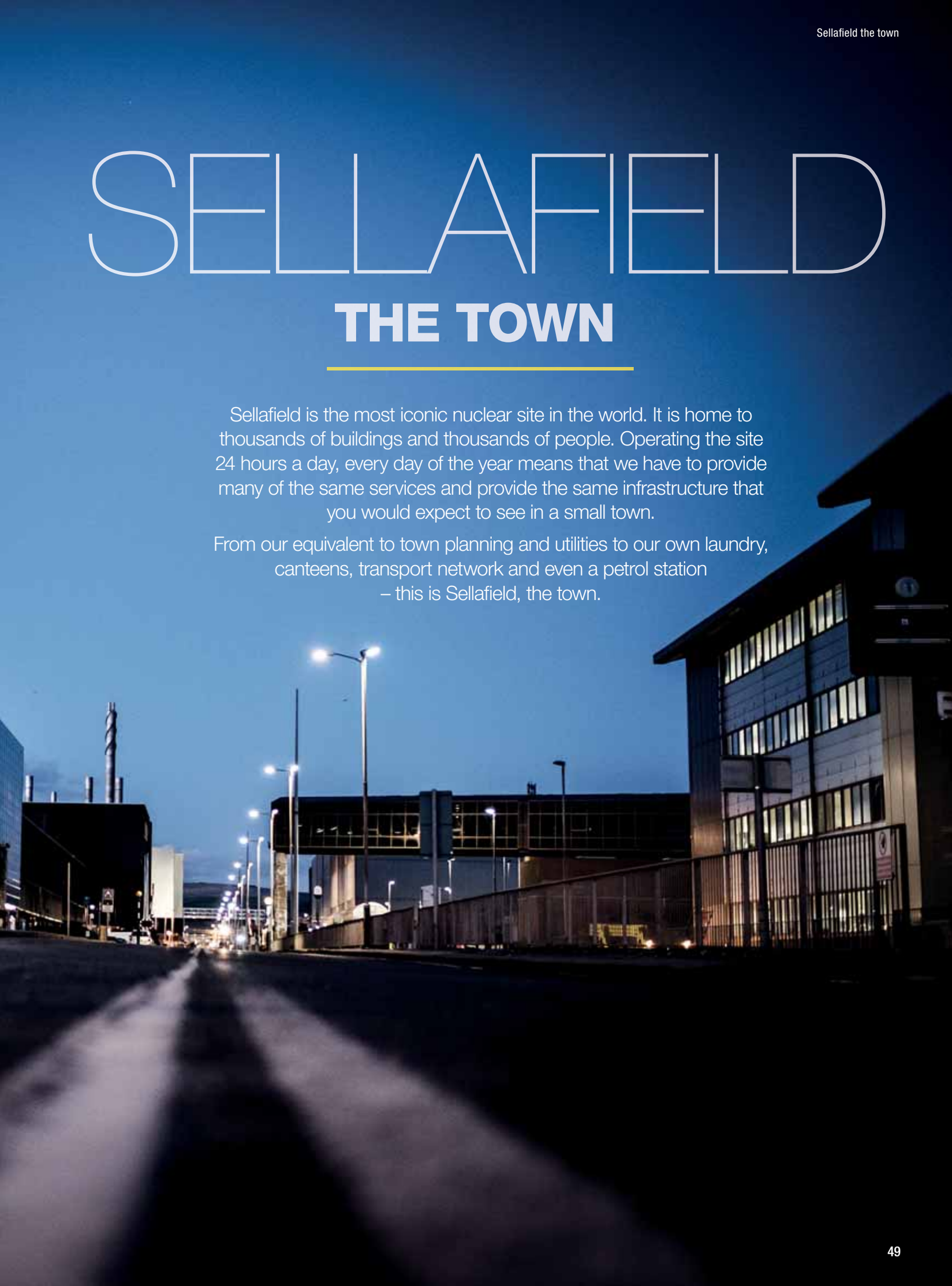


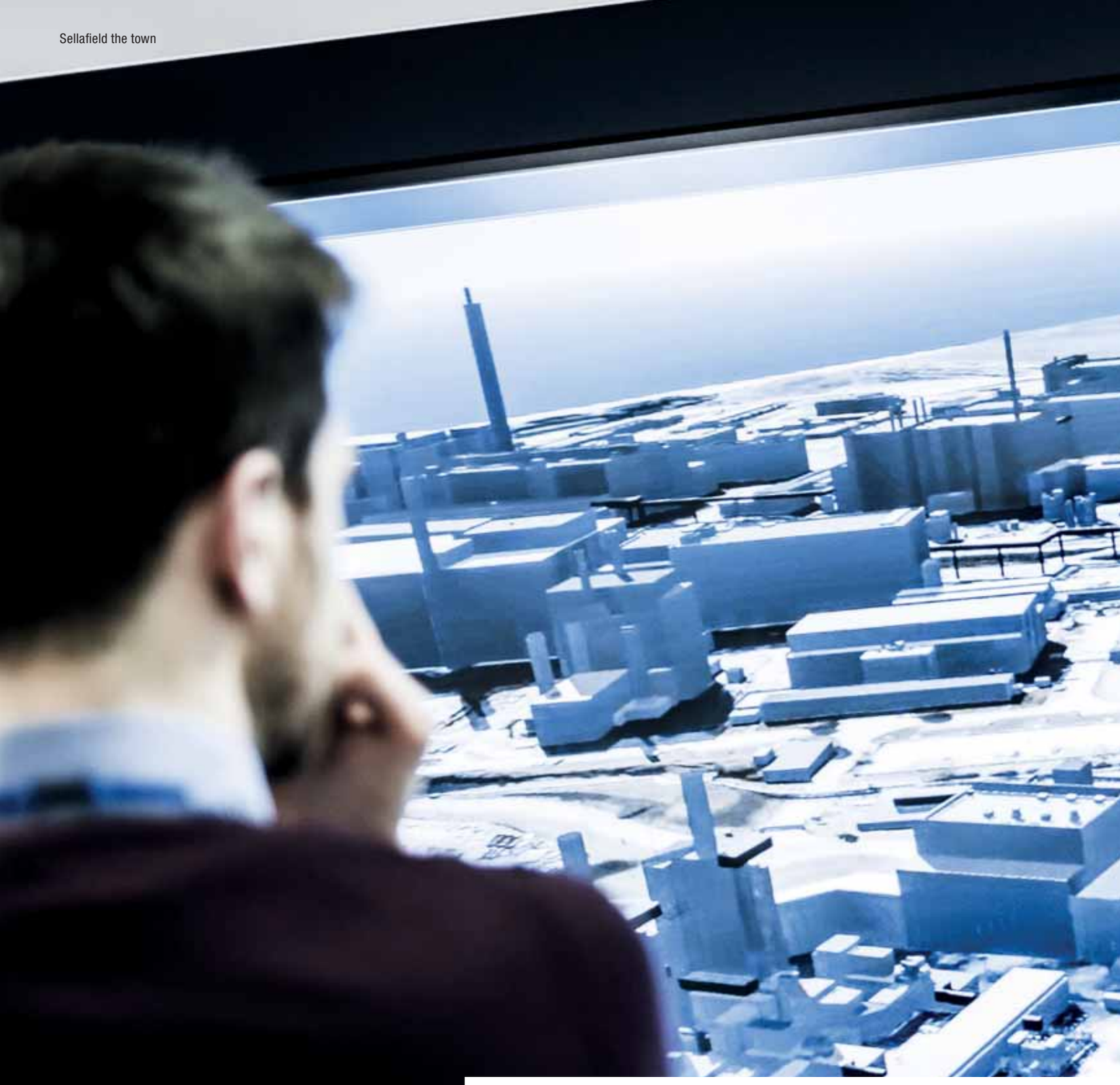
SELLAFIELD

THE TOWN

Sellafield is the most iconic nuclear site in the world. It is home to thousands of buildings and thousands of people. Operating the site 24 hours a day, every day of the year means that we have to provide many of the same services and provide the same infrastructure that you would expect to see in a small town.

From our equivalent to town planning and utilities to our own laundry, canteens, transport network and even a petrol station – this is Sellafield, the town.



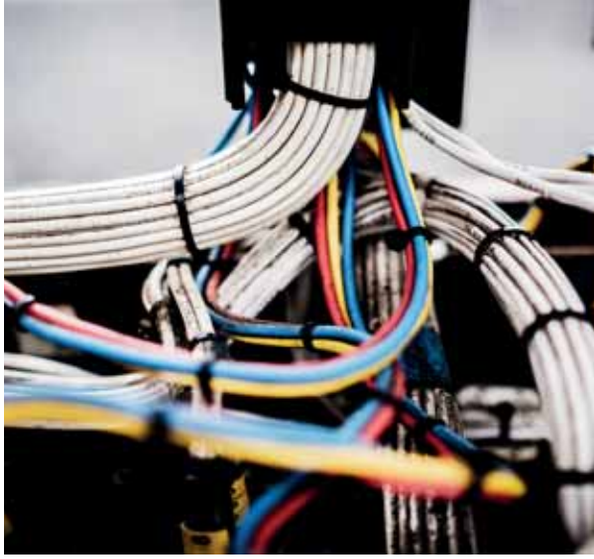


Sellafield the town

PLANNING

Making sure that the 2 square mile Sellafield site has all of the services it needs, when it needs them, requires the same level of planning as operating a town.

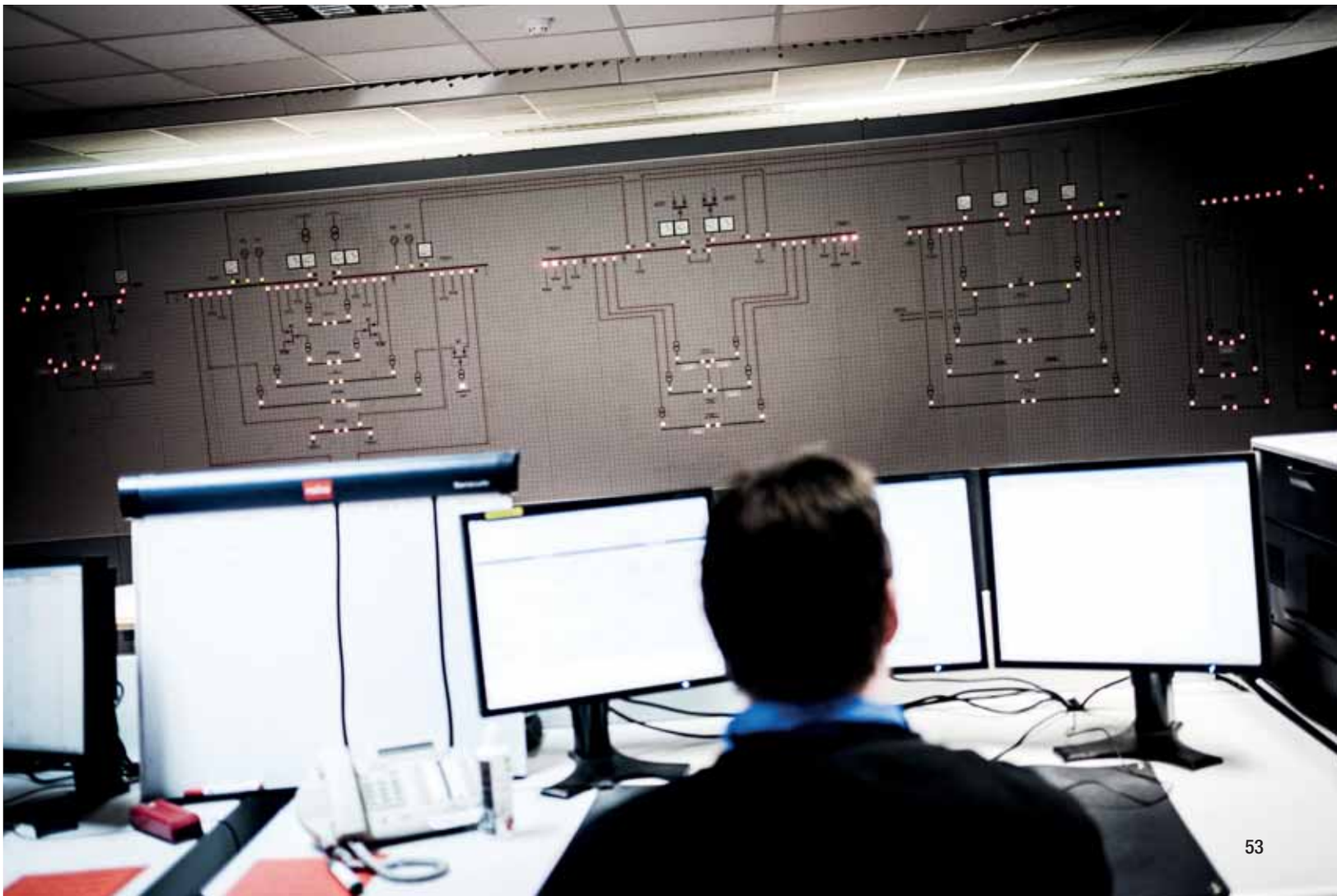
Sellafield the town



UTILITIES

We manage and maintain our own network of utilities and services, from power and water to waste.

Sellafield the town



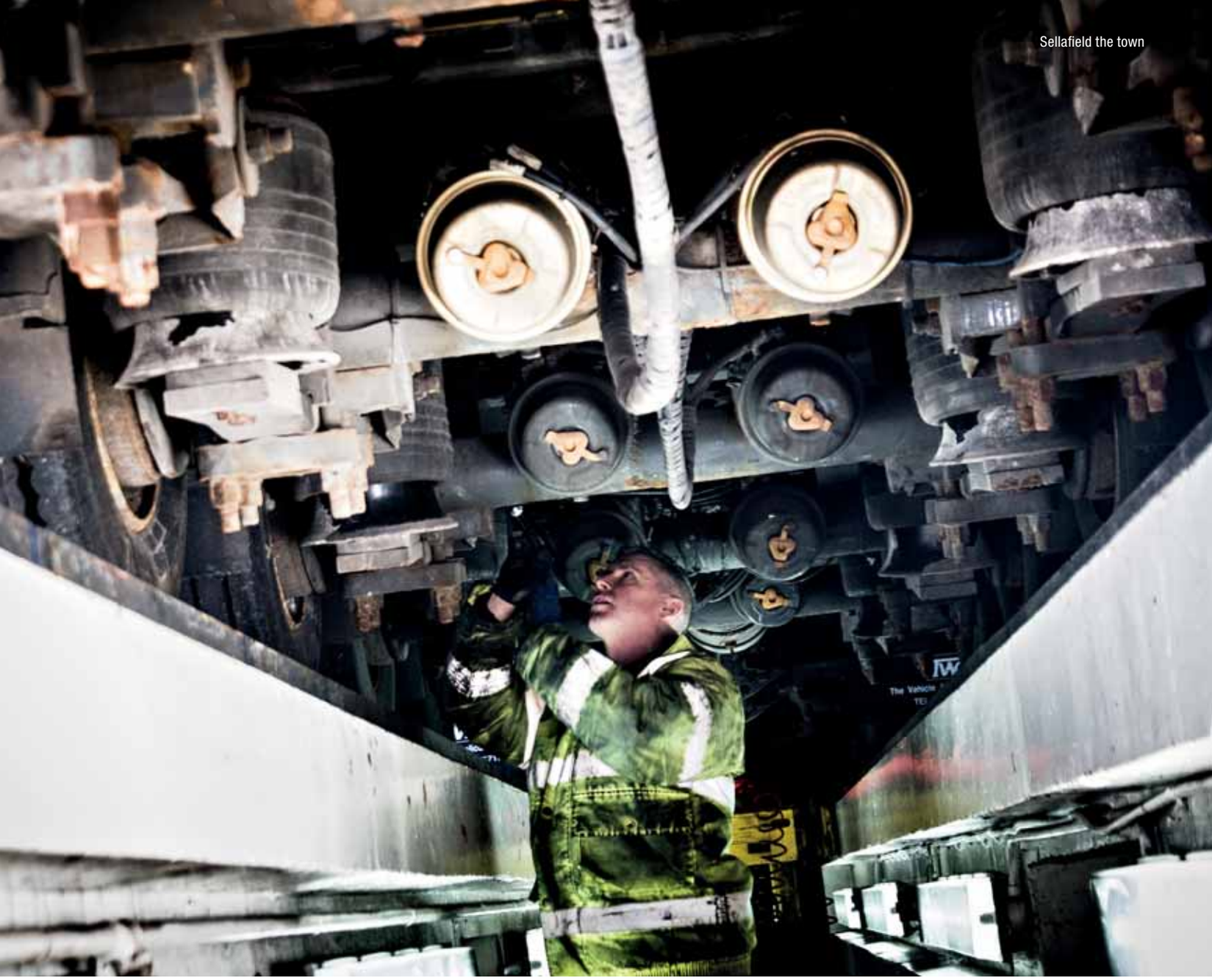
SERVICES

Our diverse network of services, such as post, catering, emergency services, refuse and laundry are essential to the 24/7 operation of Sellafield.


CANCEL
CLEAR
ENTER

KEEPING SELLAFIELD MOVING

Thousands of people work on the Sellafield site. Keeping them and the site moving relies on our road, rail, transport and traffic management.




SPREADING


ROAD
CLOSED


RIAN
OSSING


10


www.reays.co.uk


Sellafield
Passengers must NOT
Alight here
Barrow
156464


Park & Ride
Yottenfews
www.reays.co.uk
YX65 RHO


CAR PARKS
1, 2 & 3


No left
turn when
lights show
KEEP
CROSSING
CLEAR


BUS
STOP

EMERGENCY PREP

Ready to respond. Our emergency response teams and workforce practice emergency procedures every month.

Sellafield the town

10 FACTS ABOUT INFRASTRUCTURE

1

98%

98% OF OUR GENERAL WASTE IS RECYCLED – THAT IS MORE THAN DOUBLE THE 2014 AVERAGE FOR UK HOUSEHOLDS (45%)

2

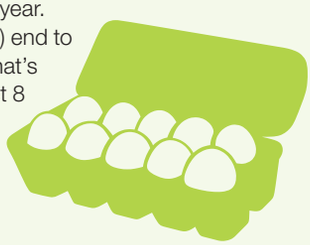
41,000

We have 41,000 pairs of works socks in existence on the Sellafield site. That's enough for a fresh pair for every player at a Premier League Football match for 5 years

3

208,000

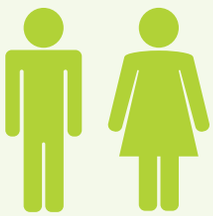
Around 208,000 locally laid eggs are eaten in our canteens every year. Laid (!) end to end that's almost 8 miles



4

2,080

There are 2,080 toilets at Sellafield



5

WITH MORE THAN 1,300 BUILDINGS ON SITE, SELLAFIELD MEASURES 2 SQUARE MILES – THAT'S APPROXIMATELY 20 TIMES LARGER THAN WEMBLEY STADIUM

6

300

EACH MONTH WE RECYCLE ENOUGH PAPER TO SAVE OVER 300 TREES

7

2,600

WE HAVE AROUND 2,600 STREET LIGHTS ON THE SITE

8

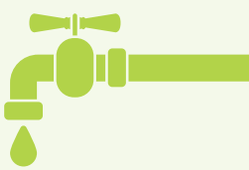
2,000

Our emergency welfare kit includes over 2,000 disposable cups and cutlery, foil blankets, roll mats and thermal mugs

9

4,365

Sellafield has 111km of water pipework and 4,365 manholes



10

150,000

We wash 150,000 garments made up of shirts, trousers, underwear and vests every week

Facelift for site asset

Two stalwarts of radiation monitoring at Sellafield are having a facelift as part of a refurbishment programme.

The Whole Body Monitors at Sellafield are a scarce UK asset and an important diagnostic tool used to perform whole body measurements of radioactivity in the body. At Sellafield there were three, now two shielded rooms constructed using six inch steel plate, lined with one centimetre of lead.

These machines date back to the 60s; their history goes back even further. The shielding for the three WBM units originally built on site came largely from three battleships: HMS Howe, HMS Natal and HMS Lion that were commissioned prior to 1945.

Mark Peace, deputy head of approved dosimetry service at Sellafield explains: "Measurements take place in a heavily shielded room to reduce interference from natural sources of radiation which would have been picked up by the very sensitive detectors used.

"Modern steels are unsuitable for these monitoring machines as they are slightly radioactive so old steel from pre-1950 decommissioned or sunken warships has been used – steel made before the detonation of the first atomic bomb causes no aberration in the most sensitive of instruments. Similarly, recently refined lead is slightly radioactive and so the lead used for the lining is from roofs of old buildings, typically over 100 years old."

"The shielding rooms from the original monitor units 1 and 3 are still fit for purpose and are being reused in the refurbishment. Unit 2 was last used for routine measurements in the 1990s."

The refurbishment involves replacing obsolete detectors thus ensuring these machines continue to provide excellent service.

These machines are a key part of the internal dosimetry 'toolkit' along with biological sampling, personal air sampling, high volume air sampling and the static air sample system.

Barry Sullivan, from our dosimetry services team added: "Whole body monitors can detect the presence of extremely small quantities of radioactive materials that may be deposited in the body. For example, it can detect smaller quantities of radioactive materials than portable survey instruments and 'walk through' monitors in the workplace. It's a diagnostic tool that can provide reassurance quickly.

"Hundreds of routine whole body monitor measurements are performed each year on employees working with radioactive materials. The measurements provide assurance that the controls established to prevent and limit internal radiation exposure are adequate. Employees can also be referred for measurements following a suspected accidental intake of radioactivity. If an intake is confirmed, additional measurements may be required to observe clearance of material from the body."

The collective internal dose recorded for Sellafield, including our contractors, was less than 1 millisievert in 2015 for over 7,000 people working in controlled areas.

Whole Body Monitor: measurements for radiation workers are part of internal dosimetry services at Sellafield

The new detectors are supplied by AMETEK at a cost of approximately £500k. The refurbishment also includes modification of the existing detector mountings and replacement of associated electronics, computer systems and some radioactive sources.

Battleship HMS Howe: metal from the battleship is used as shielding in the WBM

Lasersnake

Investment in new and innovative approaches to decommissioning is fundamentally important to Sellafield and to the UK tax payer to reduce future costs.

We have teamed up with Lasersnake2, a project co-funded by the Nuclear Decommissioning Authority, InnovateUK and the Department of Energy and Climate Change, and developed in collaboration with a consortium including OC Robotics Ltd and the Welding Institute Ltd.

At our underwater test facility the latest adaptive technology 'Lasersnake2', a slender, flexible robotic arm adapted from the automotive industry, has performed its first demonstration.

Driven by wire ropes, the snake-arm robot can navigate effortlessly through small spaces and cluttered environments with the ability to conduct activities such as laser cutting, inspection, fastening and cleaning.

The technology is highly flexible spanning up to 4.5m in length, and ideal for working in confined and hazardous spaces. Another key feature is that the motors, electronics and control systems are situated outside of the environment, with only the arm itself being deployed into the work space.

Rhys Roberts, a decommissioning project manager, explains the benefits of the Lasersnake2: "Normal metal cutting methods such as reciprocating saws or grinders pose a significant challenge to remote deployment platforms, where the lack of 'feel' often taken for granted when operating tools manually, is totally lost. The engineering solutions can easily become overcomplicated, unreliable and expensive.

"This technology has the ability to be deployed within an unprepared area; minimising modifications required to size reduce the active inventory, which is often the most challenging aspect of decommissioning. Most importantly the lack of contact between the cutting tool and the work piece allows the deployment platform to be much simpler, cheaper and reliable.

"Our drive to support the deployment of these novel tools is based on an eye for the future as well as immediate benefits. This is by applying a "lead and learn" approach – using new tools or ways of working to deliver hazard reduction now. This will also deliver real instant progress, whilst demonstrating and developing more efficient ways of decommissioning for the next wave of nuclear facilities approaching end of life."

The next stage of the project will see Lasersnake2 tested in our first generation reprocessing plant where it will reduce the size reduction of a lightly contaminated vessel.

Interview by:

MEGAN SAVAGE

An interview with

Jamie Reed

Member of Parliament for Copeland

Jamie was working as a press officer for Cumbria County Council in Carlisle when he was first called upon to support Sellafield in Westminster. He explained: "Following the data falsification issue surrounding the production of MOX fuel at Sellafield in 1999, I worked with the site's trade unions, as campaign manager for their 'sort out Sellafield' campaign.

"I remember coming down here [to Westminster] and lobbying secretaries of state to support Sellafield and also invest in the site to make sure we a move forward."

On the back of the campaign, British Nuclear Fuels who owned and operated Sellafield at the time, offered Jamie a job in their public affairs team where he continued to work with the media and lobby Government and international governments to support the site and industry.

"It was an absolute pleasure to work there and a wrench to leave."

Today Jamie is the Member of Parliament for Copeland, the borough that is home to the Sellafield site. I sat down with him in his Westminster office to talk about his experience of working for Sellafield and his continued involvement, on the other side of the fence. >

MS: Do you think Sellafield has changed since you worked there?

JR: The difference is like night and day. When I was there the site had difficulties that had long standing political roots. There was a lack of focus in regards to cleaning up the legacy ponds and silos but there was also some world leading work being done.

If you look at the profile of discharges from the site in the 1990s compared to the previous decades the reduction achieved was absolutely phenomenal. Look at some of the design and engineering of Thorp and other facilities – world leading work.

There were a lot of good things happening, but the lack of focus on decommissioning presented a real problem which we're sorting out and paying for now. It is the most complex engineering challenge on the planet and maybe that wasn't always understood but it's certainly understood now from top to bottom. I think the changes at Sellafield in terms of operations and focus are better than what they were when I worked at the site – the two aren't related by the way!

MS: What future would you like to see for Sellafield?

JR: Sellafield is a world leading nuclear site and what I would like to see happen is for everyone who works on it to almost see it as a laboratory. By that I mean, if we develop techniques and initiatives at Sellafield, and we can demonstrate progress, then we can take those to the decommissioning marketplace around the world and really shape those markets in a way no-one else is doing. That could result in billions coming back into not only the UK economy, but also the Cumbrian economy, by marketing the expertise developed on the Sellafield site.

MS: Where does your passion for Sellafield stem from?

JR: I'm a third generation Sellafield worker and, while some people might think that it is a strange thing to be passionate about, I am passionate about Sellafield, the job it does, what it means for our part of the world and I am passionate about everybody who works on the site. Everyone, from the workers to the supply chain and government agencies are all doing their job well. I think the country has certain significant obligations towards our part of the world and I see those being observed by the Nuclear Decommissioning Authority, Sellafield Ltd and others, and that is the way it should be. I'm passionate about climate change as well; I'm a father so I'm concerned about what kind of planet that my generation is going to leave behind, and I think nuclear new build is a part of that solution to that problem.

MS: What could be done better at Sellafield?

JR: It isn't just about things being done better at Sellafield, it is also about seeing Sellafield for what it is; a national asset, not just a money pit. One way that asset can be realised is by recognising what brilliant people we have working there. Look at the expertise we have in the supply chain and on the site, plug that into other economies around the world and we really can become the world's leading decommissioning experts. The potential there is huge and the focus on that needs to be sharpened up.

MS: Is that why you are supporting the Centre of Nuclear Excellence concept?

JR: Badging the area as the Centre of Nuclear Excellence gives the area recognition for what has always been here. It is a fantastic initiative and the work that I have been doing in parliament for the last ten years surrounding the industry and the area fits almost seamlessly with what the Centre of Nuclear Excellence is trying to do. I'll do everything I possibly can to make sure it succeeds.

MS: If the area is already at the heart of the nuclear industry, why does it need to be badged as the Centre of Nuclear Excellence?

JR: The original vision for our part of the world was inspired by a visit to Silicon Valley in California. Half a century ago, all that was there was scrub land and desert. It transformed itself into the place where industrial innovations were trialled and tested. It was an area people didn't really care for, and then through the development of entrepreneurialism and the establishment of the technology centre – Hewlett Packard and others – it is now the by-word for modernity and progress. It is exactly what you would want your economy to look like and offers the type of lifestyle that you would want to have living and working in that economy.

In order to take the lessons and learning points from Silicon Valley, and to create that fantastic economy that people want to live, work and invest in, you need an engine. That engine has to be in a shape of an organisation, but more importantly it has to be in the shape of people, and for me that's what the Centre of Nuclear Excellence represents.

"I'm a third generation Sellafield worker and, while some people might think that it is a strange thing to be passionate about, I am passionate about Sellafield, the job it does, what it means for our part of the world and I am passionate about everybody who works on the site."

You've got some world-class brains within the Centre of Nuclear Excellence, some truly fantastic people representing some formidable organisations. It is that kind of intellectual horse power and energy which is really necessary to gain international recognition for being one of the fastest growing corners of the UK economy.

MS: Is the Centre of Nuclear Excellence on the radar of your fellow backbenchers?

JR: I shout from the rooftops about the investments that we have managed to secure in West Cumbria – for example, the University Technical College, the National Nuclear College, the National Nuclear Laboratory, Westlakes Academy and the new Whitehaven Campus. Not many places in this country have that bedrock for its economic ambitions for its young people to take advantage of. There isn't a Member of Parliament who doesn't know what we're trying to achieve in Cumbria.

MS: What about Government recognition?

JR: We are being noticed because it's impossible to ignore us, our ambitions and the scope and strength of them. Sellafield is the biggest chunk of expenditure the Department of Energy and Climate Change spends every year and you can't ignore that kind of expenditure when you're responsible for it. I want to see the Government's plans for the Northern Powerhouse succeed and for us to be recognised as the power in that powerhouse.

The area has become a critically important piece in the national jigsaw in a way we've never been before.

If you look at what is already happening at Sellafield and how important that is, and then if you go a few miles north and look at the proposals for the world's largest tidal lagoon project; together with Moorside that represents something like 15 percent of the UK's electricity needs. I don't think there is another part of the country that has that strategic leverage or importance, so you better believe people know where we are and they're listening to us.

MS: Do you feel positive about the future of Cumbria?

JR: I'm hugely optimistic. The Moorside project presents the single largest private sector investment Cumbria has ever seen; if you look at the influx of people that's going to be required into the county, that's something we should welcome. If we have more people we will have more housing, more infrastructure, more opportunities and that will be for the betterment for the area.

Sellafield is the crucible to create world leading techniques and expertise, and we should then use it resourcefully in markets around the world for the benefit of the UK and Cumbrian PLC.

Jamie's favourite things

FAVOURITE FILM:
'IT'S A WONDERFUL LIFE', IT'S ALSO THE FAVOURITE FILM OF ONE OF THE MAIN CHARACTERS IN MY SECOND FAVOURITE FILM 'THE EXORCIST'

FAVOURITE BOOK:
'FEAR AND LOATHING: ON THE CAMPAIGN TRAIL '72' BY HUNTER S. THOMPSON, MY FAVOURITE WRITER

FAVOURITE MUSIC:
[JAMIE NAMES A LOT OF BANDS] THE RED HOT CHILI PEPPERS, THE FOO FIGHTERS, GREEN DAY, PUBLIC ENEMY…I WATCHED SNOOP DOGG AT KENDAL CALLING LAST YEAR TOO

FAVOURITE PAST TIME:
I'M CURRENTLY TRAINING FOR THE LONDON MARATHON AGAIN SO RECENTLY IT'S BEEN RUNNING. I ALSO LOVE COOKING, SPENDING TIME WITH MY WIFE AND CHILDREN, AND GETTING UP IN THE MOUNTAINS ON SOME REALLY LONG HIKES

FAVOURITE MEAL TO COOK:
I'M A VEGETARIAN AND IF I WAS TO CHOOSE MY LAST MEAL IT WOULD BE BEANS ON TOAST

West Cumbria Sites Stakeholder Group

The West Cumbria Sites Stakeholder Group is an independent body that scrutinises the work done at nuclear sites in the West Cumbria area

Get involved in 2016

* UPDATED INFORMATION

Dates and venues for the West Cumbria Sites Stakeholder Group (WCSSG) main meetings and Working Group meetings for 2016

	Date	Event	Venue	Time
	Tuesday 19th January	Spent Fuel Management and Nuclear Materials Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1500
	Wednesday 20th January	Low Level Waste Repository	Drigg and Carleton Village Hall	1400-1600
	Thursday 21st January	Enablers Working Group meeting	Yottenfews Farmhouse	1000-1300
	Tuesday 2nd February	West Cumbria Sites Stakeholder Group meeting	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Monday 14th March	Emergency Planning Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Wednesday 16th March	Risk and Hazard Reduction and Waste Management Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1500
	Wednesday 20th April	Low Level Waste Repository	Drigg and Carleton Village Hall	1400-1600
*	**Tuesday 26th April**	Spent Fuel Management and Nuclear Materials Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1500
	Tuesday 3rd May	West Cumbria Sites Stakeholder Group meeting	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Thursday 26th May	Environmental Health Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Wednesday 15th June	Risk and Hazard Reduction and Waste Management Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Tuesday 19th July	Spent Fuel Management and Nuclear Materials Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Wednesday 20th July	Low Level Waste Repository	Drigg and Carleton Village Hall	1800-2000
	Tuesday 2nd August	West Cumbria Sites Stakeholder Group meeting	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Monday 12th September	Emergency Planning Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Wednesday 21st September	Risk and Hazard Reduction and Waste Management Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Tuesday 18th October	Spent Fuel Management and Nuclear Materials Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Wednesday 19th October	Low Level Waste Repository	Drigg and Carleton Village Hall	1400-1600
	Tuesday 1st November	West Cumbria Sites Stakeholder Group meeting	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Thursday 24th November	Environmental Health Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600
	Wednesday 21st December	Risk and Hazard Reduction and Waste Management Working Group	Cleator Moor Civic Hall and Masonic Centre	1300-1600

Please note: Dates and venues could change and it would be advisable to confirm arrangements with the relevant contacts prior to the meeting:

West Cumbria Sites Stakeholder Group
Rosina Robinson: 019467 85802

SFM&NM Working Group
Elaine Johnson: 019467 75742

Low Level Waste Working Group
Cath Giel: 019467 70233

Emergency Planning Working Group
Matthew Welsh: 019467 88503

Environmental Health Working Group
* Deborah Docker: 019467 72608

R&HR&WM Working Group
* Thomas Dowd: 019467 78691

Enablers Working Group
Rosina Robinson: 019467 85802

For more information visit
www.wcssg.co.uk

BRIGHT IDEAS

WE ARE OFFERING A CHANCE TO WIN £5,000 TO DEVELOP A CHARACTERISATION IDEA THAT WILL HELP US TO CLEAN UP SELLAFIELD.

The Sellafield site is unique. Because of that, taking it apart to make it safe for future generations raises problems that have never needed to be solved before.

In order to uncover solutions from the widest range of innovators, we have linked up with Innovus, the organisation which aims to significantly increase innovation activity, to create Game Changers.

Game Changers offers anyone – from individuals to small companies, larger organisations or universities – the chance to come up with a solution to our problems.

That could be anything from how we remotely dismantle machinery in an inaccessible place to how we work out the proportions of chemicals housed in a tank which has not been opened for decades.

To help clarify the kind of solutions we're looking for and focus the minds of potential Game Changers, a series of themed challenges will take place through the year.

THE FIRST CHALLENGE IS BASED ON 'CHARACTERISATION'.

The challenge of Characterisation is to deliver information on the radiological, chemical and physical status of a facility, or materials and wastes stored across all areas of the Sellafield site.

Andrew Cooney, technical manager said: "Our hope is to identify innovative characterisation tools and techniques to complement the existing 'baseline methodologies', so that our teams are better placed to perform characterisation activities and collect qualitative and quantitative data.

"This will help our mission to accelerate the decommissioning of Sellafield site and reduce the overall costs of decommissioning."

We carry out more than 100 characterisation tasks every year, spending in excess of £1m per annum with the supply chain. In the coming years we will see the Sellafield site transformed as old buildings are emptied and demolished and operating plants are closed so new ideas and technologies for characterisation are essential.

If you are interested in taking part in our Game Changers challenge, more information can be found on the Innovus website at www.innovus.org.uk/nuclear.

£5,000 is on offer, which the successful bidders can use to develop their idea and to pitch it to us directly. Those chosen to progress will then receive additional funding for further development of their bright idea.

To find out more about this initiative, visit the Innovus website **www.innovus.org.uk**

The Beacon Museum goes from strength-to-strength

Our collaboration with Copeland Borough Council on the operation of the Beacon Museum has seen the facility play host to the Sellafield Story exhibition and secure funding to expand the facility in 2016

Collaboration

In 2013, when Copeland Borough Council was first considering the implications of its new budget, an opportunity opened up for us to respond to this by bringing Sellafield to the heart of the community.

The Sellafield Story is a fascinating one and its history and development is inextricably linked with the history and development of Copeland; making the Beacon Museum the best possible home for our story.

Starting with the area's geology and early settlers, the museum goes through history, including the Romans, onto the Lowthers and the development of the town of Whitehaven into one of the UK's most prominent ports, before moving forward up to the borough's involvement in the first and second World Wars.

Our exhibit on the second floor charts the rich history of the Sellafield site, from its early days as a munitions factory and its role in supporting the development of a nuclear deterrent, through to the pioneering start of the UK's civil nuclear industry, reprocessing and the decommissioning challenges that the site faces today.

Expansion

We are delighted that the museum has been such a success that it has secured £1.2m of funding from Copeland Community Fund and Copeland Coastal Fund to transform the famous blue and white harbour side building.

The museum will have an additional 150 square meters of exhibition space on the forth-floor, which will enable it to play host to some of the UK's most sought after travelling exhibitions.

The redevelopment also includes the construction of a purpose built education suite and a state-of-the-art conference facility for around 40 people which will be complete in autumn 2016.

Our stakeholder relations director, Rory O'Neil, said: "Our collaboration with Copeland Borough Council and The Beacon has benefited all concerned. Since opening in 2014 thousands of people have taken the opportunity to come along to The Beacon and learn not only about Sellafield's past but also how the site will be changing over the coming years, as we complete our reprocessing mission and focus entirely on waste retrievals and decommissioning.

"We have been approached by other organisations that are keen to replicate our model of working in collaboration with local authorities and museums for mutual and sustainable benefit. This expansion of the museum further proves the success of our collaboration."

THE FIRST BLOCKBUSTER EXHIBITION IN THE MUSEUM'S 2016 PROGRAMME OPENED ON 5 MARCH WHEN IT WAS INVADED BY A COLLECTION OF SCI-FI MEMORABILIA, ROBOTS AND ALIENS FROM FAMOUS MOVIE SETS. THE EXHIBITION RUNS UNTIL THE 5 JUNE 2016

INVASION

Next on the programme is the University of Central Lancashire's 'Exploring light and dark' exhibition which opens on 11 June.

A National Science Museum exhibition '3D: Printing the future' will be on show throughout the summer from 16 July.

Also opening on 16 July is the famous 'Brick City' unofficial lego exhibition.

The Environment Agency:
REGULATING SELLAFIELD

Established in 1996, the Environment Agency has a 10,000 plus workforce to protect and improve the environment across the UK. Its responsibilities range from water quality, fisheries, conservation and ecology to managing flood risk – and regulating the nuclear industry, including Sellafield.

"It is vital that site operators use the best available techniques to

The Environment Agency dedicates five of their nuclear regulators to our operations at Sellafield. Each of them visits the site at least one a week. They also have other specialists they can call on to carry out specific tasks on areas such as groundwater and habitats.

Their activities at Sellafield include:

WASTE MANAGEMENT

Over 3,000 sites in England and Wales use radioactive materials. The Environment Agency oversees how we manage and dispose of the waste that we generate from these materials.

This includes discharges to air and water and transfers of radioactive waste for treatment, incineration or disposal to land.

They assess our applications for new permits for waste management. These permits include limits and conditions on the amount and the way we dispose of our waste. A team of specialist regulators then assess our compliance with the permits, inspecting our equipment, plants and arrangements.

Nancy Lawton, Environment Agency Nuclear Regulator said: "We can vary existing permits to take account of new opportunities. For example to enable new disposal routes for certain types of waste where the operator has shown these to be the best available technique."

DECOMMISSIONING AND CLAN-UP

Working alongside the Nuclear Decommissioning Authority, the Environment Agency support the development and implementation of a national strategy for accelerating civil nuclear decommissioning and clean-up across the UK.

At Sellafield, the Environment Agency supports our aim of safely reducing the risks and hazards posed by our historic facilities.

They work with various organisations, such as the Office for Nuclear Regulation, to ensure that the clean-up of the site is done as soon as possible and in ways that protect people and the environment.

They work closely with us as we develop robust integrated waste strategies for facilities being decommissioned, and ensure that the limits and conditions in the permits they issue remain appropriate for the work that is taking place throughout the lifetime of the project.

Rob Allott, the Environment Agency's Sellafield Team leader said: "We are committed to implementing better regulation. To us, this means regulation that is transparent and accountable but also proportionate and targeted. We have and will continue to use this mindset as we support Sellafield Ltd in its goal of accelerating the reduction of its high hazard and risk on site."

EMERGENCY RESPONSE

If an incident occurred at Sellafield which had an impact – or the potential to impact – beyond the site, the Environment Agency would advise on how the incident might affect the general environment or the water supply.

They would provide guidance on the resulting decontamination, clean-up and waste disposal. Along with the Office for Nuclear Regulation, they investigate incidents and accidents and take enforcement action where necessary.

WORKING WITH OTHERS

The Environment Agency informs the public about regulatory process and seeks views. Their nuclear regulators attend and provide reports to the West Cumbria Sites Stakeholder Group on their regulation of the Sellafield site.

GOVERNANCE

As a non-departmental public body the Environment Agency are governed by a board and team of directors. The board is directly responsible to government ministers for all aspects of their organisation and performance and are accountable to Parliament through ministers.

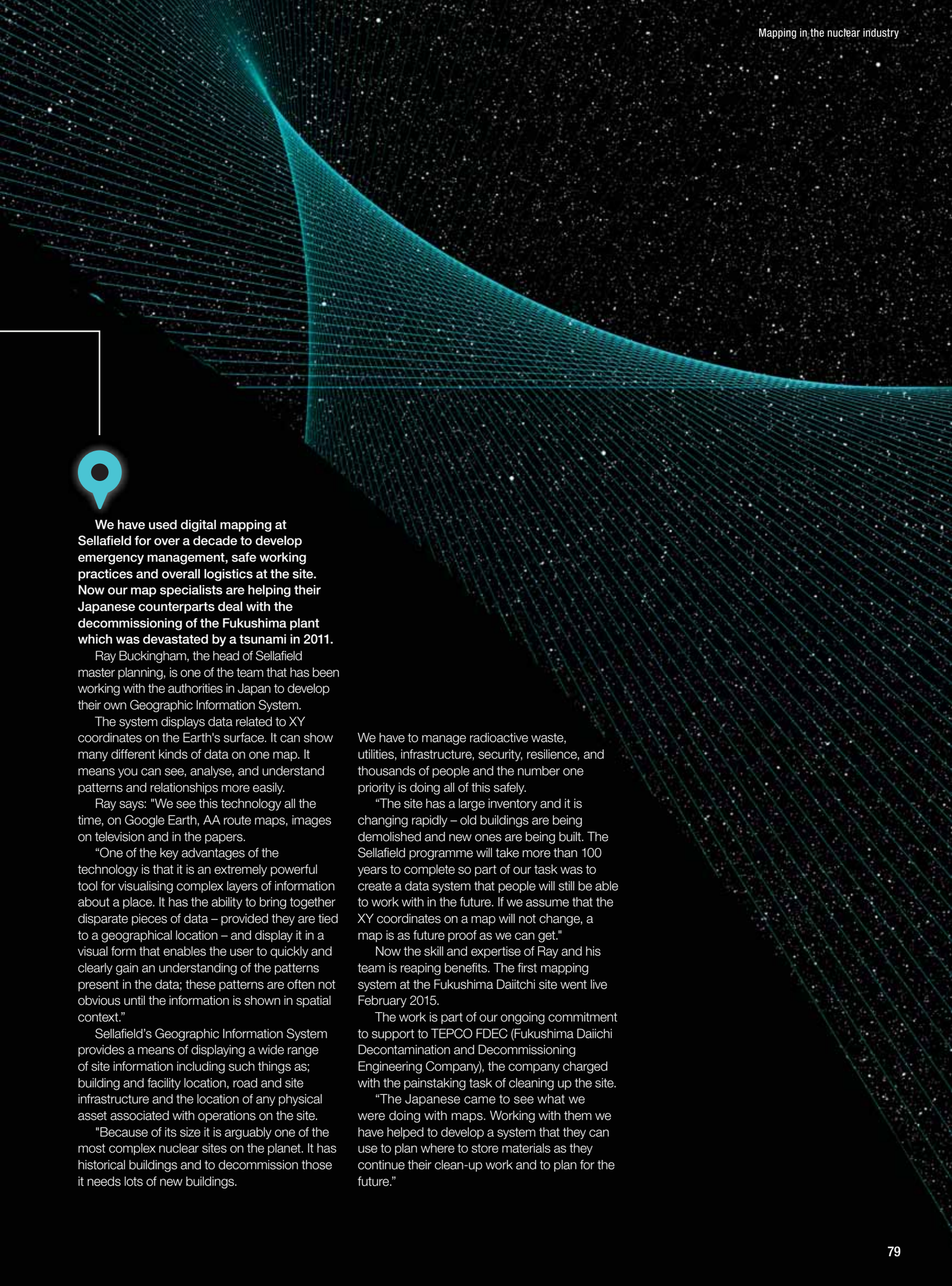
The board of the Environment Agency will visit Sellafield later this year to see first-hand how we are working collaboratively with policy forming organisations to accelerate the clean-up of our historic facilities.

"produce the minimum amount of radioactive waste in the first place."

Nancy Lawton, Nuclear Regulator at the Environment Agency

Putting our expertise on the map

While most of us will be familiar with Google Maps when we're looking for our nearest restaurant or making our way around an unfamiliar city, did you know that the technology is being used in the nuclear industry?



We have used digital mapping at Sellafield for over a decade to develop emergency management, safe working practices and overall logistics at the site. Now our map specialists are helping their Japanese counterparts deal with the decommissioning of the Fukushima plant which was devastated by a tsunami in 2011.

Ray Buckingham, the head of Sellafield master planning, is one of the team that has been working with the authorities in Japan to develop their own Geographic Information System.

The system displays data related to XY coordinates on the Earth's surface. It can show many different kinds of data on one map. It means you can see, analyse, and understand patterns and relationships more easily.

Ray says: "We see this technology all the time, on Google Earth, AA route maps, images on television and in the papers.

"One of the key advantages of the technology is that it is an extremely powerful tool for visualising complex layers of information about a place. It has the ability to bring together disparate pieces of data – provided they are tied to a geographical location – and display it in a visual form that enables the user to quickly and clearly gain an understanding of the patterns present in the data; these patterns are often not obvious until the information is shown in spatial context."

Sellafield's Geographic Information System provides a means of displaying a wide range of site information including such things as; building and facility location, road and site infrastructure and the location of any physical asset associated with operations on the site.

"Because of its size it is arguably one of the most complex nuclear sites on the planet. It has historical buildings and to decommission those it needs lots of new buildings. We have to manage radioactive waste, utilities, infrastructure, security, resilience, and thousands of people and the number one priority is doing all of this safely.

"The site has a large inventory and it is changing rapidly – old buildings are being demolished and new ones are being built. The Sellafield programme will take more than 100 years to complete so part of our task was to create a data system that people will still be able to work with in the future. If we assume that the XY coordinates on a map will not change, a map is as future proof as we can get."

Now the skill and expertise of Ray and his team is reaping benefits. The first mapping system at the Fukushima Daiitchi site went live February 2015.

The work is part of our ongoing commitment to support to TEPCO FDEC (Fukushima Daiichi Decontamination and Decommissioning Engineering Company), the company charged with the painstaking task of cleaning up the site.

"The Japanese came to see what we were doing with maps. Working with them we have helped to develop a system that they can use to plan where to store materials as they continue their clean-up work and to plan for the future."

Top tips for apprenticeships…

GINA METCALF

NUCLEAR FACILITY OPERATOR APPRENTICE

The illustrious career of Formula One technical director, Ross Brawn started with a mechanical engineering apprenticeship at the Atomic Energy Research Establishment in Harwell in the 1970s. Other famous faces to learn their craft through apprenticeships include the Naked Chef Jamie Oliver, fashion designer Alexander McQueen, and Ford Motor Company founder, Henry Ford.

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3. Point your device at this page

The practice of learning by following and studying a master of the trade on the job, rather than in school, is an ancient one. As well as providing employment opportunities, the practice has underpinned the process of knowledge retention and transfer at Sellafield as people have passed their skills, experience and knowledge on from generation to generation.

Our search for the next cohort of Sellafield apprentices started in January this year, with the launch of our 2016 apprentice recruitment campaign in partnership with Gen2.

Gina Metcalf, a nuclear facility operator apprentice, started her training with Gen2 in September 2014 and has been at Sellafield for the last six months, working on our evaporator delta project. Here are her top tips for making the most of a Sellafield apprenticeship.

1. MAKE THE MOST OF THE TRANSITION THAT APPRENTICESHIPS GIVE YOU

If you leave school and go straight into a job, it can be quite a culture shock. With the Sellafield apprenticeship programme you spend the first year at Gen2's training facility at Energus, then a few weeks in Sellafield's training facility before going to work on the site. It really helped me to gradually move away from a classroom environment into the world of work.

2. YOU DON'T NEED TO KNOW EVERYTHING ABOUT SELLAFIELD

Even though I have friends who are health physics monitors at Sellafield who had told me a little bit about Sellafield, I genuinely didn't know what to expect. I was surprised by the size of the site and how many things go on here, but I am learning more and more every day.

3. KEEP YOUR OPTIONS OPEN AND ENJOY EARNING WHILE YOU LEARN

One of the main attractions of the scheme for me was the ability to earn money while continuing to learn. I had applied for both the Nuclear Facility Operator and the Health Physics Monitor apprenticeships and was selected for the nuclear operator programme.

I know that it was the right choice for me because if I could go back and apply again with the knowledge I have now, I would still apply for this programme.

4. EMBRACE THE FACT THAT NO TWO DAYS ARE THE SAME

When you have just come out of school and you are used to a set timetable, it can be strange when suddenly no two days are the same. I start my day at 7.00 a.m. and check my emails and tasks for the day before starting my operator rounds. This can include checking compressors and equipment or recording pressure levels. We have lunch at 11.00 a.m. and as well as completing tasks, I have to find time to write up my experiences to build up my evidence file as well as working towards my NVQ diploma in processing industries operations. At 2.00 p.m. the next shift of people arrives so you get to meet and work with lots of different people over the day and week.

5. DON'T BE AFRAID TO ASK QUESTIONS

The point of an apprenticeship is for people at Sellafield to be able to share their skills and experience and for us as apprentices to learn. You get some of that information by watching, for example I recently observed the team energising steam on my project, but you also get it by asking questions. Why is work done this way? What happens next?

6. PUT SAFETY FIRST

The building that I am working in isn't active yet, meaning that there are no nuclear materials in it, so I don't need to go over a barrier but I still need to wear protective equipment like a hard hat, high visibility jacket, goggles, gloves and safety shoes.

7. GET INVOLVED

I am on the apprentice council which means that other apprentices on my scheme can come to me with any issues or concerns and I raise them at a monthly meeting with other members of the apprentice council and the apprentice programme team.

You will be encouraged to take part in apprentice challenges and to raise money for great causes. Our apprentice challenge team at Gen2 started with £250 and we managed to turn that into £1500 by making and selling Mother's Day gifts. The money was donated to Macmillan Cancer Support.

8. DON'T STOP LEARNING

As well as my apprentice training and NVQ there are other training courses that I have been able to do, such as PCS control room training, building inductions, monitored workers and evaporator specific training. Take advantage of every opportunity to get more training and to learn new skills.

9. ENJOY MAKING HISTORY

I am really lucky that my building is still being constructed. I get to see areas that would normally be sealed off in an active plant so it makes it much easier to visualise the processes that take place there. These are parts of a nuclear building that very few people will ever be able to say they have seen first-hand. It will be really exciting as I will be here when it starts up properly, and to know that I am part of a project that will help Sellafield for decades to come.

10. ENJOY BEING PART OF A REALLY BIG TEAM

I work days so I get to interact with two different shift teams every day which allows me to meet more people. Out of 15 people 5 of us are female. There is a wide range of experience as most people have come from different plants on site so they already have a lot of knowledge. Our small team is part of a much bigger team of thousands of Sellafield and supply chain workers who are working together to deliver the Sellafield mission.

Delivering the performance plan

DOWNLOAD
To download a copy of the performance plan visit www.sellafieldsites.com/press/performance-plan/

LATEST NEWS
To keep up to date with our performance, visit www.sellafieldsites.com/news or www.nda.gov.uk/what-we-do/our-priorities-and-progress

In December 2014, the Nuclear Decommissioning Authority (NDA) accepted our new performance plan for Sellafield Ltd.

The plan, which was published in March 2015, sets out the work that needs to be done on the nuclear site, and when, over the coming decades. Every financial year we agree specific targets with the NDA which align to the overall performance plan and against which our performance is measured.

The tables on the opposite page set out how we're performing against our 2015/16 targets at the beginning of January 2016.

1947	2 square miles	>100	631,000 tonnes	258 GWh
Construction of the nuclear facilities commenced	Area of Sellafield Site	No of nuclear buildings	Sellafield Site Steam Usage 2014/15	Sellafield Site Electricity Consumption 2014/15

Key information and data 2015/16

Key Milestones

Programme Area/Milestone	Early PP14 P0 Date	PP14 P50 Date	Late PP14 P80 Date	Operating Plan Target Date	P50 Forecast @Q3 FY15/16
First Generation Reprocessing Plant					
SAV – Active commissioning complete		Jun-16			Feb-16
Pile Fuel Storage Pond					
Completion of export & treatment of all canned fuel		Mar-16		Oct-15	Oct-15 – Complete
Completion of metal fuel retrievals	Dec-16	Aug-17	Feb-18		Aug-17
First Generation Magnox Storage Pond					
Commence bulk sludge retrievals	Jul-15	Apr-16	Jul-16		Jan-16
Commence fuel removal through export facility	Nov-15	Apr-16	Nov-16		Apr-16
Magnox Swarf Storage Silo					
SEP2 – Installation mid point achieved		Feb-16		Feb-16	Feb-16
SEP2 – Ready to commence retrievals	Jun-17	Nov-17	Mar-18		Nov-17
BEP – Start of Operations	Nov-18	Dec-19	Jan-21		Dec-19
Pile Fuel Cladding Silo					
5 off silo doors manufactured & testing of 2 doors complete		Mar-16		Feb-16	Jun-16
BEPPS/DIF – Ready to commence active commissioning	Sep-18	May-19	Mar-20		Jun-19
HAL					
Evap D – Ready to commence active commissioning	Mar-16	Apr-16	Aug-16		Feb-17
Magnox Reprocessing					
Complete all Magnox reprocessing	Jun-19	Dec-19	Jul-20		Dec-19
THORP Reprocessing					
Reprocess remaining contracted fuel	Nov-18	Nov-18	Mar-19		Nov-18
Security & Resilience					
Completion of HSA1		Apr-16		Mar-16	Mar-16
MSCF – Detailed design complete		Feb-16		Feb-16	Aug-16
MSCF – Commissioning complete	May-17	Mar-18	Aug-18		Oct-18
Note: Ranges provided where relevant.					

Key Production Metrics

		Actuals	Actuals	Forecast	PP14 Baseline Assumption			Operating Plan Targets		
		14/15	Q3 FYTD 15/16	YE 15/16	15/16	16/17	17/18	15/16	16/17	17/18
Magnox	FHP Decanning (teU)	523	235	420	520	420	520	477	485	510
	Magnox Fuel Receipts (teU)	446	324	409	520	420	520	409	420	520
	AGR Fuel Receipts (teU)	191	127	192	178	183	183	192	192	192
THORP	Thorp HE Shear (teU)	386	269	435	434	389	450	434	389	450
	TR&S – MEB Removals	105	98	104	104	152	140	104	151	121
	SPRS Transfers	775	446	732	618	628	780	618	630	632
HLWP	WVP (hazard reduction teU)	1,503	1,121	1,298	1,297	1,130	1,279	1,202	1,130	1,279
Waste	CHILW Drum Transfers	1,102	389	497	1632	0	0	475	583	180

Major Procurements Planned

Procurement Scope	Estimated Value	Contract Planned Date
Decommissioning Delivery Partner	£1bn	Jan-2016 – Complete
Supply of stainless steel boxes for ILW retrievals	£1bn	Jun-2015 – Complete
Supply of ASWs	£351m	Jun-2015 – Complete
Cranes	£200m	Feb-16
Tanks & Vessels	£100m	Apr-16
Shield Doors	£80m	Apr-16
Maintenance, Repair & Operation of Engineering Consumables	£65m	Jan-2016 – Complete
Security Fencing	£40m	Jan-2016 – Complete

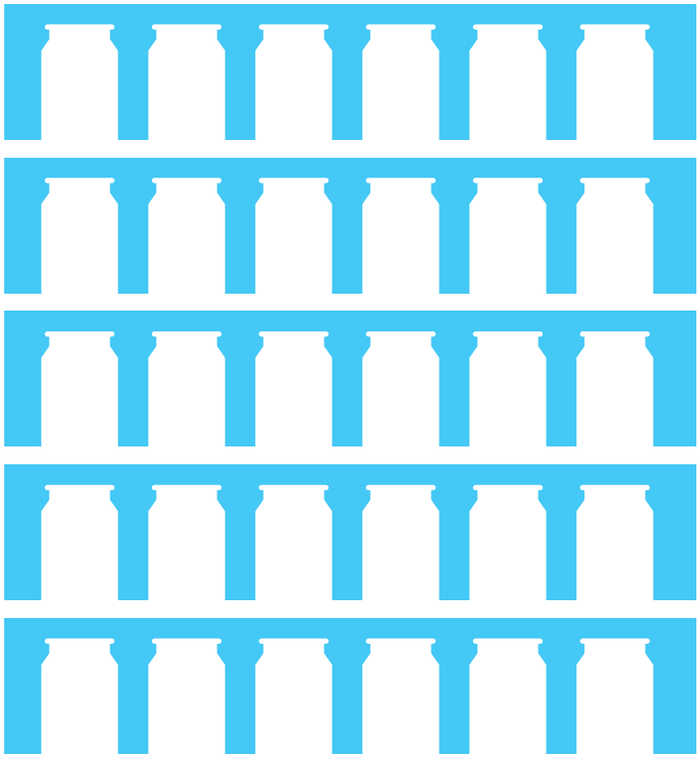
All Capital Projects

Top 10 by Value (P50 £m; 2015mv)	Total Planned Costs To Go	15/16	16/17	17/18
Silos Direct Encapsulation Plant	2,412	97	120	157
Pile Fuel Cladding Silo Retrievals & Treatment	492	54	84	77
SEP Solid Waste Storage Retrievals	454	85	83	77
Box Encapsulation Plant	450	64	107	88
BEPPS/DIF	248	49	67	58
SPRS Retreatment	237	10	14	17
Security Systems Architecture Upgrade	229	13	67	87
Silo Maintenance Facility	153	51	43	30
Bulk Sludge & Fuel Retrievals Capability	92	36	22	16
Sellafield Security Control Facility	49	12	16	20
Total	**4,816**	**471**	**623**	**628**

Decommissioning
– beyond legacy ponds and silos

Emptying the legacy ponds and silos that date back to Sellafield's early operations in national defence and electricity generation is our priority, but only part of our decommissioning challenge. Beyond the ponds and silos, our diverse clean-up portfolio covers the safe decommissioning of 138 buildings, contaminated land, asbestos, and redundant nuclear facilities.

5 Intermediate Level Waste Stores



1 First Generation Reprocessing Facility

2 Fuel Fabrication Facilities

1 Windscale Pile Chimney

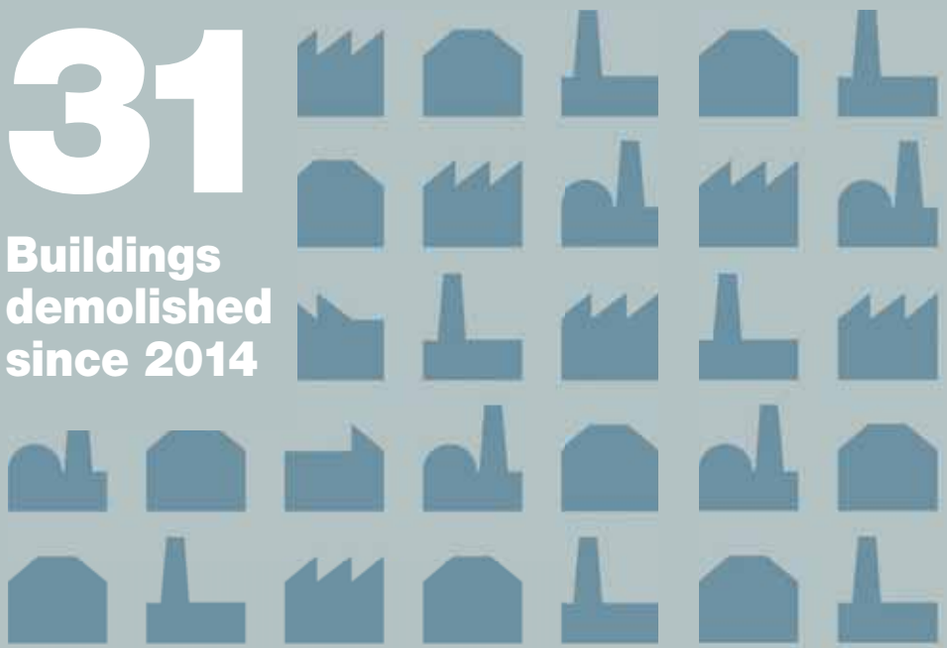
5 Post Irradiation Examination Facilities

3 Nuclear Reactors

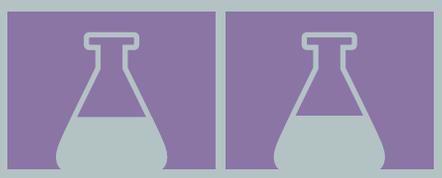
A total of 138 Buildings including:

- STORE & WORKSHOP
- WINDSCALE PILE 1
- FORMER ENGINEERING LABORATORY
- PILES CHANGEROOM
- OFFICE ACCOMMODATION
- PILE 1 CHIMNEY
- WASTE PACKAGING BUILDING
- OFFICE ACCOMMODATION
- PORTABLE OFFICE
- PILE 1 DIESEL GENERATOR
- FLASK HANDLING FACILITY PILE 2
- WORKS CONTROL CENTRE
- FUEL ELEMENT EXAMINATION FACILITY
- WINDSCALE METALLURGICAL LABORATORY
- PILE 2 CHIMNEY
- RECEIPT AND DISPATCH STORE
- OFFICE ACCOMMODATION
- OFFICE ACCOMMODATION
- HEALTH PHYSICS AND SAFETY
- PORTABLE OFFICE
- GRAPHICS CENTRE
- STORE
- MOX DEMO FACILITY AND LABS
- SECURITY LODGE
- EQUIPMENT STORES
- ENTRY SCREENING HOUSING
- OFFICE ACCOMMODATION
- REDUNDANT HEALTH PHYSICS POST
- WINDSCALE MAINTENANCE ADMIN & WORKSHOPS
- WINDSCALE ADVANCED GAS-COOLED REACTOR
- FUEL ELEMENT STORAGE AND HANDLING
- WAGR DECOMMISSIONING ACCOMMODATION
- CEMENTATION RIGS AND OFFICES
- VESSEL VENTILATION CHEMICAL PLANT
- VENTILATION INPUT
- GDTP FAN PIT
- HOLDING TANK PIT IN ACTIVE COMPOUND
- WAGR WASTE PACKAGING
- WAGR GROUT AND CONCRETE PLANT
- WAGR GROUT & CONCRETE PLANT TENT
- WAGR ILW WASTE FACILITY
- RUBB TENT
- ISOFREIGHT STORE
- NON-ACTIVE WASTE LABORATORY
- TRACE-ACTIVE WASTE LABORATORY
- FILTER/PPE STORE
- TRITIUM MORTUARY DISPOSAL BLOCK
- COVERED WAY TO PROCESS BUILDINGS
- NORTH GROUP ELECTRICAL SWITCHROOM
- PROCESS DRAINS AND MONITORING TANK
- PRODUCT WASTE STORE FACILITY
- CONTROL ROD MORTUARY & BURST SLUG STORE
- MORTUARY FOR AM LINERS
- NORTH GROUP COMPOUND CRATE STORAGE AREA
- WASTE RECOVERY SUB-CHANGEROOM
- PCM WASTE RECOVERY STORAGE & EXPORT FACILITY
- OFFICE & WORKSHOP AREA
- CHANGE FACILITY
- VENT PLANT ROOM
- OIL STORE
- CYCLE SHELTER
- BOTTLE STORE
- MONITORING TANKS
- SAMT OFFICE
- PUMP HOUSE AND LEAD STORE
- PURIFICATION PLANT (SHUTDOWN)
- PRIMARY SEPARATION & HEAD END PLANTS
- DECOMMISSIONING MANAGEMENT CENTRE
- THORP SOLVENT RECOVERY PILOT PLANT
- CAESIUM EXTRACTION PLANT DECOMM MODULE
- MODULE CONTROL ROOM
- VENTILATION PLANT ROOM
- SR&DP OWNED ACTIVE EFFLUENT P/BRDG SERV
- SR&D OWNED ACTIVE EFFLUENT P/BRDG SERV
- ORPHAN WASTE STORAGE FACILITY
- PLANT EXAMINATION TEAM OFFICE
- UKAEA OWNED ACTIVE EFFLUENT DUCTS
- MA SOLID WASTE STORAGE
- OPEN AREA STORE COMPOUND
- CHEMICAL STORE
- PFR PLANT
- EXTRACT FILTER HOUSE
- WASTE STORAGE AND HANDLING FACILITY
- COMPOUND
- PERSONAL AIR SAMPLER CENTRE
- REDUNDANT FUEL OIL STORAGE TANK
- WELDING TEST FACILITY
- CO_2 PIPELINES
- END STATE OWNED SERVICES TRENCH NO 9
- SEP AREA ROADS AND FOOTPATHS
- BOREHOLE NETWORK
- GENERAL AREAS SEPARATION OWNERSHIP
- VERY LOW LEVEL WASTE STORE
- CONTAMINATED LAND STORE
- SEP TRANSIT STORE
- DECOMM EMERGENCY RESPONSE EQUIPMENT STORE
- PILE 1 CONSTRUCTION PROGRAMME COMPOUND
- STORAGE HUT
- SKIP LAYDOWN AREA
- ACTIVE COMPOUND
- GLASDON HUT
- LAY DOWN AREA
- CYCLE SHELTER
- CONTAINER – COSHH STORE
- CONTAINER – WORKSHOP
- CONTAINER – SCAFFOLDING STORE
- CONTAINER – PPE STORE
- CONTAINER – ELECTRICAL STORE
- CONTAINER – GENERAL STORE
- DECOMM EMERGENCY RESPONSE EQUIPMENT STORE
- TANK – BUNDED AREA
- WOODEN STORE
- CONTAINER – STORE
- INTERIM STORE LLW
- EFFLUENT DUCT
- LIQUOR DUCT
- LIQUOR DUCT
- LIQUOR DUCT
- EFFLUENT DUCT
- SMALL BRICK BUILDINGS
- MONITORING HOUSE
- SSC OFFICE AND STORE
- ISOCONTAINER
- ISOCONTAINER
- ACTIVE AREA CONTROL CABIN & CHANGEROOM
- LLW STORAGE CONTAINER
- LLW STORAGE CONTAINER
- SEPARATION AREA MANAGEMENT TEAM COMPOUND
- STORE
- CALDER LAY DOWN AREA
- END STATE NORTH COMPOUND
- MODULAR OFFICE ACCOMMODATION
- SEP AREA MANAGEMENT TEAM COMPOUND
- SAMT OFFICES
- SAMT STORE
- FORWARD RESPONSE OPERATING BASE
- CHARACTERISATION FACILITY

31 Buildings demolished since 2014



2 Purification Facilities



1 Thorp Pilot Plant

When 2+2=5

We expect to spend around £500m over the next decade with suppliers delivering decommissioning work. That amounts to £95 a minute for every minute from now until 2025. A new approach to procurement adds up to more for local communities.

WE RECOGNISE THAT WE CAN ACHIEVE SO MUCH MORE IF WE WORK WITH OUR SUPPLY CHAIN. A COLLABORATIVE APPROACH WITH CONTRACTOR PARTNERS CAN BOOST THE NUMBERS IN TERMS OF APPRENTICES, ECONOMIC GROWTH AND COMMUNITY BENEFITS.

Ensuring that the public money we spend has wider socio-economic benefits is a crucial part of our mission. Sellafield spends more than half of its annual £2 billion budget in the supply chain – so both the company itself and our supply chain partners play an enormous role in our local communities. This includes delivering apprenticeships and skills to develop and deliver the nuclear workforce of the future, as well as supporting local economic growth through initiatives such as ensuring that small and medium-sized businesses are included in our mix of suppliers.

With this in mind, we have taken a bold new approach by agreeing what is thought to be the nuclear industry's first ever public procurement that guarantees benefits for the community.

The first tendering process to really embed socio-economics like never before is the 10-year Decommissioning Delivery Partnership (DDP) framework, worth a predicted £500m until 2025.

Under the framework, six 'delivery partners' – made up of 16 companies – have had to demonstrate how they will support our socio-economic strategy, with particular emphasis on the key themes of skills, growth and community.

"Our focus now is to work with our DDP partners to ensure we're joined up and getting the maximum collective benefits for the local community in terms of social value and economic growth," said Helen Fisher, Head of Socio-economics at Sellafield. "Companies have already made some pledges as part of the tendering process, but now the focus is on working together to ensure we can make the overall DDP impact add up to more than the sum of its parts. We really do want 2+2 to equal 5."

SELLAFIELD'S DECOMMISSIONING DELIVERY PARTNERSHIP FRAMEWORK PARTNERS:

- Integrated Decommissioning Solutions (comprising Energy Solutions EU Ltd, Hertel (UK) Ltd, North West Projects Ltd and Westlakes Engineering Ltd)
- The Nexus Decommissioning Alliance (Costain Oil, Gas and Process)
- AREVA-Doosan-Atkins
- Cumbria Nuclear Solutions Ltd Shepley Engineers, James Fisher Nuclear Ltd, REACT Engineering Ltd, Jacobs Stobbarts, Westinghouse Electric Company UK Ltd, WYG Engineering Ltd)
- The Decommissioning Alliance (Jacobs UK Ltd, Energy Solutions EU Limited, Westinghouse Electric Company UK Ltd)
- Amec Foster Wheeler, Hertel (UK) Ltd, Shepley Engineers

Committed

Of the 16 selected companies, 15 are based in, or have a significant presence in, Cumbria. All have committed at least 20 per cent of their sub-contracting spend with small to medium-sized enterprises and support SME growth

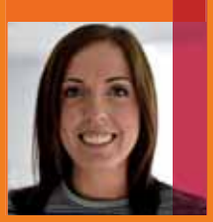
Among the pledges given by the selected companies are:

A 'local first' recruitment approach, with one consortium aiming for 95 per cent of work to be done by Cumbrian workers

A commitment to give 150 jobs to 'under-represented or disadvantaged' people

A commitment to create up to 240 new apprenticeships over the 10 year agreement

Companies promising to provide training, school outreach and business mentoring.



by RUTH HUTCHISON

Day in the life of…

Dorothy Gradden

I was one of a 200-strong audience at the Women in Nuclear annual conference to hear the Minister of State for the Department of Energy and Climate Change, Andrea Leadsom, declare that "**we need more Dorothys**".

Dorothy Gradden

The First Generation Magnox Storage Pond

The inspiration behind her statement is our own Dorothy Gradden, who is blazing a trail in the clean-up of some of our most hazardous buildings at Sellafield. What does it take to stand at the helm of a nationally important clean-up project and how does it feel to be held up as a role model by the Energy Minister?

By the time I meet Dorothy in her office at 07.30 she has already read the overnight report from her building, the First Generation Magnox Storage Pond.

With her friendly yet calm demeanour, she doesn't look like someone who has the clean-up of the one of the world's most potentially dangerous plants on her shoulders. Every single diary appointment she makes and phone call she takes is helping ensure that the risk posed to people and the environment by Sellafield's legacy facilities is reducing every day.

As I catch a glance of her diary, it is clear that the life of a decommissioning leader is, well, demanding. Every day is packed with plant walkdowns, status updates, problem solving and information sharing, and the pressure is on as her pond has reached a pivotal point.

She is keenly aware that time spent in meetings is time away from emptying the pond and she is striving for more balance. "At this vital stage in the plant's history, I am trying to keep the mornings free from meetings so we can focus on the task at hand, which means less talking, more doing," she explains.

"We are entering a critical stage of retrievals, actually removing bulk quantities of fuel and sludge from the pond, so to take the operators away from the plant for meetings means they are not doing the important stuff."

Left: "We need more Dorothys!" – the Head of First Generation Magnox Storage Pond left a lasting impression during the Energy Minister's visit to the site in 2015.

> "I have the best job in the world"

While we make our way to her plant walkdown I ask whether she has time to reflect on inspiring the Energy Minister's quote? "I won't lie" she said, "I was delighted when I heard what she said. It made me feel really proud of myself and the teams that were here when the Minister visited."

Attracting and retaining more female talent to the nuclear industry is something that Dorothy is keen to support. A crusader for women in engineering, Dorothy studied nuclear engineering at Manchester University and was one of two women among a course of 200.

These ratios continued in the workplace and her first job at the Heysham nuclear power station in Lancashire in the early 1980s.

"It definitely felt like a man's world back then, especially on the construction sites. There were no female toilets for a start. Things are getting better now, there are more female managers and I have a lot more women in my team, but we still have a way to go to attract and retain more female talent into the nuclear industry."

"This is vital to create diverse, high performing teams that can help the site drive decommissioning forward – when I am long into retirement."

Completing the job of emptying the First Generation Magnox Storage Pond is something that Dorothy is determined to see happen before she does retire.

There are significant quantities of spent fuel held in skips in the pond and a new export facility will mean the fuel can be transferred to modern buildings for safe, secure storage.

Removing decades-old corroded fuel from an aging facility and placing into modern containment makes Sellafield, and the whole of the UK, a far safer place, and this is set to happen in the next six years.

"The fact that this will happen by 2022, hopefully just before I retire, is just incredible. I am immensely proud that I am here leading the teams through such an important project and delighted that such a significant milestone in hazard reduction is happening on my watch."

"The enormity of the challenge cannot be underestimated – the pond was built with no design for how its contents would be removed. We have had to retro-fit an export process and then safely execute it in one of the most challenging environments imaginable."

Dorothy giving the Minister a tour of the pond

When I ask her what keeps her up at night her answer is instant. "The people," she says.

"You might think that it's the project, with so many complex moving parts and so many things that can go wrong, but with more than 2,000 people working on this project alone, it's them I worry most about. There is so much change happening at the moment, both for the pond as it moves into operations, for the company as we change ownership and for the site as we near the end of reprocessing.

"I want to ensure employees are supported through it and are confident in their own abilities, and their future. I try to engage them as much as I can, and find that they respond really well to that. We have to develop a skilled, agile and flexible workforce as we enter the next phase of decommissioning and I am pleased to be able to play my part."

"In order to achieve this we had to embrace new ways of working – a 'decommissioning mind-set' that focuses on collaboration, removing barriers, fit for purpose solutions and embracing innovation."

"Traditionally the four high-hazard legacy plants worked individually, however we've turned that approach on its head and are now working collaboratively with the other historic pond at Sellafield, the Pile Fuel Storage Pond."

Before moving into her current role, Dorothy was the head of the Pile Fuel Storage Pond for three and a half years, so has been fundamental in transferring the learning over to the First Generation Magnox Storage Pond.

"The two have many similarities, but the First Generation Magnox Storage Pond is on a much, much larger scale – more fuel, more complexities, more people, and more obstacles to overcome.

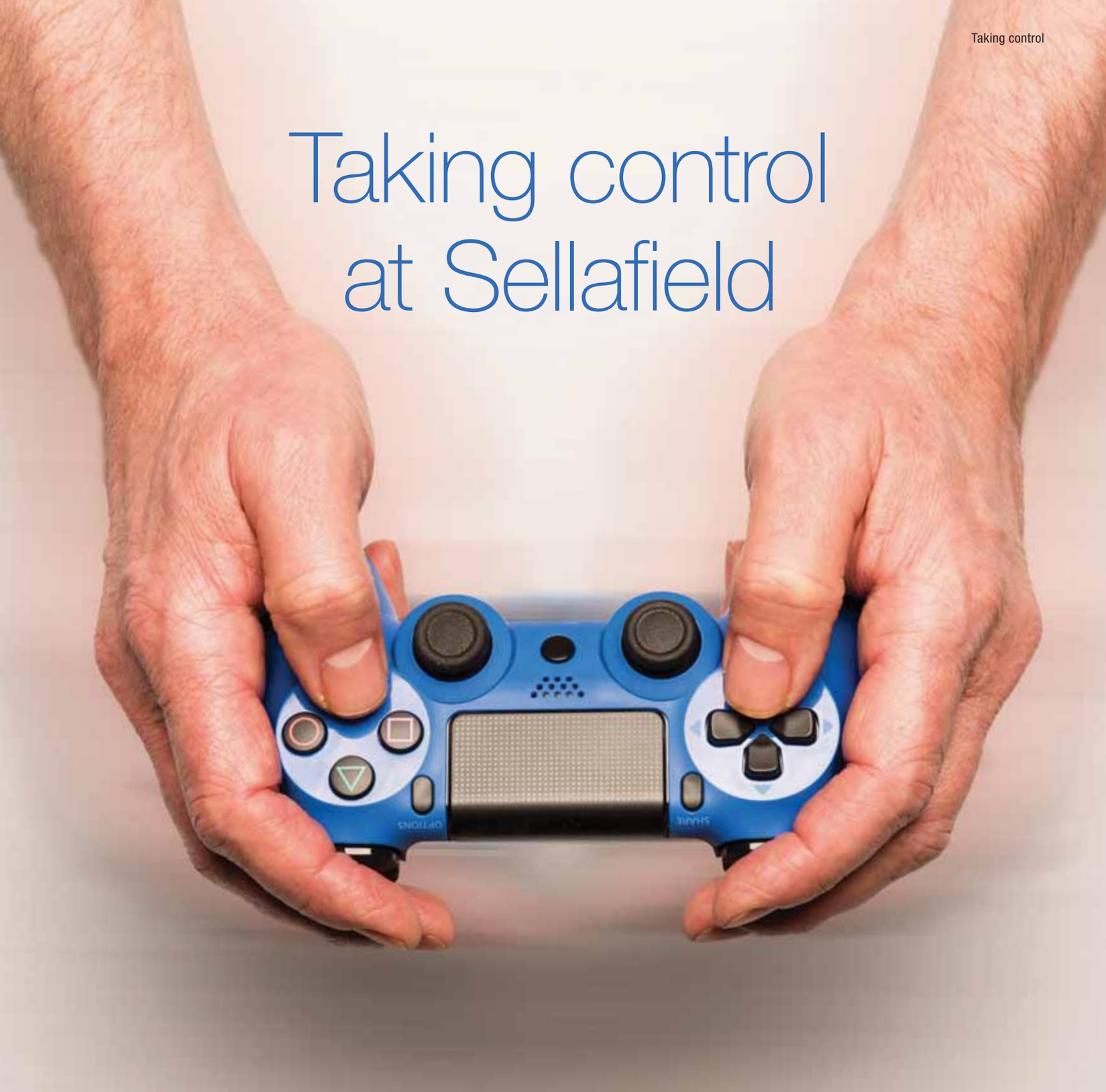
"We're both doing something new exporting out fuel, waste and kit that the plants weren't built for, so it makes sense that we're sharing our knowledge, work methods and equipment to overcome the historic barriers we're both faced with."

Both ponds are scheduled to have their inventory removed and be ready for dewatering by 2022 – several decades earlier than the original plan.

"In 2022 as I stand and watch the last of that material and water leave the pond and make it a safer place, it will be really emotional. **I really do have the best job in the world.**"

"What keeps me awake at night? Thinking about our people."

Taking control at Sellafield



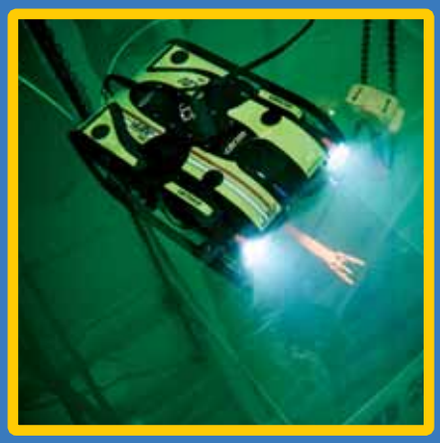
For Ashley Pitman, one of our operators at Sellafield, the question “do you have a PlayStation?” was the start of a whole new career.

Almost two years ago, Ashley Pitman was working as an operator in one of the nuclear plants at the Sellafield site, when he was asked by a senior manager, "Do you have a PlayStation?"

What seems like a fairly typical question to a 20 year old was actually a pivotal moment in Ashley's career. "Like a lot of guys my age, I own a PlayStation but it was just a hobby, something I did in my own time to relax and switch off. I never in any way related it to my work at Sellafield," says Ashley, a former apprentice.

On a site that is home to over 20,000 Sellafield Ltd and supply chain workers, Ashley is now one of only two fully trained nuclear remote operator vehicle operators in one of the most hazardous nuclear ponds.

It turns out the gentleman who asked him is one of the most senior nuclear decommissioning managers within the company, and Ashley was unaware that he was being scouted for a dedicated team of young, gaming enthusiasts to help operate underwater robots to help clean up the UK's



cold war legacy.

"He told me about the remotely operated vehicles they were using and said the cost of paying other companies to drive them was proving expensive, so he was looking for a way to do it in-house."

The remotely operated vehicles are a key part of the decommissioning team responsible for emptying storage ponds and silos that date back to the start of the UK's nuclear industry.

Decommissioning these ponds means emptying them of all the radioactive materials and redundant equipment, draining the water and finally demolishing the structures. This is a hugely complicated task and remote technology is helping to safely speed up the process.

Ashley added: "Obviously you can't assume that a competent 'gamer' is ready to control one of these machines in a nuclear pond, you need a high level of technical skill, professionalism and safety awareness to

Driving the vehicle in the real ponds for the first time is something I'll never forget, it was surreal looking at the screen and seeing the image from the video camera on the device.

work within that kind of environment, so a robust training regime was developed which definitely put me through my paces.

"Unlike gaming, I can't afford to make mistakes. The managers stressed the enormity of the responsibility I would have, the fact that I would be handling some of the most hazardous material on the planet, so I have to work to the highest possible standards expected of a nuclear professional.

"I trained in a specially designed test tank, a completely clean, safe, non-radioactive environment in which we could carry out various challenges and familiarise ourselves with the kit. I was not deemed competent until the person responsible for signing me off as fully qualified was comfortable to do so.

"Driving the vehicle in the real ponds for the first time is something I'll never forget, it was surreal looking at the screen and seeing the image from the video camera on the device.

"It requires a lot of focus and concentration. You have to treat the screen like it is your eyes.

"We have to wear a full PVC suit and we can be in confined and hazardous environments. There is no room for mistakes, and that makes it scary but also exciting, having that level of responsibility at my age.

"When you're driving one of these vehicles under the water, you always have to remember that half of the job is behind you. The umbilical cord can become tangled or trapped and that creates difficulties, so you have to keep your eye on the camera on the task at hand, without losing focus of the chord.

"My job is to collect the various pieces of material at the bottom of the pond and consolidate it into skips, pumping sludge out of the pond, taking water samples, and navigate inside and in between the skips to tidy up in preparation for removing the material into a modern, secure storage.

"I have such an important job at the age of 21 and with 100 years of decommissioning work ahead I'm really excited to see where my career at the Sellafield nuclear site will lead."

The Sellafield Story...

the beacon museum

Hands-on activities and virtual reality tell the story of the most iconic nuclear site in the world. From its pioneering use of the atom to support national defence and building the world's first civil nuclear power station, to the clean-up challenges of today.

Explore the Sellafield Story at the Beacon Museum:
Tuesday to Sunday 10am-4:30pm. Monday opening is restricted to Bank Holidays and school holidays.

**The Beacon, West Strand,
Whitehaven, Cumbria,
CA28 7LY**

www.thebeacon-whitehaven.co.uk

West Cumbria WORKS

West Cumbria Works secures employment for local people

Launched in 2015 to give local people access and support to find work in the Sellafield programme, West Cumbria Works is already helping almost 300 people through the journey of finding a job.

Fundamental to the success of the programme was the creation of working relationships across various organisations. The first was with the Department of Work and Pensions and the co-location and close working with the Whitehaven and Workington Jobcentres. West Cumbria Works is also working closely with Inspira and all the social housing providers: Home, Derwent and Solway, and Impact to ensure we are targeting support to communities in West Cumbria that need support across our organisations. Building relationships with Sellafield main contractors has also been crucial. As our three "case studies" will show, we have secured jobs for local people with world class employers like Doosan Babcock, Costain, Hertel, Shepley Engineers and Mitie.

PHIL BLAYLOCK

Phil Blaylock was the first to secure employment, joining the West Cumbria Works team directly as a recruitment adviser. He was recruited following his previous successful participation in Sellafield Ltd's 'Ready for Work' employment programme. Phil made contact through the new West Cumbria Works website and the rest was history.

Phil said: "Through its funding of West Cumbria Works, Sellafield Ltd has shown a real commitment to supporting West Cumbrians into work within its supply chain. Until you have experienced the challenges of finding a job when you don't have one, you don't appreciate how hard it can be. You may have children to feed, a mortgage to pay, or you may just want to be working – whatever it may be, finding work when you are unemployed is an arduous and challenging task.

"When my move to West Cumbria didn't work out as planned, I decided it was time for a career change. Naturally, my thoughts turned to Sellafield with its diverse range of opportunities and challenges. With a wealth of transferable skills through management experience in different sectors and the self-funded training I undertook in planning, project management and managing safely, I felt confident that I would soon be on a new exciting career path.

"Despite lots of positive feedback about the quality of my CV, I would apply for jobs for which I knew I was competent and capable, but would not even receive a response from the employer. Maintaining my positivity tested my resolve but eventually the opportunity to work with West Cumbria Works arose.

"I am really excited to be involved in establishing West Cumbria Works and supporting the people like me who have the skills and enthusiasm to take on a role in the nuclear industry – the people who just need a chance to prove themselves.

BECCA CARR

Becca Carr had been working in the care sector and needed work experience to show that she had the skills and attitude to achieve her ambition of moving over to the nuclear industry.

West Cumbria Works was able to arrange a job interview for Becca, for a junior admin job with Shepley Engineers. Although she wasn't successful on that occasion, the positive feedback she received really boosted her confidence.

Her next opportunity came a week later, when we arranged an 8 week work experience programme in administrative work, through Doosan Babcock, at the Westlakes Science Park.

Becca said, "The Doosan placement was great, it really helped me a lot. Everyone was very helpful and supportive. They couldn't have been nicer and I really enjoyed it.

"As part of the placement I got help developing my CV and when I sent it to Costain they offered me a job with Morson International. Doosan were so helpful and the work placement made all the difference, but I wouldn't have got the job without help from Phil at West Cumbria Works."

HARRISON BRANNIGAN

Harrison is 20 years old and went to see West Cumbria Works following his successful participation in Morgan Sindall's 'Creating Careers in Cumbria' employment programme.

Harrison had been an apprentice Mechanical Engineer, but through no fault of his own the apprenticeship had not been completed and he was keen to finish it. West Cumbria Works set up a meeting for him with some of Sellafield Ltd's contractors, and he secured the opportunity to complete his apprenticeship with Shepley Engineers.

He said: "All of the advice I had through West Cumbria Works really helped me make up my mind about my future. I can't thank everyone enough. I just wouldn't have got here on my own."

LAWRENCE O'NEILL

Lawrence is 30 years old and, like a number of people who have looked to West Cumbria Works for support, he was under threat of redundancy. He'd not had to look for work before, or had to have a CV.

Our partners, Inspira, offer support to people in Lawrence's circumstances, so we arranged for him to get help in putting together a CV for the first time.

We were then able to help Lawrence apply for a security guard vacancy with Mitie on the Sellafield site. Lawrence needed support before his interview and West Cumbria Works advised around what to expect, what kind of questions and most importantly advised about local employers.

Lawrence got the job and is now awaiting clearance to get the security pass he needs to work on the site.

Lawrence said: "West Cumbria Works was so supportive and helpful, all the way through what was a stressful process for me. I didn't know what to expect but they advised me every step of the way."

Thinking differently about waste management ...

With hundreds of different waste streams, waste management is big business at Sellafield. Appropriate management of wastes enables decommissioning, and this is increasingly important as our focus shifts to the clean-up of the site.

We spoke to Ciara Walsh, integrated waste strategy manager, to better understand how we are starting with a fresh piece of paper and thinking differently about waste.

The higher activity radioactive waste that we produce now will eventually be disposed, in accordance with national policy, in a geological disposal facility. However the process to find the location for such a facility is a long one, which is unlikely to be resolved in the near future. Until such a final facility is open for business, we need to store this higher activity waste on the Sellafield site.

Ciara explains: "Waste management is an increasingly important part of our business and we need to get this right. The best way to do this is by looking at the bigger picture, and planning properly – this means that we need to ensure our waste management decisions are taken not in isolation on a project by project, or year by year basis, but based on our long term needs."

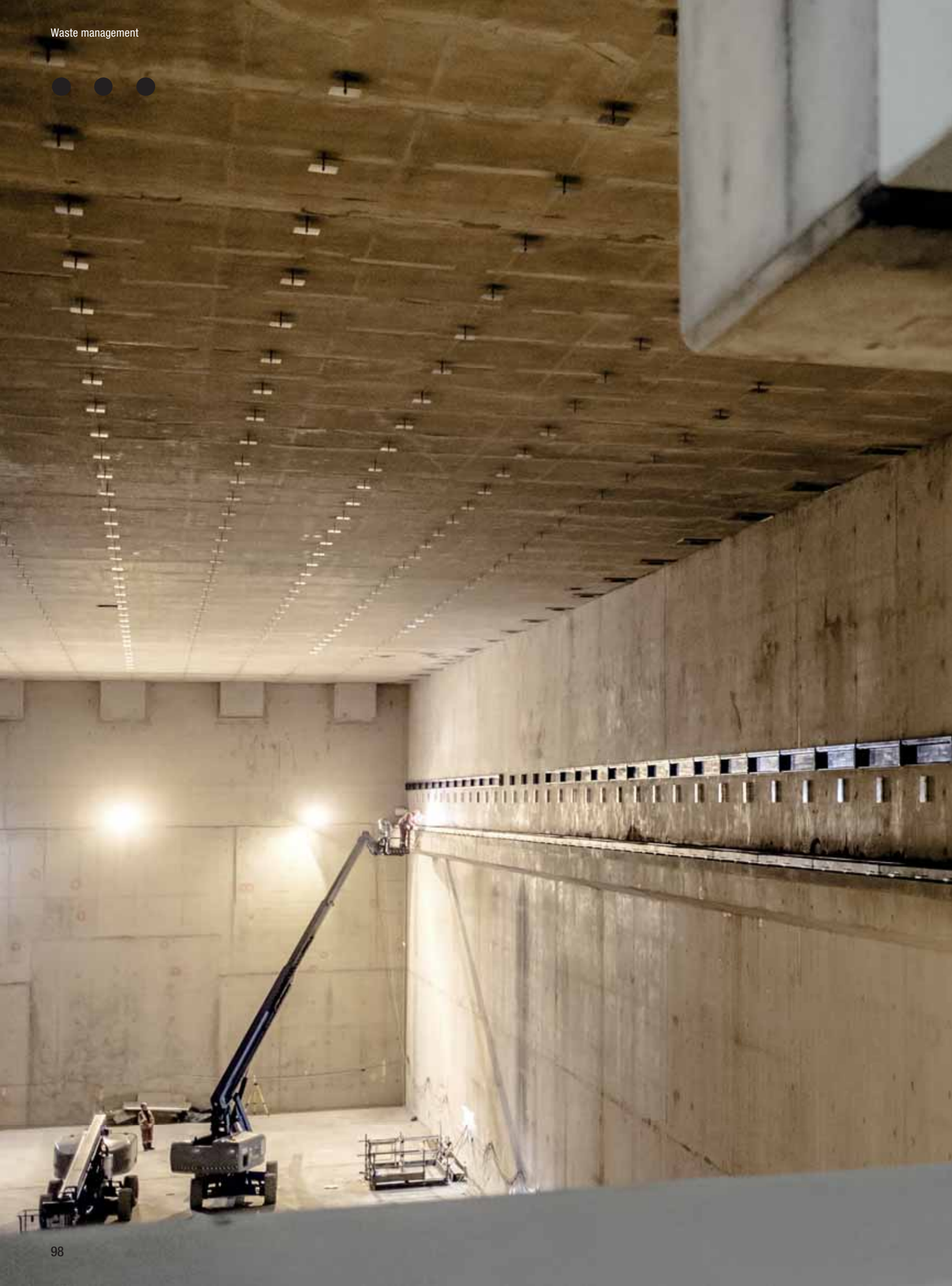
In order to deliver decommissioning we need to make flexible, safe, sustainable waste routes available. The way we're doing this is to go back to the drawing-board, challenging some established views about the way we should and shouldn't treat and store waste and looking for new options.

Ciara said: "We've recently looked at making better use of two storage facilities on the Sellafield site. Our previous understanding was that there were external barriers in the way. However, work to demonstrate the practicality of these options has been positively received and means we can use the stores in a way which is both safer and more efficient."

Nearly a decade ago our regulators questioned the way we used the Miscellaneous Beta Gamma Waste store and were reluctant to expand its use. Improvements to the way waste is packaged within the plant means that our regulators now support increased use of the facility. This is particularly important given the facility can accept a very broad range. In fact, it's probably the only plant in the UK which can manage such a range of wastes. This means the store is seen as a national asset to support the country, even including radioactive wastes from hospitals across the UK.

Because we have introduced practices that make maximum use of the volume of the facility, we are now in a position that the store can have a much greater role in enabling decommissioning across the site. From the UK perspective, as other nuclear sites close for business, Sellafield may play an ever increasing role.

Another facility we're focusing on is the WAGR store – this is the specialist store designed for the waste from the Windscale Advanced Gas-cooled Reactor. This store >



"Making the right, long-term waste management decisions will deliver our nuclear clean-up mission for the benefit of Sellafield, the NDA and ultimately the public and the tax payer."

has already received much of the waste planned for the facility, but there is additional space which could be used for other purposes.

Over time – as the Sellafield site has changed so have our waste management needs, and we now need a location to store larger items from our four legacy ponds and silos. We're looking at a range of locations, and the unused space in the WAGR store is one potential location.

We always assumed that because the waste stored there would be bound for a geological disposal facility, and are packaged for final disposal, Radioactive Waste Management Ltd – the NDA subsidiary responsible for the geological disposal facility and for providing advice on the disposability of higher activity wastes – would not allow the storage of other, differently packaged wastes.

Thanks to close working, we have identified a way to use the space in the store whilst protecting the integrity of the already packaged advanced gas-cooled reactor waste.

Ciara said: "This is one of a number of examples where we are challenging the status quo about how and where wastes can be stored, and are using existing facilities, to ensure we deliver the best solution for everyone."

The waste journey starts long before we get to finding storage solutions, and another way we're changing our thinking is looking to divert waste away from expensive disposal or storage wherever possible.

This means looking at waste that can be diverted to more cost-effective management routes – for example using our decontamination and waste compaction facilities to reduce the amount of low level waste we need to send to the low level waste repository – a national asset with a finite amount of space. We are already diverting over 80% of waste from the Low Level Waste Repository, and we need to apply that learning to the management of higher activity wastes.

Recent work has also seen us collaborate more closely with the other nuclear site licensed companies, our regulators and Radioactive Waste Management Ltd to learn from best practice. One specific example, is removing a need to add a layer of inactive (clean) grout to our cemented waste packages being processed through the Waste Encapsulation Plant. This delivers process savings for each drum.

"This is one of a number of examples where we are challenging the status quo about how and where wastes can be stored, and are using existing facilities, to ensure we deliver the best solution for everyone."

Ciara comments: "While that might seem insignificant, it opens the opportunity to treat new wastes in the plant, and thus enabling our high hazard and risk reduction programmes."

So, while our approach to waste management is evolving, and will continue to do, one thing that will continue is a commitment to dealing with it in the best way possible.

As Ciara says, "Making the right, long-term waste management decisions will deliver our nuclear clean-up mission for the benefit of Sellafield, the NDA and ultimately the public and the tax payer."

Open the Doors to Opportunity

Making Cumbria a magnet for **global and local investment**

Sellafield's power as a driver of the local economy – and a magnet for global investment – was demonstrated at a business event that attracted 300 firms from around the world. Opening the Doors to Opportunity gave smaller companies the chance to access an £80m portfolio of contracts linked to the four major projects at Sellafield.

Home-grown Cumbrian firms featured heavily in the list of attendees and some businesses left having won new contracts on the spot.

Others got a chance to find out more about what it takes to work on Europe's most complex nuclear site.

The event saw representatives from the major contractors on the site open up their books in a bid to get more SMEs (small and medium-sized enterprises) involved in the Sellafield mission.

SMEs often provide the specialist capability, innovative thinking and agility needed to help clean up Sellafield.

And increasing SME spend can also help drive local economic growth and attract global players to Cumbria, the UK's Centre of Nuclear Excellence.

Helen Fisher, Sellafield Ltd's head of socioeconomics, said: "As the Centre of Nuclear Excellence – very few places in the world can match Cumbria's skills and capabilities when it comes to nuclear, but occasions like this prove that we also have a gravitational pull that attracts the best from around the globe.

"I have been overwhelmed by the response from small businesses, who have grasped this opportunity with both hands and gained new contacts, knowledge and even work.

"At Sellafield Ltd we know we are a lever for economic growth. We spend £1 billion a year in the supply chain and it's great to have companies from around the world wanting a piece of that investment.

"By creating an environment to 'match-make' small and large companies, we are promoting closer relationships and supporting economic growth while also creating a vital mix of SMEs needed to help us in decommissioning Europe's most complex nuclear site, so it's a win-win for all involved.

"This event is focused on more than the work available on Sellafield site. Our suppliers offer countless opportunities in other areas so we are helping SMEs to diversify their client base, so they are not reliant on Sellafield Ltd for work."

One company travelled 5,000 miles to be at the event, at Workington's Energus centre.

Bryan Swinson from New Mexico based company Pajarito Scientific Corporation said; "We are based in the States but some of our employees built up much of their specialist expertise at the Sellafield site. As a small business we have come to Cumbria to find out about the opportunities here in the hope that we can create a more permanent presence in the area to contribute to the Sellafield mission."

"We'd love to be part of that bridge of unique nuclear expertise between the UK and USA and help put Cumbria on the map for global business. Opportunities like this are important to help large companies open the doors to the capability they have on their doorstep."

Large suppliers already delivering the decommissioning programme on the site played a key role at the 'opening the door to opportunity' event, offering more than 180 packages of work associated with the Sellafield site and holding one-to-ones with SMEs so that they could pitch for the work.

John Carine from a new company called NIASS Consulting gained two new contracts in Cumbria associated with the Sellafield mission, he said; "Within a couple of hours at the event we gained two new Cumbrian clients, we are Cheshire based but keen to invest in the area and create a permanent base in Cumbria soon."

"Our small company has only been established for 11 months so to be in a room like that with so many key contacts at our fingertips is an opportunity we couldn't miss, so I'm grateful to Sellafield Ltd for making itself so accessible."

DATE:
23 February 2016

LOCATION:
Energus
Blackwood Road, Lillyhall,
Workington, Cumbria

Hertel UK Ltd

Hertel's socio-economic approach balances the need of the local community and the business needs of ourselves and our clients. The key features of our approach are based on supply chain relationships, local employees and community engagement:

SUPPLY CHAIN RELATIONSHIPS

Our strategy is to build long-term relationships with local suppliers and provide support for specialist suppliers. See table for benefits.

LOCAL EMPLOYEES

Our overall strategy is to employ a local workforce where possible. Training and education form an integral part of our human resources management. See table for benefits.

COMMUNITY ENGAGEMENT

We continue to encourage our employees to become involved in local community initiatives on a personal level. Recent examples include:

1. Regular contributions to local community groups and charities through cash donations and free use of site mini-buses.
2. Attendance at Engineering Awareness Days that involve a display stand, hands-on interactive learning tools, one-to-one discussions with school leavers regarding opportunities and career paths within Hertel and other engineering/construction companies.

	Benefits to Clients and Hertel	Benefits to the Local Community
SUPPLY CHAIN RELATIONSHIPS	• Continued support of the socio-economic objectives • Expenditure reduced, which demonstrates value to the stakeholders • Increased local understanding • Improved response time on site	• Sustained growth and engagement of local SMEs. In West Cumbria Hertel's annual spend with the supply chain exceeds £9m • Increased employment of local people
LOCAL EMPLOYEES	• Continued support of policies to recruit local workforce • Reduced labour costs • Inherent local interest • A developed workforce will ensure an efficient completion of contracts, and value for money • Further development of the company culture and attitudes, so that a high quality and safe service is provided	Recruiting local workforce; sustained growth of local economy, ie wages being spent in local area. 97% of our resources are local. Investment in training and development of the local community, eg on Sellafield, we currently have: • 10 apprentices • 10 scaffold improvers on site • Multi skilling training programmes • Programme for obtaining NVQ2 and NVQ3 in Nuclear Decommissioning

COLLABORATIVE APPROACH

We believe that combining the socio-economic development activities across the supply chain will provide a wider understanding and greater investment in the areas that need it most. A true collaborative approach will accelerate benefit realisation and provide a more sustainable future.

On the Sellafield Ltd Multi Discipline Site Works (MDSW) framework contract we have already established a collaborative process with the other delivery partners, namely Shepley Engineers and Amec. We have a joint approach to ensure that all employment opportunities on MDSW are available to the local community thereby creating a legacy with associated positive benefits in areas where we work. The success of this approach is monitored by the MDSW Socio Economics Programme where key targets are used to demonstrate tangible year on year improvements.

£9m

In West Cumbria Hertel's annual spend with the supply chain exceeds £9m

Adrian Norendal, Project Control Manager, Hertel

Hertel UK Ltd

Location:
Sellafield Ltd Site

Number of employees:
2500 employees across the UK (320 on Sellafield Ltd Site)

Number of apprentices:
115

http://www.hertel.com/

PHOTOGRAPHER
in residence

It's all about finding interest in everyday things, things you see all the time. Look at things from a different perspective and you might be surprised. Here the straight lines of the pylon draws you in, and the fluffy clouds add drama to the photo. Sellafield is filled with photographic opportunities. One just has to find them.

Thomas Skovsende

FIVE MINUTES WITH

Richard Meal

Our Chief Information Security Officer, talks about how we ensure the safe and secure stewardship of the Sellafield site is at the heart of everything that we do.

What is your role?

As the Chief Information Security Officer for Sellafield Ltd. I work for the Security and Resilience Director. I am responsible for information and cyber security, coordinating with key technology areas and other parts of the business such as the Control Systems Group, Information Services Organisation and others.

Why is information and cyber security important to Sellafield Ltd?

Cyber Security and Information assurance is crucial because of the nature and value of the information, data and communications we hold and process. This is both because of the age and status of our systems, and also because the potential threat posed against the company and our people.

Whilst it would be wrong to talk in detail about the specifics of the threats we face, we are all aware from watching the news of the escalation of cyber threats related to things like hacktivists, organised crime, and geopolitics. This impacts the company and all of our employees – in the workplace and at home. After all, we know that we all have information that is of value to other people.

If you think about your private life and the opportunities for cyber threats – from internet connected phones, access to systems we use at home as well as in the workplace, it's clear that the cyber threat is very real.

How do we keep up in times when technology moves so quickly?

This can sometimes impact on the work we do here. Technology is fast moving, and there are lots of advantages for our business if we are able to take advantage of this. However, we have to balance this with the increased risks such platforms bring. Instead of just saying "no" to the use of technology, we are asking, "how can we make this work for us in a secure manner?" With any technology, our approach should be to ensure it is secure by design, secure in implementation and allows for secure operations through life.

Do we face any specific challenges?

Yes, the nature of our business means that we do have specific challenges to address. For example, the age of some of our plants means that they operate using elderly technology. This has some advantages from a security point of view, because they're often unique and this can offer security in itself or conversely mean that exploits are well known and available. Equally there are also disadvantages of operating with modern technology due to the ease of exploitation of interconnected systems.

Responding to these technological challenges requires a thorough understanding of our risk exposure and how we might mitigate against this. To do this we look at the full lifecycle perspective – identifying who we share data with and how we do this. We then look at how we can overlay security technologies or procedures on this, creating defence in depth.

Do we work in isolation on these issues?

We have a strong working relationship with many other bodies – recognising the benefit of strength in numbers and sharing best practice. So we work closely with the other site licence companies, who are dealing with similar challenges – in terms of infrastructure and threats, and the Nuclear Decommissioning Authority, right through to Department of Energy and Climate Change and other security organisations.

What are the consequences of getting it wrong?

Huge. From a financial level, the cost of returning a plant to service if it was shut down could be in the millions of pounds. That's before you consider the operational impact on delivering our mission, and the need to manage safety and reputational issues.

In addition to this, we're regulated by both the Office for Nuclear Regulation and the Information Commissioner – and the fines we would receive for a loss of data, show how seriously the government take this.

Recognising the challenges we face, we've recently enhanced our cyber capabilities.

We've undertaken exercises to test our capabilities and are also looking at how we link these to the wider emergency exercise procedures we operate. We've also held a dedicated information security crisis management exercise in recent months.

With all of these potential threats, how do you sleep at night?

That's a good question! I sleep at night by knowing the progress we have made, knowing we are moving in a positive direction to mitigate some of the risks we face, and knowing the enthusiasm of the business to address these threats. This has been a step change, and one we relish.

Whilst this is a big area, and there are significant challenges, the reality is that we can all play our part by practising our own 'cyber hygiene'. This simply means managing the data we handle in a safe and secure way. Whether you are at work or at home, my advice would be to think, apply common sense and appropriate protection.

Sellafield

NEXT ISSUE

Issue 04
July 2016

In focus:
First Generation Magnox Storage Pond

One Sellafield:
Working together to make progress

Meet:
Tom Greatrex, NIA Chief Executive

SAFETY: Our annual review of performance

Available July 2016

Sellafield Ltd

Tomorrow-defining work

Sellafield Ltd is a global centre for nuclear material management. We were the pioneers of nuclear power production and now we're the pioneers of hazard reduction. Join us and the success of your work today will be measured in thousands of years. Century after century, generation after generation of people across the UK – and far beyond these shores – will benefit from your expertise and innovation.

careers.sellafieldsite.co.uk

Sellafield Ltd