Sellafield

Issue 09
June 2018

David Peattie

NDA Chief Executive Officer on his first year at the helm

The original Northern Powerhouse

Why we've joined the growth initiative

Safer Sooner

Our progress and annual review of safety 2017/18

Respected. Included. **Performing at our best.**

ED&I special, page 40

Sellafield Ltd

Apprentice collaboration

Our nuclear welding inspector apprentices join the supply chain

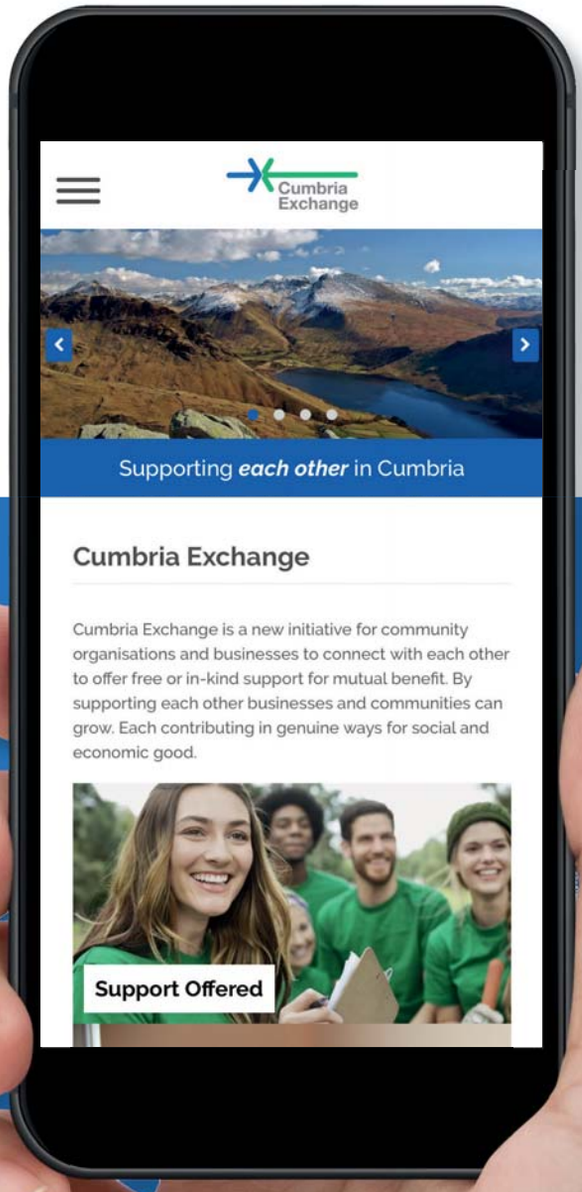
Knocking down icons

Removing two iconic chimneys from the Sellafield skyline

In Focus

Inside our high level waste plants

Cumbria Exchange



Cumbria Exchange is for community organisations and businesses to connect with each other for mutual benefit

Are you a community organisation who could benefit from:

- Some time or support from an expert?
- Developing an area of expertise?
- Some equipment that a business could be looking to part with?

Are you a business who would like to:

- Support a group or organisation in the local community?
- Share your knowledge, resources and skills?
- Offer your employees a different learning/development opportunity; engaging with their local community?

To submit a request for help or offer support visit
www.cumbriaexchange.co.uk

Editor's Letter

NDA Chief Executive Officer, David Peattie, reflects on his first year in the role page 10

Creating an inclusive culture at Sellafield page 40

Our annual review of safety for 2017/18 page 17

See our company and progress at Sellafield through the eyes of our employees page 26

In this final issue of *Sellafield Magazine* we take a look at the site and our company through many different lenses. First up is the Chief Executive Officer of our parent organisation, the Nuclear Decommissioning Authority, David Peattie, who had been in post for a little over a year. We sat down with him in March and you can read about his first 12 months in post on page 10.

Some of our employees sat down to talk to each other about the progress being made on the clean-up of the site, the changing culture of our organisation and the completion of reprocessing. You can read all about it on page 26, watch the conversation on our website, www.gov.uk/sellafieldltd or via the QR code below.

'Change' was a common theme in these conversations. We are changing our mission as reprocessing is completed (see 'Tonnes to go' on page 16), and changing the skyline of the site (see 'Knocking down icons' on page 46). Another, perhaps less visible change, is our approach to equality, diversity and inclusion. Earlier this year our employees took part in a survey along with the rest of the NDA estate. Read about our findings and what we are doing to ensure that everyone is included, respected and performing at their best on page 40.

One thing that hasn't changed is our commitment to working in our local communities with strategic investments that address areas of need. From page 67 we take a look back at some of those investments in West Cumbria along with a look at our latest investment: the regeneration of a redundant bus station in Whitehaven as a business innovation hub.

Our safety performance for 2017/18 is also under the microscope in this issue with our annual review of performance for the year covered from page 17.

Elsewhere in this issue you can go behind the doors of our highly active waste plants (page 58), read about why partnership with the Northern Powerhouse was an obvious choice for us (page 55), and how we are supporting one of our local suppliers by seconding two of our welding inspector apprentices into their team.

As Sellafield continues to change, and as we continue to succeed in our mission of national importance, we will continue to illustrate our progress in new ways as media platforms continue to evolve. Despite these changes, Sellafield will continue to be the original Northern Powerhouse. Thanks for reading.

On the cover

David Peattie, Chief Executive Officer, Nuclear Decommissioning Authority

Sellafield: In conversation

Scan to watch

There are lots of ways to stay up-to-date with the work we are doing at Sellafield:

- www.gov.uk/sellafieldltd
- Keep an eye out for our digital newsletter, Sellafield via www.gov.uk/Sellafield Ltd
- @SellafieldLtd
- @SellafieldLtd
- @Sellafield

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The transformation into a business hub

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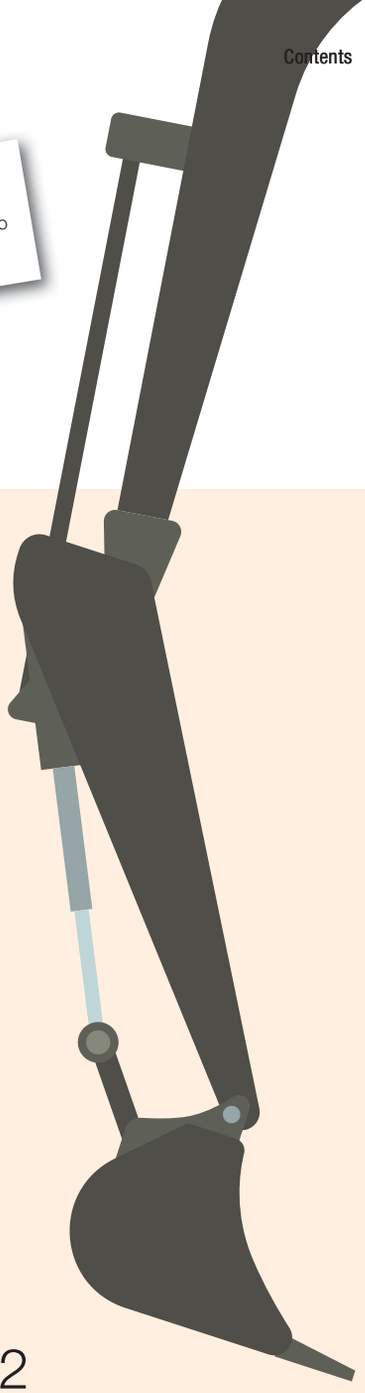

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A look at how we are becoming more focused on the clean-up of our site.

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FEWER SPACES, MORE OPTIONS
Travel and transport at Sellafield

WHAT IS…

The West Cumbria Sites Stakeholder Group

(WCSSG)

Well here's your chance to find out how:

Living and working close to a nuclear organisation can be a scary business if you don't understand what it does and how it does it.

Sellafield and the Low Level Waste Repository have been a major part of the West Cumbrian community for over 60 years and continues to be today. The West Cumbria Sites Stakeholder Group (WCSSG) makes sure the community has an opportunity to understand what the nuclear sites do and ask the owners and operators of those sites any questions.

Local stakeholder groups have been in existence in the West Cumbrian community since 1947 starting with the Windscale Local Liaison Committee; this group became the Sellafield Local Liaison Committee in 1981 when the Windscale site changed its name to Sellafield; and in 2005 it evolved further into what we have today, the WCSSG and takes into account the separation of the Sellafield site and LLWR into individual organisations.

The WCSSG has a membership of around 30 people, and represents a diverse range of organisations, including local authorities, nuclear regulators such as the Environment Agency and the Office for Nuclear Regulation through to the emergency services and parish councils as well as opening its meetings up to anyone who wants to know more about the industry.

Key to making the group work is the support from the sites themselves. Senior representatives from our organisation and from the Low Level Waste Repository address the group on a quarterly basis and update members and observers on the work being carried out at the sites, as well as address any concerns.

Members of the Nuclear Decommissioning Authority, the government body that funds the nuclear sites and the nuclear regulators also update those present on the performance of the nuclear sites.

One of the most important factors for members of the WCSSG is that it remains independent from the nuclear sites and their owners, and the Chairman and Vice Chairman of the group are both independent from the nuclear sites.

David Moore, the Chairman is a local man who represents Seascale Parish Council on the group: "It is vitally important that no-one from the Sellafield or LLWR sites hold a member position on the WCSSG, it is crucial that the group remains impartial and is able to exercise its right to question the owners and operators on all aspects of the sites from safety through to funding and constraints. A huge step change is taking place on the Sellafield site as its commercial contracts come to an end in 2020. Reprocessing, the bread and butter of the site for many years will cease and the emphasis will move to waste retrievals and storage, all of which has an impact on the local community, things will need to change and that means for the community too. The WCSSG is the mechanism by which the community will have their input into what the future will look like."

The Vice Chairman of the WCSSG, Mike Starkie represents Copeland Borough Council: "The WCSSG brings an array of people together from different organisations and backgrounds. The nuclear industry is the golden thread that runs between all of us as stakeholders because it has such a big impact on the local area.

It is so important, especially during this time of change that we are all in tune with the impact that change will have upon us all locally. During the next few years we need to work together and make the most of the opportunities those changes can provide and the WCSSG is one of the ways that we can achieve that."

As well as the quarterly meetings of the main stakeholder group, there are six working groups which meet regularly to discuss the areas of the site that their working group covers, so for example, the Risk and Hazard Reduction and Waste Management Working Group will keep a watching brief over the work being done to reduce the risks in the legacy buildings on the site, buildings such as the Pile Fuel Storage Facility and the Magnox Swarf Storage Silo that have been in situ for many years and are in the process of being decommissioned. There are five more working groups that between them cover the workings of the Sellafield and LLWR sites.

You can find lots more details on the website www.wcssg.co.uk and if you would like to join us for any of our meetings, remember we are open to the public and a list of our meetings is displayed (below). ■

Since January we have...

LAUNCHED...

a new online portal called 'Cumbria Exchange' which will transform the way help is provided to those in need in our community

MANUFACTURED...

the first stainless steel waste boxes that will store nuclear waste from the Magnox Swarf Storage Silo

OPENED...

a £7.5m National College for Nuclear at Lillyhall. A world class training facility designed to deliver 'the workforce of tomorrow' (see page 94)

PUBLISHED...

the results from our Equality, Diversity and Inclusion survey with our workforce (see page 40)

ENCOURAGED...

our employees to talk about mental health in the workplace by introducing a 'Time to Talk' day

CELEBRATED...

the opening of a new waste store called the Interim Storage Facility (ISF)

CONFIRMED...

that we are now an official partner of the Northern Powerhouse. Designed to drive economic growth in the north via investments in skills, innovation, transport and culture

WON...

two top apprentice awards at the 10th UK Nuclear Skills Awards in London

RECOGNISED...

the unique contribution that women make to the nuclear sector, with the launch of a dedicated 'Cumbria' branch of the 'Women in Nuclear UK' (see page 86)

CONTINUED...

our supply chain focus to keep a direct route into opportunities at Sellafield with small firms, with the 2nd Directors Forum event taking place

LONDON : MARCH 2018

An interview with David Peattie

The role of Chief Executive Officer can conjure images of board rooms, spreadsheets and stakeholder meetings. In his first year in charge of the Nuclear Decommissioning Authority, David Peattie has smashed the stereotype, from standing at the top of our tallest decommissioning challenge to accompanying a waste transfer by road, sea and rail.

How does he balance the pull of Government in London with spending time on nuclear sites that span the length of the country? We sat down with him to reflect on what he has learned in his first twelve months.

INTERVIEW

BY EMMA LAW

Cleaning up Sellafield is a nationally important mission.

I actually said this at my interview; managing what is the most challenging environmental clean-up exercise in Europe is a really important job for the country. It is one of the biggest challenges in the UK today, and I do love a challenge.

The second thing is, it is really, really interesting. I am fortunate to be in a position where I have had an enjoyable thirty years in oil and gas and now have a second career in the nuclear industry. And to be able to live in Cumbria is a real delight.

Nuclear and oil and gas industries aren't so different.

There are strong similarities between oil and gas and nuclear. Both industries deal with potentially hazardous materials. As a trained engineer – I studied mechanical engineering at Dundee University – I have a technical understanding of projects, steel, pipes, vessels, and chemical processes that are used by both industries to work with these materials.

As a young engineer I worked on off shore oil rigs in the North Sea so I have a strong sense of hazard awareness. On the rigs we were working close to hazardous equipment like rotating pumps and to oil and natural gas under high pressure. Working next to something with the potential to blow up and injure people gives you a really deep, almost visceral, feel for hazard. I have certainly brought that awareness into this role where our teams across the estate are dealing with potential hazards every day.

> The NDA and Sellafield Ltd are working to the same objectives at Sellafield – keep the site safe and secure, clean it up, and demonstrate value to the UK taxpayer.

Both industries are based on the safe and efficient execution of logistics, basic engineering, industrial processes and industrial safety, and they use bespoke systems and processes to manage potentially hazardous materials, keeping them safe and contained.

Always make the time to see the sites and the work being done.

The draw of London is strong and reporting to Government is a time consuming responsibility, but visiting the sites is very important. I have done twenty visits this year but have yet to get to all of the sites.

My site visits are never confined to board rooms because the only way to appreciate the scale of the challenge is to see it first-hand. I have been up to the top of the redundant ventilation stack that is being decommissioned. I have spent time with the people working on the project, the people that we are asking to work at height, on a demolition project, in all weathers, in daylight and in the dark, When I drive home past Sellafield and I see the lights on at the top of the self-climbing platform, I am aware of the tough working conditions.

I think that people in my position should

I would like the NDA to be the go-to part of government for best practice in a number of areas, whether that is project management, how we interact with all of the government departments, and how we interact with all of the stakeholders and our communities.

experience these projects so that we know what we are asking people to do. We can't ask them lightly to just 'go and do that, it is easy' because it is not.

The NDA and Sellafield Ltd are one team with the same objectives.

The NDA and Sellafield Ltd are working to the same objectives at Sellafield – keep the site safe and secure, clean it up, and demonstrate value to the UK taxpayer.

Our role as NDA is to lead, govern, share and engage. As Chief Executive Officer I am also the accounting officer. That means that I report not just to government and to the board but also to parliament, so – and people are very generous about this – I do have to have some oversight of the work being done at Sellafield. What I am not is a micromanager.

Part of our job as the NDA is to secure the funding from treasury that Sellafield Ltd needs to deliver its mission and then to give Paul Foster and the team as much space as we possibly can to deliver the right outcomes.

We all benefit from working as one decommissioning family.

I have already seen the benefits that come from cross-estate working – time and money being saved from adapting solutions from one site so that they can be used at another. Just this year Sellafield completed an interim waste storage facility that was based on a design developed at Berkeley, saving millions of pounds for the UK taxpayer.

I would like to deepen our ties so that we do feel like one big decommissioning family around the UK. Sellafield has such an important role to play as the leader, as the big brother in the family, to help some of the other sites to learn. Sellafield is quite often at the leading edge of what we are doing in decommissioning, whether it is robotics, remote access, use of drones, or business processes. While I am in charge of the NDA I want to have as much a sense of cohesion across all the sites. We can all benefit from being part of this bigger decommissioning family around the UK.

continued overleaf >>

David's favourite things

FOOD/MEAL
I go for Italian every time, pasta, salads, olives.

MUSIC
I am a child of the 60s/70s so I go for progressive rock – all the classics, Led Zeppelin, Pink Floyd, but I think my all-time favourite is Genesis. I've seen Pink Floyd and I queued all night to get tickets to see Led Zeppelin once at University, but I never saw the original line up of Genesis.

SONG
One of my all-time favourites is an American singer/songwriter called Tom Waits – he writes poetry as far as I am concerned. There is a song he wrote called Kentucky Avenue that can bring me almost to tears every time I listen to it, it is extraordinary.

HOLIDAY
Despite liking the heat of the Mediterranean, I would have to pick the Alaskan wilderness. I worked in Alaska with BP for some time and was able to spend a weekend in a lodge that was accessible only by sea plane and where my neighbours were grizzly bears. Watching a bear catch and eat a salmon at close quarters is both terrifying and majestic.

FILM
Once Upon a Time in America, a story of loyalty, love and betrayal. The director shot ten hours of footage and ended up with a movie that lasted three and a half hours and took the viewer on a complex journey of flashbacks. Convinced it wouldn't sell, the studio chopped it up to create a 90 minute move that was released in 1984 and voted the worst film of the year because people couldn't understand it. By the end of the decade the original three and a half hour movie was released and went on to be named the best film of the decade.

BOOK
Brighton Rock by Graham Greene.

What Paul is trying to achieve through the transformation of Sellafield Ltd is absolutely the right thing to do.

There is a need to change how Sellafield is operated as we come to the end of fuel reprocessing. Through the transformation programme Paul is absolutely on to the right thing, getting ahead of the game and preparing for the next phase of Sellafield's life is absolutely the right thing to do. He is doing all the right things and we have given it all the support we can.

We spend £2bn a year at Sellafield, there is no other site in the UK where that much money is spent every year. Because of that level of investment, because of the history of the site and because of the nature of the materials that are stored there, the work we do and the transformation programme will continue to be of specific interest to Government.

We are not where we need to be in terms of Equality, Diversity and Inclusion.

I want the NDA, including our subsidiaries and site licence companies, to be a great place to work. This year we completed a survey to determine our current performance in terms of equality, diversity and inclusion and we have got a long way to travel. There were some startling, and frankly disappointing, results. I am determined to fix that on my watch. We need to have a culture where people feel they can come to work, bring the best of themselves, and be treated with respect and dignity. We need people to feel safe, both safe in an industrial sense but also safe in a human sense, knowing that they are working in a place that truly respects them.

There are already some great examples of companies that have developed solutions for challenges at Sellafield and then gone on to export their technology to other sites and markets.

The NDA has the potential to be the best Arm's Length Body in the UK.

I would like the NDA to be the go-to part of government for best practice in a number of areas, whether that is project management, how we interact with all of the government departments, and how we interact with all of the stakeholders and our communities.

I also want to get very clear on our role as NDA. I have said that we are here to lead, govern, share and engage, and I want to populate that with more specificity – what does that actually mean for how we deliver value that is distinct from what our subsidiaries and site licence companies do? Over the coming months we will cement our organisation, the kind of company that we want to be, and the values and behaviours that underpin that.

We can create a positive legacy beyond environmental remediation.

Our current mission will take many decades to complete. The long term nature of our order book gives us the opportunity to make strategic interventions that will help to create a positive difference in education and economic growth.

If we can help the training and the education around all of our sites, but particularly in West Cumbria, and encourage more girls and young women to take up Science, Technology, Engineering and Maths subjects and then careers in this fantastic industry of ours, then we can make real inroads in terms of closing the gender pay gap issue that we face today.

The work we are doing across the estate can also support the diversification and growth of our local economies. There are already some great examples of companies that have developed solutions for challenges at Sellafield and then gone on to export their technology to other sites and markets. That is how we can engender a centre of nuclear excellence in West Cumbria. ■

New Chair

On 1 May we welcomed our new Chair, Lorraine Baldry, OBE. Appointed by the Nuclear Decommissioning Authority, Lorraine brings extensive experience in senior roles across a range of international companies and high-profile public sector organisations.

Lorraine has previously worked with Thames Water, the Olympic Delivery Authority and London and Continental Railways Ltd. As our Chair she will report directly to David Peattie, CEO of the Nuclear Decommissioning Authority.

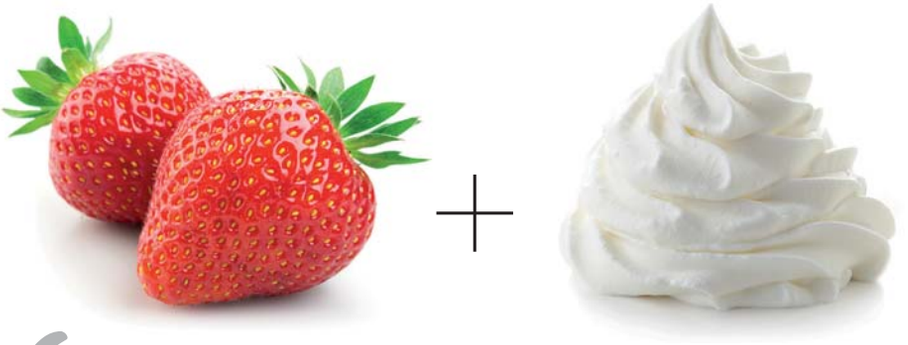
In her role as Chair of the Radioactive Waste Management Advisory Council, Lorraine has already gained valuable experience of working within the nuclear industry.

David Peattie said: "I am extremely pleased to welcome Lorraine as Chair of the Sellafield Ltd Board. Her contribution will be valuable to Sellafield Ltd, as it continues to make progress in cleaning up the hazards left from the earliest days of the UK's nuclear industry.

"Her unique blend of experience, from a diverse range of organisations in the private and public sector, will help Sellafield provide a continued focus on safety while making decommissioning progress and delivering value for the UK taxpayer."

Lorraine said: "I am privileged to be given this opportunity, as Chair of Sellafield Ltd, to help the organisation in its mission to clean up some of the most complex nuclear facilities in Europe.

"The next few years will be an important time for Sellafield as we look towards the end of nuclear fuel reprocessing and making accelerated progress in decommissioning and hazard reduction." ■



a PERFECT MATCH

A new matchmaking site is pairing community need with industry resources – a perfect marriage for sustainable growth.

Websites have been helping people to find their perfect match for years. People register their interests and what they are looking for in a partner and are able to search for people with similar tastes, hobbies and aspirations.

The format doesn't just work in love. A new online portal is matching the needs of our communities to the skills, experience and resources of business.

Cumbria Exchange works by hosting a space where community organisations can simply submit a 'support wanted' request if they need help, however big or small. In turn, businesses can post in the 'support offered' area if they have specific skills, expertise or equipment that can be of benefit to the community.

It is the result of a group of organisations and community groups identifying a need for a more coordinated approach to creating social and economic impact.

Councillor David Moore, Chair of the Copeland Community Fund, said; "This is an exciting collaboration that the community and businesses have been waiting for.

"The sense of community spirit in Cumbria is phenomenal, but alone this isn't enough, we needed a place people can go to understand what help is needed, and what support is available.

"Cumbria Exchange is a simple forum that makes this process easier.

"We didn't want to wait for a flood or crisis, this is something that can get maximum benefit for the community at all times.

"For businesses, it tells them what the community really needs, and for community organisations it gives them a place they can go to ask for help, whether that be advice, manpower or equipment.

"It will only succeed if people use it, so I would urge community groups and businesses to submit your requests and offers, however big or small."

Anyone can submit a request or offer by going to the following website **www.cumbriaexchange.co.uk** ■

Cumbria Exchange

Cumbria Exchange was developed in collaboration with

- Copeland Community Fund
- Cumbria Community Foundation
- Nuclear Community Network (Sellafield Ltd and our supply chain)
- Level Waste Repository Ltd
- Business in the Community
- BEC

Government launches GDF consultation

Finding a final home for the UK's nuclear waste is possibly the most challenging issue facing the industry today. It's almost certainly the one provoking most stakeholder time and attention as Government seeks views on the process for developing a national geological disposal facility.

The current consultations – the first covering the future planning regime and the second on how the government will engage with people in areas that are interested in hosting a disposal facility. These consultations – are the latest stage in a conversation that has already taken several decades and is likely to last until the 2040s.

The Government started its Managing Radioactive Waste Safely programme in 2001, and has engaged the public in a range of issues from waste management options through to determining the best location for an underground facility.

Location, location, location is the cornerstone of the current dialogue, as the Government works towards a siting process that will give stakeholders confidence in how it will work in practice.

A number of communities took part in an earlier stage of the process but didn't take it further. The current consultation looks in detail at how communities should be engaged, community investment and how the right to withdraw would operate.

Once the consultation closes, Government will consider comments received and publish a summary before putting final policy decisions before Parliament. ■

The Final **Countdown**

We are close to completing our reprocessing mission at Sellafield.

We have been reprocessing used nuclear fuel at Sellafield since the 1950s. As part of the site's early operations, fuel from the Windscale reactors was reprocessed in order to capture the plutonium needed for the UK's atomic weapons programme.

Used fuel is reprocessed by stripping the outer cover from fuel, dissolving the fuel and using chemical processes to separate uranium and plutonium from waste materials.

There are two buildings at Sellafield that are dedicated to reprocessing different types of nuclear fuel; the Magnox reprocessing plant and the Thermal Oxide Reprocessing Plant – or Thorp as it is better known.

Magnox reprocessing

Used fuel from the UK's fleet of Magnox reactors, including our own Calder Hall, is reprocessed in the Magnox reprocessing facility. Our ability to take the fuel from the stations in line with an agreed programme has been a critical support to their electricity generating programme.

Tonnes to go: 1107

as of 29 May 2018, there are 1,107 tonnes of Magnox fuel to be reprocessed until closure of the Magnox operating programme.

Thorp reprocessing

Thorp reprocesses Oxide fuel from both UK and overseas customers and, at the height of its operations, was the biggest Yen earner in the UK. Revenue from both Thorp and Magnox reprocessing is used to help fund our risk and hazard reduction mission.

Tonnes to go: 270

as of 29 May 2018, there are 220 tonnes of Advanced Gas-cooled Reactor fuel and 50 tonnes of Light Water Reactor fuel to be reprocessed.

In review 2017/18

Page 18

Safety review

Our annual review of safety for 2017/18

Page 26

Sellafield Ltd: in conversation

Our company and performance through the eyes of our employees

safety review

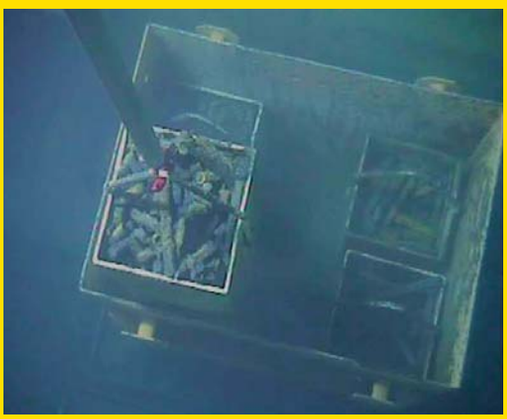
Sellafield is the UK's most complex nuclear site. As a pioneer it has supported defence, power generation, the management of nuclear waste, and has generated revenue through reprocessing. It is also a large industrial site. Our daily work presents nuclear, environmental, radiological, chemical and conventional safety and security challenges.

Keeping our workforce, supply chain partners, facilities and the environment safe and secure is a relentless pursuit that requires the focus and attention of everyone involved at Sellafield, every day.

Our safety performance over the last financial year was mixed. There are areas where we can continue to learn and improve. As reprocessing successfully concludes our mission is evolving to focusing on waste management and clean up with environmental restoration being the goal.

One of the ways that we are making Sellafield more safe and secure is by removing nuclear risks and hazards, including those posed by our oldest waste storage facilities. This year our teams and supply chain colleagues have:

EXPORTED the first 'u-bit bins' (untipped, uncemented, uranium bit bins) containing fuel fragments from the First Generation Magnox Storage Pond to the Fuel Handling Plant for safer storage.



DEPLOYED the Avexis robot (Aqua Vehicle Explorer for In-situ Sensing) into the liquor of the Magnox Swarf Storage Silo, offering new visual capability to help us reduce our nuclear risks and hazards more safely.

BROUGHT our new evaporator on line, to support the site's clean-up mission, and reduce the volume of Sellafield's most radioactive waste product – highly active liquor.

CUT holes in the side of the Pile Fuel Cladding Silo and installed doors that will give us access to the waste held inside when we start early retrievals next year.

STARTED the demolition of a legacy redundant stack using a bespoke self-climbing platform to access the workface.

Working safely

The work that our employees and supply chain colleagues carry out at Sellafield ranges from working at height, civil construction and working in radiological areas, to cleaning up seventy-year-old nuclear facilities and looking after nuclear materials. All in a heavily congested site that operates 24 hours a day and every day of the year. We are delighted to report that in this year our teams did all of this work while recording our longest ever period without a lost time accident across all of our work – seven million hours between April and July 2017.

In our most challenging clean-up projects, the legacy ponds and silos, our teams worked more than seven million hours without a lost time accident. In the Magnox Swarf Storage Silo alone the teams achieved five and a half million hours of safe working. As well as receiving a Gold award from the Royal Society for the Prevention of Accidents, the team marked the safety milestone by nominating charities to benefit from their safety success. The chosen charities, who each received a donation of £3,000, are: Macmillan Cancer Support (Cumbria and Lancashire); The John Holt Cancer Support Foundation Warrington; Hospice at Home West Cumbria; Cancer Research UK and the North West Air Ambulance.

Chris Halliwell heads up the programme and said: "I'm delighted to see these worthwhile local causes seeing some benefit from our excellent safety performance. This was a team effort across the entire programme including our contractor community, so it was important all the teams involved had a say in choosing their charities. Ultimately, staying safe and secure is about helping ourselves and our neighbouring communities. This is some extra help for those who deserve it."

Over the full year there were 17 lost time accidents, where employees needed to take time away from work as a result of an accident. These included cuts, fractures and sprains, and ten of these accidents were reportable to the Health and Safety Executive under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations. It will always be our focus to ensure that people are not injured at work; keeping safe is a collective responsibility – we all have a role to play in looking out for each other.

Working safely covers nuclear, radiological and conventional safety and protection of the environment. We recorded no significant nuclear events during 2017/18. Our headline radiological protection performance indicators are strong, with the number of personal contamination events at an all-time low; however we have had a number of minor events that had the potential to be more significant. A high level review of contamination control has commenced to identify common themes to address and improve performance.

This year we had a series of industrial disputes in relation to pay which were managed without impacting on the safety of our site, employees and environment.

Improvements

We continue our focus on improvements in *legionella* management. We have a dedicated team delivering a programme of improvements including revisiting site-wide risk assessments of all domestic and process water systems; developing an onsite-legionella sampling laboratory; supporting those involved in managing the risk with appropriate training and assessment whilst ensuring the legionella source risk is identified and controlled in the site's cooling towers.

Additionally, teams are in place to drive performance improvements with asbestos and chemical management.

Our environmental performance is also a key area of emphasis for us.

Sellafield is changing

Our mission at Sellafield is changing; as reprocessing operations end on site, our scope changes and we focus on environmental clean-up and waste management. Throughout we need to continue to protect our environment – this is fundamental in all that we do.

Sharpening our focus and improving our environmental mind-set means increasing the visibility of how we proactively manage our potential to impact the environment, and how we use internal and external learning from environmental events.

We are focused on making improvements across our environmental performance. We have had a number of environmental non-compliances with our permits this year, categorised as 'minor' or 'no impact'.

One of these resulted in a warning letter from the Environment Agency (EA) in relation to a container of waste that we sent to the Low Level Waste Repository that did not meet their Waste Acceptance Criteria.

Events are recorded so we can investigate the root cause and also whether there is a pattern. An analysis of indicators and trends related to environmental performance identified improvement actions, one of which has been environmental awareness training which is being developed.

Environmental permits are issued to us by the EA and allow us to operate our facilities, discharge into the environment and dispose of solid waste.

We have several environmental permits including one that controls radioactive discharges (RSA) and one that controls non-radioactive discharges (Installation).

These permits impose conditions and limits on our discharges and require us to apply the principle of Best Available Techniques (BAT). BAT makes us think about the environmental impact of our decisions and activities and to invest proportionately to minimise our environmental impact.

We regularly review our permits and apply for variations to meet business needs, however major reviews are undertaken less often. The last major permit review at Sellafield took place in the early 2000s, when our operational focus was different. The end of reprocessing and change in site focus to environmental remediation provides an opportunity for a major review to ensure future permits remain fit for purpose.

Discharges will continue but they will be different in some cases e.g. in volume, chemical or radioactive characteristics. Reductions in radioactive discharges are expected as reprocessing comes to an end.

We are seeking changes to our environmental permits to enhance operational flexibility. For the RSA Permit this includes removing some limits to enable us to make best use of abatement plants and maximise the amount of clean-up work we do. The major permit review is also an opportunity to consider how greater operational flexibility may be best achieved to facilitate environmental remediation of the Sellafield site.

We plan to submit our application to the EA to vary the RSA permit later this year. The public consultation, which will follow the application, will offer an opportunity for stakeholders to understand and comment on the impact of future discharges from the site.

Organisational change

At the end of this year we combined our environment, health, safety and quality teams with our security and resilience teams. The result is an Environment, Safety and Security (ES&S) team that covers all aspects of keeping Sellafield, our people, supply chain and environment, safe and secure.

Mark Neate, our Environment, Safety and Security director, said: "Our focus remains on environment, safety and security. The integration of environment, safety and security will help us pursue greater effectiveness and support our four value streams: retrievals, remediation, spent fuel management and special nuclear materials.

"Beyond the value streams I believe we can begin to expose wider benefits in harnessing areas where safety and security overlap. Additionally as reprocessing concludes, we need to build our understanding of what we mean by environmental restoration."

This delivery focused team is supported by a new role for us, chief nuclear officer. Euan Hutton took up the role in March and is independent of the delivery team with accountability to the Chief Executive Officer for ensuring that the strategic direction of our business, and the changes we are making, do not adversely impact on our nuclear safety and security.

Euan said: "As the outgoing director for this area, I am proud of our employees and contractors and their continued focus on safety. We are determined to continually improve to meet the challenges we will face as reprocessing comes to an end and we become an environmentally-focused site remediation and waste management organisation. I look forward to supporting this in my new role."

Broadening our view of safety

Keeping people safe is traditionally viewed through the lens of accidents and physical safety. This year we broadened our view of safety to include mental health and equality, diversity and inclusion.

One in four people will experience a mental health problem at some point in their lives. We want to break the stigma attached to mental health issues and let employees know that it's okay to talk about mental health.

This year we signed up to the Time to Change pledge which means as an organisation we're committed to doing more to help improve the mental wellbeing of our employees.

Many of our colleagues in the construction supply chain work with a charity called Mates in Mind – and we've signed up to this as a sponsoring organisation. We were delighted to stand with our supply chain colleagues at an event at Sellafield in November 2017 raising the awareness of the signs of mental health.

We've recently produced our first equality, diversity and inclusion delivery plan and established an EDI council. Mental health is addressed as a key component of the plan.

This year we also completed our first EDI survey with our workforce which gives us a baseline against which we can improve. For more information see our feature on page 40.

In Focus

Monitoring in the environment

Our beach monitoring programme for 2017 was successfully completed and provided assurance that the conclusions of the Public Health England risk assessment remain valid and that radiological risks associated with using the beaches around Sellafield remain very low.

The EA provided a positive response to the Best Available Techniques (BAT) assessment that was submitted for the programme, supporting the ongoing work identifying opportunities for further optimisation.

Monitoring of the beaches in 2018 is progressing well, with all beach finds being within the ranges expected.

An updated Conceptual Site Model has been developed, to improve the understanding of the sources, pathways and receptors that are relevant to particles in the environment.

All radioactive discharges remained well within authorised limits. Marine discharges remain at historic low levels.

Doses to the most exposed members of the public from operations at Sellafield remain very low at approximately 100 microsieverts (μSv). This compares to the average annual UK dose of around 2,700 μSv, of which 2,230 μSv is derived from natural sources.

Our annual 'particles in the environment' report, our annual 'discharge and monitoring' report and our annual 'groundwater' reports are found at: **www.gov.uk/government/collections/sellafield-ltd-environmental-and-safety-reports.**

View our latest annual particles in the environment report:

View our latest annual 'discharge and monitoring' report:

View our latest annual 'groundwater' reports:

All of these reports can also be found on gov.uk/sellafieldltd

In Focus

Security and Resilience

Keeping our site, our people and our community safe depends also on security and resilience. Physical and cyber security, business continuity and emergency preparedness all help us manage risk, enhance our response capability and, of course, meet our legal and regulatory obligations.

Security and resilience operations have continued successfully delivering physical, cyber and personnel security, asset maintenance repair and replacement, emergency preparedness and response capability, armed response, and radiological monitoring. The capability of the emergency response organisation has improved and our emergency preparedness demonstrated in a successful programme of exercises.

At the heart of this is our security culture, supported by appropriate assurance and professional development; this underpins our various achievements in the past financial year, including:

- Implementation of a 24-hour Cyber Security Operations Centre. The purpose-built facility is the first civil nuclear Cyber Security Operating Centre in the UK.
- Supporting the deployment of Operation Temperer, a joint police and military contingency providing assistance to police in extreme national emergency circumstances, whilst simultaneously at Sellafield maintaining high levels of safe, secure site stewardship and with all business operations continuing unchanged.
- Creating the first of three 'island' sites on the Sellafield site to enhance security boundaries and provide additional protection for our people, plants and nuclear materials.
- Continued construction of the Main Site Command Facility with the majority of steel erection and cladding completed. This facility, due for completed next year, will provide a unified command and control emergency response centre in conjunction with the other agencies.

Chemical disposals

In October 2017, a chemicals inventory check in our Analytical Services building identified potentially hazardous chemicals requiring safe disposal.

In line with industry best practice, we requested the assistance of the Army's Explosive Ordnance Disposal (EOD) team to assist with these disposals.

The EOD disposed of the identified chemicals, along with other potentially hazardous chemicals subsequently identified, using the recognised safest method: controlled detonation on the Sellafield site.

Following the safe conclusion of these operations, we initiated an internal investigation to understand the root causes and recommend steps to improve our future handling of these substances.

The investigation has now concluded. It found the following:

There were two root causes:

- Our approach to conventional (non-radiological) safety is not always tailored to the risks and hazards of individual facilities.
- Priority was not given to the disposal of redundant chemicals. This was because they were out of the conscious awareness of the majority of people within Analytical Services.

Additional findings:

- All of the redundant chemicals involved were on our chemical inventory but there was a lack of recognition of the risk associated with their degradation.
- A strong nuclear safety culture resulted in the risk being identified by employees.

The investigation proposed recommendations:

- A site-wide review of potentially hazardous chemicals identified as requiring non-immediate action following last year's inventory check. This will clarify who is responsible and will develop and implement a new approach for future chemical disposal.
- An external benchmarking exercise to understand best practice for the management of complex chemical inventories.
- A review of existing contracts to ensure specialist chemical advice and ongoing support is in place.
- A new system for the oversight and control of chemical inventories.

Steve Bostock, chief operating officer, said:

"The Sellafield site is home to some of the oldest and most complex risks and hazards anywhere in the world. It is our responsibility to make sure these hazards are managed in a way that protects our workforce, the local community and the environment.

"We take this responsibility very seriously, which is why I initiated an investigation into last year's chemicals disposal event at the earliest opportunity. I'm confident we now have a full understanding of the circumstances and an improved approach to the management of chemicals, which will also inform our approach to other potential hazards on our site."

We are addressing all the recommendations from the investigation.

Also this year…

Travel

Changes are being made to the way our people travel to Sellafield. We needed to improve the safety of car parks on and just off site which are at capacity. A number of shuttle buses and new park and ride services for employees have been introduced. These are starting to address the travel challenges we face and will improve our journeys to work, make car parks safer and have a positive impact on our communities and the environment.

RoSPA Awards

We were awarded nine gold awards in 2017 from the Royal Society for the Prevention of Accidents (RoSPA).

Accreditation

Our occupational health department has received accreditation through the Quality Assurance scheme Safe Effective Occupational Health Service who congratulated the team on their approach to further professional development and ensuring that our employees have the knowledge and skills for working within a complex environment.

Benchmarking

We have conducted a number of benchmarking visits to identify best practice and apply learning back to Sellafield. We have also had visits from industry peers sharing our expertise.

Collaboration award

The People Plant Interface programme to protect workers from moving machinery – the programme won the NDA Supply Chain collaboration award for safety in 2017.

Excavation improvement

We have introduced significant improvements in the way excavations are conducted through improved planning, proactive use of the Grand Penetrating Radar, better selection and use of tools/technology to disturb ground.

Upper tier establishment

The Sellafield site is now registered as a Control of Major Accident Hazards upper tier establishment. This is due to a recent national reclassification of the health hazards posed by inhalation of nitric acid. Our arrangements for the storage and use of nitric acid remain valid, however we are now required to produce a safety report and an internal emergency plan. Our current arrangements for the use, management and storage of nitric acid remain unchanged.

Chosen charities

£36,000 will be donated to ten local charities as a result of our employee-led peer to peer observation programme 2017/18.

Quality and environmental assurance

We successfully transitioned to the new international quality and environmental management standards (ISO9001 and ISO14001) in 2017. This achievement was marked at a presentation of our certificate by Lloyd's Register Quality Assurance.

'Trailblazing'

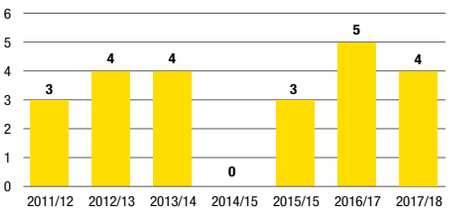
Apprentices at Sellafield are the first in the UK nuclear industry to complete a 'trailblazing' apprenticeship. Ten health physics monitor apprentices finished their two-year programme this summer and have taken up full time roles on site.

World Association of Nuclear Operators (WANO)

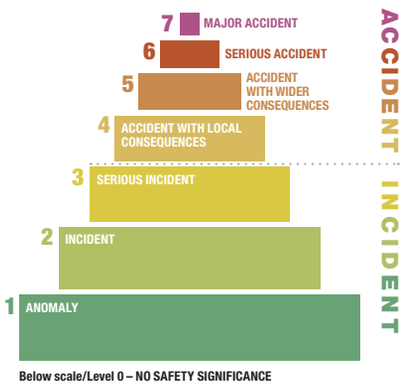
As a member of WANO we continue to take part in peer reviews and members support missions giving us an outside perspective on our performance. It's also an opportunity to share skills and best practice. Employees have participated in international reviews and secondments. In March we hosted a WANO Young Generation Exchange Forum in Cumbria; nuclear professionals from across the globe sharing their experiences. This year our retrieval facilities become WANO member facilities for the first time; the Magnox Swarf Storage Silo has its first WANO peer review next year.

Safety performance

INES Events 2017/18
(* Level 1 and above)



The International Nuclear and Radiological Event Scale (INES) is a rapid alert system used for consistent communication of events across the nuclear industry. These are categorised between Level 1, which is an anomaly, to Level 7 which represents a major accident. In 2017/18 we had four INES events all rated at Level 1 – an anomaly. See INES scale below.



Waste spillage

During routine sampling work in a product finishing line facility at Sellafield, a small number of contaminated waste items fell through the end of an unsealed bag causing the waste to fall to the floor.

The operator handling the samples was wearing the correct personal protective equipment, and the individual suffered no ill effects. Also, the contamination was contained within the immediate work area.

The material was immediately made safe and the area subsequently cleared of any contamination.

Figures at time of publication

An investigation has been carried out, and we are considering any actions required to address the findings.

The event has been provisionally assessed as an INES level 1 (an anomaly) based on 'minor problems with safety components with significant defence in depth remaining'.

Powder spillage

While carrying out analysis work in a Sellafield site laboratory, a worker spilled approximately 1kg of depleted uranium trioxide powder when moving a container.

The material is not harmful unless ingested or inhaled.

The correct safety procedures were followed and the immediate area was evacuated before returning to normal service on the same day.

Health checks confirmed the worker suffered no ill effects.

The event has been rated 1 (anomaly) on the International Nuclear Events Scale.

Chemicals disposal

INES Level 1.

See page 23.

Water leak

Due to freezing temperatures at the beginning of March, there was a water leak from a water pipe on an elevated pipebridge on the Sellafield site.

As a result, water ran into nearby pipe trenches below ground level.

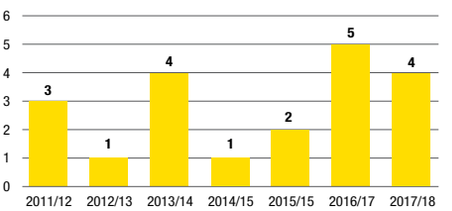
The volume of water resulted in a discharge through a number of non-routine routes, including a leakage to ground. The water carried very low concentrations of radioactive contamination.

The water was recovered and safely disposed of via our robust processes. A management investigation has been carried out to understand the root cause and identify all learnings from the event.

There were no safety implications for the workforce or the general public.

The event carries an INES Level 1 rating (an anomaly) based on 'minor problems with safety components with significant defence in depth remaining'.

Radiological Sellafield Incident Reports (SIRs)



This metric represents the number of radiological events categorised as significant under our sentencing scheme and includes examples of doses greater than 10 percent of a dose limit or spillages of contamination.

Powder spillage

See INES event.

Personnel contamination event

An employee was contaminated during operations in one of our analytical laboratories at Sellafield.

This was identified following routine internal dosimetry monitoring tests which are carried out on our nuclear workers.

An assessment confirmed that the radiation dose received was significantly less than the annual limit allowed for an individual.

The employee suffered no ill effects and did not require any time off work.

U03 spillage

During routine sampling work in a Sellafield drum filling area, a bottle containing uranium trioxide powder accidentally fell to the floor causing approximately 100-150g to spill out.

The operator handling the samples was wearing the correct personal protective equipment and the correct safety procedures were followed.

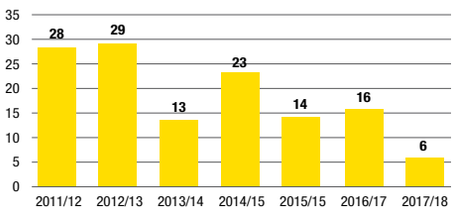
There was no personal contamination or ingestion by the operator and the contamination was contained in the immediate work area. An investigation has been carried out, and we are now considering the actions required to address the findings.

Water leak

See INES event.

We use these metrics and others to scrutinise our performance, identify areas for improvement and put plans in place to close gaps in performance.

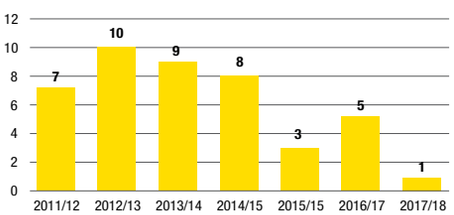
Reportable contamination events



This metric provides the total number of personal contamination events.

We continue to work with workforce radiological protection working groups to further prevent contamination events. We are carrying out a review of contamination events to identify common themes to address and improve performance.

Environmental Sellafield Incident Reports (SIRs)



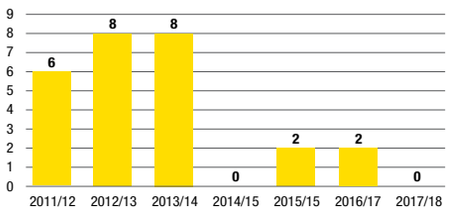
This metric represents the number of environmental events categorised as significant under our sentencing scheme and includes breaches of the environmental permit.

We promote a culture where environmental issues are reported openly and honestly; and recorded so that learning can be shared.

Water leak

See INES event.

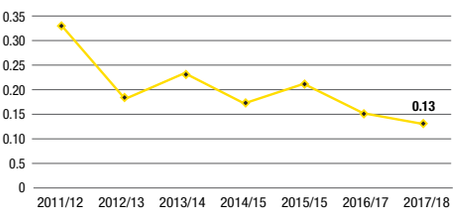
Nuclear Sellafield Incident Reports (SIRs)



This metric represents the number of nuclear events categorised as significant under our sentencing scheme.

There were no nuclear SIRs during 2017/18; this matches our best ever nuclear safety performance.

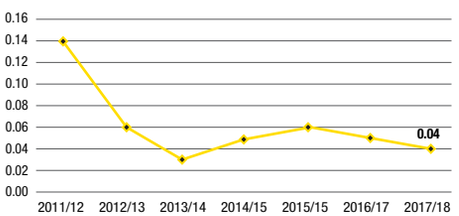
Lost Time Accident Rate



This metric records the number of greater than one day Lost Time Accidents.

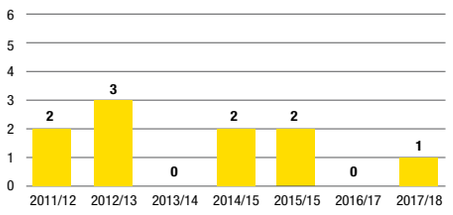
Our Lost time Accident rate this year 0.13 is our best ever. This compares favourably to other industries/top quartile for industry performance. We remain focused on reducing the number of Lost Time Accidents.

RIDDOR Injury Rate



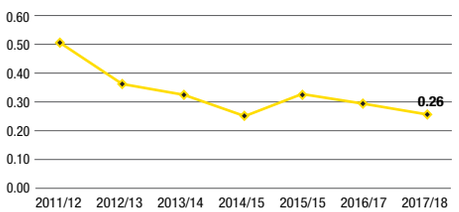
RIDDOR (reporting of Injuries, Diseases and Dangerous Occurrences Regulations). This metric records the number of RIDDOR greater than seven days Lost Time Accidents and Major Injuries.

Dangerous Occurrences



This metric records the number of RIDDOR Dangerous Occurrences. There was one RIDDOR Dangerous Occurrence during this year which related to an in cell crane hoist chain that snapped. There was no damage to any in-cell equipment and no one was harmed or was in danger of being harmed due to the in cell location.

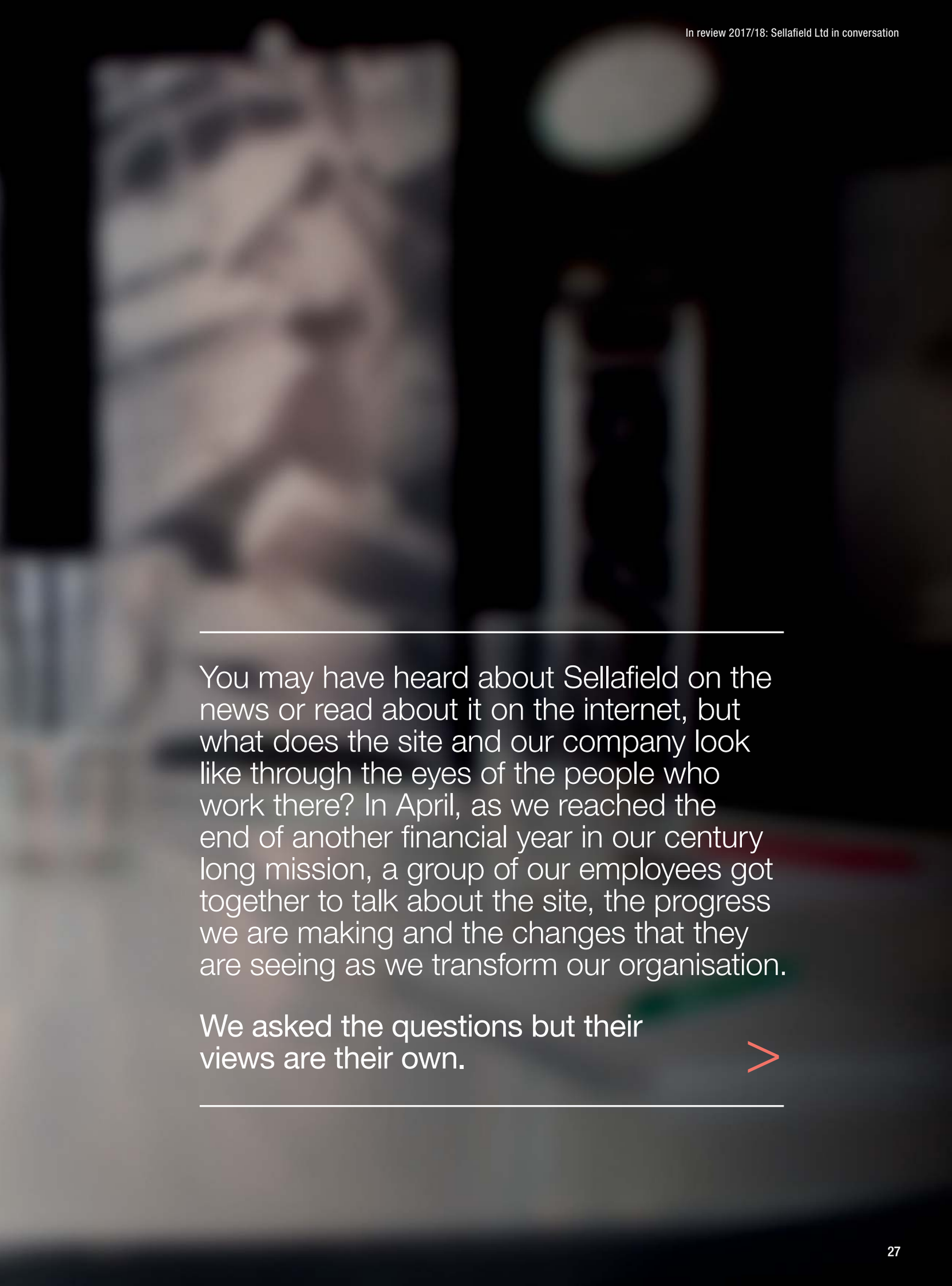
Total Recordable Incident Rate



This records the rate of all recordable injuries including medical treatments, lost time accidents, and RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations) reportable injuries.

Sellafield Ltd

in conversation



You may have heard about Sellafield on the news or read about it on the internet, but what does the site and our company look like through the eyes of the people who work there? In April, as we reached the end of another financial year in our century long mission, a group of our employees got together to talk about the site, the progress we are making and the changes that they are seeing as we transform our organisation.

We asked the questions but their views are their own.

meet our employees

MARK ANDREWS
OPERATIONS TEAM MEMBER, DECOMMISSIONING

OWEN DIXON
PROJECT MANAGEMENT APPRENTICE

JONATHAN HAZLEWOOD
MAINTENANCE CRAFT MECHANIC

AVA GROSSMAN
TECHNICAL SUPPORT

CHARLOTTE WILLIAMSON
CE&I DESIGN APPRENTICE

GARY MCKEATING
HEAD OF COMMUNITY RELATIONS

Cleaning up Sellafield

You all work in very different parts of the business, from decommissioning to functional support – what progress have you seen in our mission to clean up the Sellafield site?

GARY: One of the big things for me is the visual change. Even before I started working for the company a year ago, as someone who lives in the area, I could see stacks going down and going up. From off the site you can see the Alimak lift that is going up and down the side of the Windscale Pile Chimney as the team work to decommission and demolish it. Those visual changes were really impactful to me. Just seeing visible changes to the site skyline demonstrates that things are happening.

AVA: There's also a lot going on that you can't see, things in buildings, in ponds, under water. I know in the legacy storage pond where I work, we've exported radioactive sludge as well as solid waste and debris. A few years ago we didn't know how we were going to complete these tasks and now they are routine operations, which is really impressive to see.

I used to work in the legacy waste silos and the team is making real progress there too. They have cut holes into the side of the Pile Fuel Cladding Silo and in the top when they put waste in, there were these two plates and the waste would sort of slide down them into the middle. Now they have used high powered water to jet the plates off so that when they access the silos through the hole in the side, they have a clear path to the waste. There's a video of it. It's in black and white, but it's pretty cool.

It is just amazing to think how much is actually happening that you can't see.

View our Deflector plate video:

Proud of the work we do

GARY: We talk about pride in the workplace, what work are you proud of, Owen?

OWEN: I've only been in my role for 18 months, and my apprenticeship works is six month placements. In my first placement I was doing a lot of work in preparation for the replacement of a crane in one of our legacy waste silos, the Magnox Swarf Storage Silo. At the time I just saw my role as collating different documents but then when I moved on to my next placement and saw that the new crane had actually gone into the building, I thought 'I contributed towards that'. It gives you a lot of pride when you feel like the work you're doing is worthwhile. It is a nice feeling for an apprentice to have.

JONATHAN: What do you think makes you proudest about working for Sellafield, Mark?

MARK: I've been in the same building for 25 years on and off and in the building that I work in we came across a problem, a big problem in one of the labs where there was fuel stuck on the spiggots inside a glove box, that we couldn't reach to clean off. The lab was out of bounds. Using my expertise of changing bags and gloves and dutch caps, I integrated a bag with an inverted glove inside it and a viewing window, I could see the fuel that needed to be cleaned off. With the problem solved the lab was open again. For that I got an Employee of the Month recognition award and to me that was a big thing, to be recognised for doing that was nice. Also, when I do the operator rounds every morning in that lab, I realise that that lab is open because of what I managed to do.

Nuclear experts

GARY: One thing that always strikes me with friends who work at Sellafield is how proud they are of working there. It's a big responsibility. They keep the place safe and that's massively important. I think they're really proud of that. They don't shout about it too much but you know that they're quietly proud that they go there every day to work, keeping some pretty serious stuff safe, and they come home to their family.

JONATHAN: They don't see it as anything other than just doing their job. But the level of safety, having worked in different industries, I can't think another industry in this country that's as safe.

GARY: The humility always strikes me. People are doing pretty extraordinary things in their workplace and that's just the norm. I think when we look back in 10, 20, 30 years, the long history of world leading stuff that's happened at Sellafield, the decommissioning journey that we began a few years ago I think will be seen as world leading.

AVA: We have a lot of expertise in the company, and what that means is that we don't always have to build new facilities, new plants, and new storage facilities. The work that I do is around encapsulating radioactive sludge. A decade ago it was proposed to build a new encapsulation plant for sludge but now we have realised that we can reuse the existing waste encapsulation plant and extend its life to support this mission. So we're reusing the facility, giving people jobs for longer in that plant and it is going to be quicker and cheaper to treat the sludge because we don't have to wait to build the plant and teach people how to use it.

GARY: And as a UK taxpayer, I thank you for that.

Completion of reprocessing

Later this year we will shear the last batch of fuel in Thorp (the Thermal Oxide Reprocessing Plant) and in 2020 the Magnox Reprocessing Plant will move into decommissioning. The completion of reprocessing will see us focus solely on the clean-up of the site. How do you feel about the changing mission?

AVA: Well, Thorp isn't just a reprocessing plant, it has storage ponds in it that are being used, and will continue to be used, to store fuel from one of our legacy storage ponds, the First Generation Magnox Storage Pond. I think that some EDF Energy fuel will also be stored there as it really is an asset to the site, it just won't be reprocessing any more.

GARY: The business is changing, and it will change over the next hundred years. And I think the flexibility and adaptability with things like Thorp and Magnox and reprocessing ending, will drive that change because we're going to have to change.

I imagine that the changing mission in Thorp has been quite distressing for some people who work there but the fact that the company is reskilling and retraining those people to take up new roles on site, and not making any redundancies, that's pretty much unusual in today's work environment.

“It’s about everybody feeling included at work”

Our role in the community

How would you describe Sellafield’s role in the community?

JONATHAN: Massive. In my opinion, take Sellafield away from West Cumbria, there’s a lot of people out of work and the knock-on effect would be huge. My family alone, my Dad worked here first, my brother and I work here and now my wife is working here, so take that away, we’d be lost.

The company has also sponsored numerous sports teams and paid for cycle tracks.

AVA: And recently we have re-done the play park in Seascale.

GARY: It’s interesting to hear that you talk about a play park, sports teams, but there is a long history of the nuclear industry making strategic investments in the hardware of our community. Things like West Lakes Academy – an investment made a decade ago that has turned into a school rated as Outstanding by Ofsted. There is also West Lakes Science Park which has offices not just for us but for big companies like Jacobs and Atkins, and it is home to the Dalton Research Facility and the Nuclear Decommissioning Authority’s head office.

When I talk to my friends in the pub, sometimes they think about the sponsorship and the donations but sometimes they don’t think about that really big sustainable investment.

What I’m trying to do from a social impact perspective is create a step change. I think we’ve got to get to a sustainable future so a lot of the things Sellafield will be looking to invest in the future will be around sustainability, economic stability, and self-reliance in communities.

Our culture

MARK: From a personal point of view, when I first started, I wouldn’t say that the company didn’t care about the workforce, but it wasn’t obvious. Now it’s there, your team leaders are saying ‘fill that in’ or talk to us if you have any problems with bullying or stress. That’s a big step forward in workforce relations.

JONATHAN: A few of us got the chance to do a mental health awareness course and while we’re not councillors we’re like classed as ambassadors. People have come to me, a big lump of a bloke, and talked to me about things like youngsters dealing with pregnancy or their parents falling out at home. They need to talk about things.

To be a little tiny part of helping somebody outside of work makes their worklife easier, I think again, as a company, you might not find that anywhere else. I’ve worked in different companies and this is the one that stands out that does those sorts of things. I think that’s fantastic personally.

AVA: I think maybe some people think that stuff’s not important but you can see the impact that it has on productivity in people if they’re not stressed or if they feel comfortable at work, it’s massive.

GARY: I think the company’s really focusing on equality, diversity and inclusion as well. In my lead team there are three women, I’m the only man in the team. I think as you get further up in the organisation, as time goes on if we get this right, we’ll start to see far more balance on the Executive and that can only be a good thing.

AVA: Inclusivity, I think is the most important aspect because it’s not about having quotas of different types of people on panels or at events or on the Executive, it’s about everybody feeling included at work. And understood for their differences whether they’re physical or mental or in background or whatever. So I think it’s something we should all take away to think about how someone else might interpret our actions or how you can help that person next to you who maybe isn’t feeling included in the team or in work.

“everyone is working towards the same goal”

People and skills

MARK: Owen, what made you want to be an apprentice at Sellafield?

Owen: The apprenticeship I’m doing – Project Management – is quite a niche apprenticeship to be honest, and there aren’t loads of places that offer it, especially not with the volume of work that our company offers. It’s a very exciting industry. And apart from just the actual job itself, the package that they offer, the chance to earn while you learn and earn a decent wage as well. I have already started a foundation degree and there might be an option to top that up to an honours degree so there’s a lot of opportunity and a lot of structure and support around you to help you succeed and progress into what’s a very exciting profession.

MARK: Why did you want to be a Sellafield apprentice, Charlotte?

CHARLOTTE: When I finished school, I didn’t know what I wanted to be. I was a Saturday girl in the hairdressers and I hated it, so I thought I’d go to college and do my Level 3 Extended Diploma in Engineering, so I got a feel for engineering. Sellafield Ltd then offered a new scheme to be a Degree Apprentice and I thought I could extend my education, do my Foundation Degree and go on to do my Honours Degree. The Company offered the full five year contract to do that, so I thought why not earn while I learn in an industry that’s really interesting.

GARY: I was reading the other day that, I think since just after the war, at site we’ve trained more than 10,000 apprentices.

CHARLOTTE: The Company just wants you to get higher and higher, so the opportunity will be there to go from doing your degree to your masters then to become chartered. They want the best out of you. So any education they can put you through and you’re happy to do it, they’ll push you forward.

OWEN: And we have Ambassadors like Ian Marr. He came in at 16 years old as an apprentice and now he’s project delivery director. There’s no better role model than people like that for progressing through an apprenticeship.

AVA: I think it’s really important to have role models that you can see yourself in because as much as you might admire somebody like I admire Ian Marr and think he’s worked really hard, I can’t see myself in him. So having role models that either look like you or act like you or are from the same place as you is really useful. In legacy ponds we have Dorothy Gradden who was raised by a single parent and has worked so hard in an industry that wasn’t really that accepting to women, and now she can be a role model for people like me who may not be Cumbrian, not even an engineer but I can see some of myself being female, so it’s really nice to have different types of role models on the site.

Sellafield is changing

We have talked a lot in the last year about transforming Sellafield. How do you think we are changing?

JONATHAN: I think that the site has evolved many times over its lifetime and it is evolving with the times again. At the moment it is a majority decommissioning site.

AVA: I think that knowledge is our business, because really Sellafield Ltd only owns people. The assets, the site itself is owned by the Nuclear Decommissioning Authority and Government so we don’t really own anything other than each other I guess. So maybe our future business is knowledge?

GARY: We talk about becoming an environmental remediation company and I think that is where we will be for the next number of decades. That’s what we’re actually doing; we’re taking the site back as much as possible to an open space.

AVA: Technically the mission is to make it a brown field site, which is an interesting thing to picture.

One of the changes that I have seen is the way that we conduct contracts and the move to outcome based contracting where everyone is working towards the same goal and ‘good’ is judged against achieving that shared goal. That should also make it much easier to collaborate will change our attitude towards the supply chain and their attitudes towards us. It won’t be an ‘us and them’ situation, it will be a genuinely integrated team.

GARY: I joined the Company last year from the supply chain and I think over the last few years there’s been a big change in the way that Sellafield works with the supply chain. Working as part of the decommissioning framework with more than fourteen companies was really powerful. Traditionally you would be competing against companies but I think if you’ve got a shared outcome which is the mission at Sellafield and the clean-up of site, it can work. ■

Visit www.gov.uk/sellafieldltd, our YouTube channel or use the QR code here to watch the full conversations.

Apprentice secondment in the Supply Chain, a winning combination

We are currently training more than 500 apprentices on the Sellafield site, making ours one of the most comprehensive apprenticeship programmes in the UK. One of these highly specialised schemes is a nuclear welding inspection technician apprenticeship.

Last year we entered into a training collaboration with our supply chain to make sure that we're in the best position possible to develop Nuclear Welding Inspectors for our future missions.

These apprentices for the first time ever are working remotely from the Sellafield site under a formal secondment arrangement with a range of fabrication and inspection companies in the local supply chain and some of our larger Tier 2 partners.

Our quality control Manager, Dave Tomlinson explains why we've put into practice this new way of working.

"The idea of putting apprentices out into the supply chain and working collaboratively has many positives. The real diversity of projects within the nuclear industry means that we're able to give the apprentices hands on perspective that's not just Sellafield Ltd focused. It's also an opportunity to gain strong relationships with our key suppliers of goods and services; it's a great example of true collaboration with our delivery partners."

THE REAL DIVERSITY OF PROJECTS WITHIN THE NUCLEAR INDUSTRY MEANS THAT WE'RE ABLE TO GIVE THE APPRENTICES HANDS ON PERSPECTIVE.

A network of high quality home-grown SMEs have sprung up around West Cumbria and Sellafield. Most of these are founded by people who honed their nuclear skills at Sellafield.

The companies that have agreed to be part of this collaboration undertake a real diversity of projects within the nuclear industry, all of which our apprentices are now experiencing from a hands on perspective whilst forming relationships with our key suppliers of goods and services that will benefit them and us throughout their working career.

The SMEs that have entered into the formal arrangement with us so far are: Bendalls Engineering in Carlisle, TSP Engineering in Workington, Responsive Ltd and West Cumberland Engineering Ltd both at Lillyhall, Workington, Jacobs UK and Nuvia Ltd both based at Westlakes Science and Technology Park, Moor Row and Bureau Veritas based on the Sellafield site.

Katie Elliott, who is a 3rd year NWIT apprentice based with Responsive LTD, who are a small SME inspection and NDT company and owned by Lee Grears, told us:

"Working in the supply chain is very different than working on the Sellafield site. It's more hands-on training here but I still have the bonus of the Sellafield inspectors still being on hand to oversee and witness my inspections. My confidence in my ability to work on my own has really improved since being with Responsive LTD.

"I've also received extra training which I wouldn't have normally done, this has included: an internal audit course, a CCSNG safety passport and a pressure testing course.

"My hope for the future is to be a fully qualified welding inspector with additional qualifications."

Lee explains: "Katie has been a dedicated member of the team since she first arrived. She has been involved in inspection and testing, both, within our facility and out in the supply chain and has really made an impact on our business. She has certainly become a fully proficient inspector and will go far within her chosen discipline for Sellafield Ltd.

"The program for the secondment opportunity has been really easy to get involved in; it has meant we have had additional resource available, another pair of hands to help out in a busy inspection environment. At the same time we have a sense of pride as a business for being able to train additional apprentices alongside our own and impart knowledge whilst working alongside fully qualified inspectors."

Inspection resource is in very short demand and some may be attracted into the supply

chain when their apprenticeship schemes have finished. This isn't necessarily a negative as we are responsible for producing highly trained and competent inspectors who are working within the nuclear family.

The feedback from the programme so far has been very positive with all apprentices integrating well within their host companies, they all feel part of the teams that they've joined and now their qualifications portfolio has been bolstered with Level 2 NDT certification.

Another apprentice out in the field, Leah Edmondson, is currently working at West Cumberland Engineering, the Managing Director Graeme Phillips explains what it's meant to his company.

"We've had several students resident at our works over the past couple of years working alongside our own inspection team, engineers and tradesmen. This is a fantastic opportunity for these students to make a career in quality and the continued demand clearly demonstrates the importance and value that Sellafield Ltd place on high quality apprenticeships.

"These placements allow the students to gain the employability skills, knowledge and build relationships with the companies they will be working with in the future. Our robust quality systems provide the students with a rigorous, systematic approach to quality in line with global best practice and will help deliver the comprehensive training needs and experience to qualify as a nuclear inspector."

Sean Saunders from Bendalls Engineering of Carlisle, who has also signed up to be a host company, added: "Bendalls Engineering believes that investment in apprentices is the main driver to future business success.

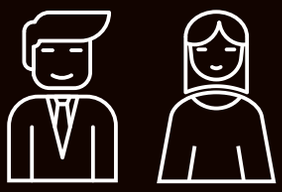
"We are proud to able to support Sellafield Ltd in the apprenticeship secondment programme and believe it is a brilliant opportunity for the individual to understand first-hand some of the complex and unique items supplied by the supply chain to the Sellafield site.

"The achievement of this programme can only further cement the close working partnership between the Sellafield organisation and their supply chain for the many years to come."

We are leading the way in the apprentice training sector in an area which is likely to become a critical skills pinch point in the nuclear sector in general. ■

These placements allow the students to gain the employability skills, knowledge and build relationships with the companies they will be working with in the future.

ELEMENTS



Leadership and teamwork tasks

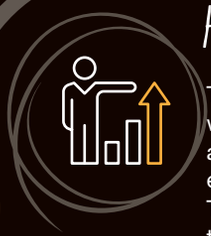
Teamwork and leadership tasks throughout the week with our employees and our colleagues from the Centre of Leadership Development help the young people to break the ice and get to know each other. It also helps to identify potential group leaders.

1

Engineering tasks

As well as operating the rig, the students are set an engineering task by engineers from Balfour Beatty. The students are given a hands-on table top challenge and must design and develop a solution using the equipment provided.

5



Human performance

The students are taught the principles of three way communications and the phonetic alphabet and how these principles can reduce the risk of errors that could lead to a mistake or accident. They then use these principles when operating the mock rig and completing their challenges.

6

Interaction with employees

Over the course of the week the students have a unique opportunity to meet and interrogate employees from the different partner organisations in a variety of different job roles. What was their background? What route did they take between leaving school and the job they have today? Students can use this information to make more informed choices about their future education and career paths.

9

In partnership with our supply chain colleagues we have dusted off the stereotypical school work experience of filing and shadowing. ‘Elements’ is an immersive week long programme that gives young people a real insight into the world of working in nuclear.

Behavioural safety

After an overview of health and safety by Lakes College the participants work through concepts like safe working practices and identifying potential hazards with tutors from Costain. The students finish the programme with a sound understanding of safety in the workplace and a recognised behavioural safety qualification.

2

Site visits

3

The final task for the students will be to operate a mock process rig at Lakes College so they take a tour of a real test rig at the National Nuclear Laboratory’s facility in Workington. They get to see nuclear rigs that are being built and tested there before they are installed in nuclear plants.

Nuclear safety procedures

4

The students are expected to treat the mock process rig as if it was on a real industrial or nuclear site so we take them through procedures like risk assessments, safe system of work and operating instructions.

Career guidance

7

Our colleagues in Jacobs run an interactive session that shows the huge range of technical and non-technical job roles that a large organisation needs to be able to operate.

Operation of test rig

8

The pinnacle of the Elements programme! Using everything they have learned through the week, each team must operate the various components of the mock rig to transfer liquid through pipework from one vessel to another and then back again.

D:EEP

To understand the bigger picture of what the clean-up of redundant and ageing facilities means to us on the Sellafield site, we first have to dig a little bit deeper into how we understand what it is we're actually dealing with.

Two of our supply chain companies did just that and came together to offer an innovative solution to an age old problem. How do we characterise contaminated concrete from the many facilities, ponds and silos we have on the Sellafield site?

Costain and Createc, both of which have been involved in nuclear projects at Sellafield in the past decided to work together and bring both their specialities to the table through an Innovate UK study and funding from the NDA.

The technology called D:EEP (non-destructive depth profiling) was developed by Createc, who are an R&D company specialising in imaging and sensing and the deployment system was designed by Costain, who have provided services to the civil nuclear industry since 1965.

This new technology aims to reduce intermediate level waste by efficiently identifying large areas of concrete which could be classified as low level waste and therefore dealt with more effectively. A condition of the funding was to trial the equipment at a number of nuclear sites within the NDA estate and our remediation capability team were happy to host and facilitate the first trial as part of our active demonstration philosophy.

This technology requires no people, no people means no contamination to the workforce, hence a safer environment to work in.

What is D:EEP

D:EEP uses the combination of measurement, modelling and spectral analysis techniques to provide fit-for-purpose non-destructive surveys in near-real time characterising contamination both by element and activity.

The technology could replace the current need to conduct destructive sample analysis of contaminated concrete to determine the depth of penetration of contamination.

Why is it innovative?

It has the ability to characterise and profile the contamination within concrete and over the entire surface in a decommissioning scenario using non-destructive techniques.

The Challenge

The challenge like with many of our ageing facilities is for us to understand what levels of contamination we are dealing with and how we can safely remove the hazard whilst keeping the workforce safe. It's extremely difficult to estimate the entrained contamination in concrete, with the depth usually being predicted with a sparse grid core sample.

Core sampling requires drilling, which creates dust and airborne contamination and can be very invasive, potentially compromising the integrity of the material. The results from these core samples take months to process and requires conservative assumptions to be made over the levels of contamination due to the potential for the samples to miss hot-spots.

The Solution and benefits

Solution

D:EEP provides a non-intrusive map of the penetration of contamination across and within the concrete. It also allows the depth of contamination to be discovered within 1mm of accuracy.

Benefits

By understanding the complete picture of contamination and where the low level waste/intermediate level waste boundary is, it allows various decommissioning strategies to be modelled before deciding on the optimum solution. It also provides greater cost and schedule certainty, reducing project risk.

Remote deployment and surveying reduces dose uptake to workers compared with conventional core sampling. Non-destructive testing also minimises dust and airborne contamination production, improving safety and reducing worker doses.

Accurate profiling ensures the best outcome for the segregation of waste which results in massive disposal cost savings.

Non-destructive testing means zero dust or airborne contamination produced and is much safer than coring.

Dave Clark, Operations Manager, CREATEC said: "We've carried out an initial trial in one of the storage ponds on the Sellafield site in January this year which went very well indeed, and are awaiting the results of the data taken.

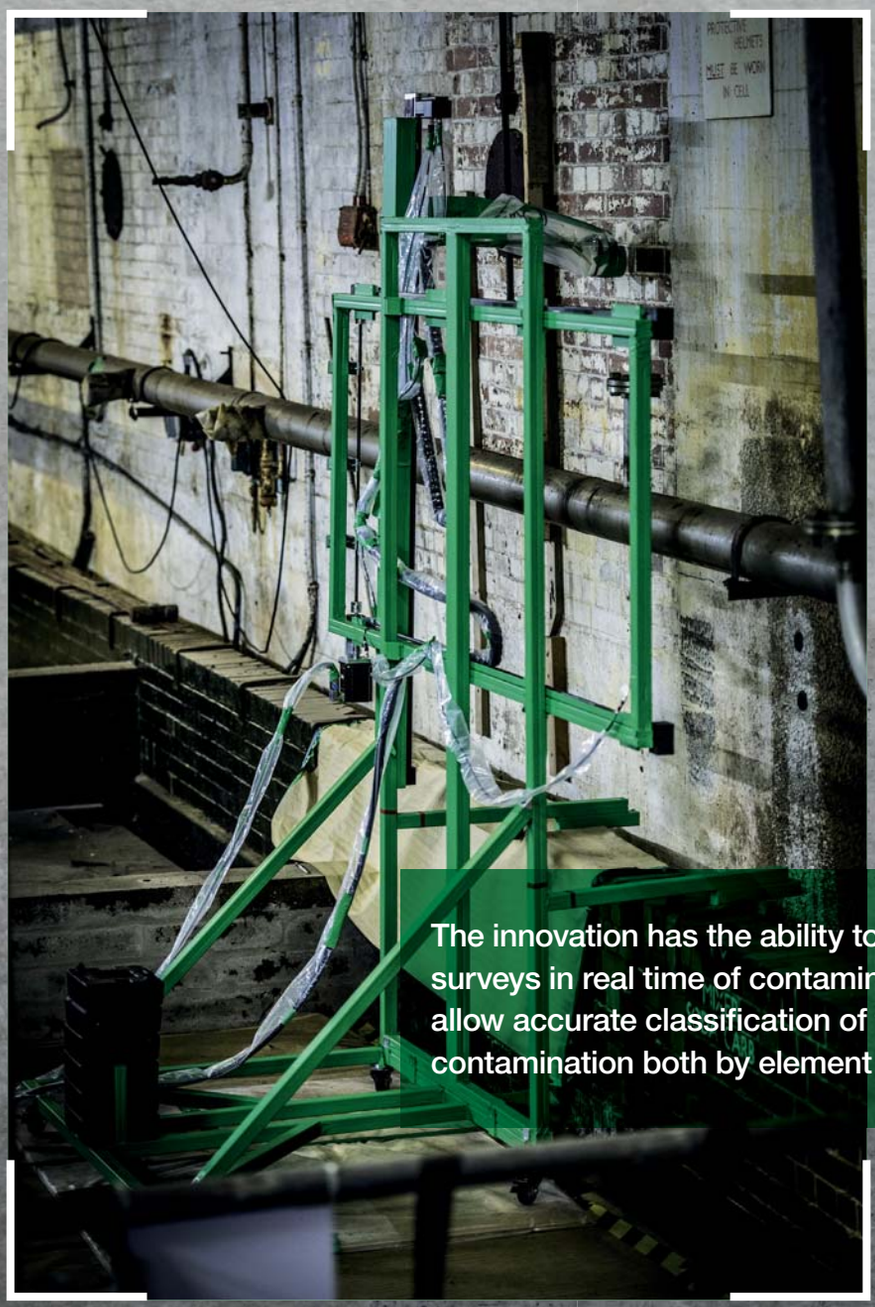
"Together with Costain we developed the business plan and created 'CoCreate' which is a joint venture which enables us to offer D:EEP as a complete service. This is a true example of how two companies with different areas of expertise, come together to solve decommissioning problems.

"D:EEP provides the ability to work smarter by understanding the area early in the process and reduces the risk of surprises during the decommissioning process. It also enables us not to damage the facility or risk spreading the contamination when drilling which is a major breakthrough in technology."

Dr Bryony Livesey, Costain's Head of Technology told us: "Now that our three-year project is coming to an end, we have been able to demonstrate the many advantages of D:EEP.

We are very grateful to Sellafield Ltd for their support, encouraging our development, helping to ensure that D:EEP is fit-for-purpose, and supporting on-site trials in contaminated environments. The benefits are very clear and we are not committed to commercial deployment of this technology."

Collaborative working brings us closer to understanding our legacy



The innovation has the ability to provide detailed surveys in real time of contaminated concrete to allow accurate classification of the build-up of contamination both by element and activity.

Creating an inclusive culture - what we're doing at Sellafield and why it matters.

It is a generally accepted theory in business that diversity underpins success. The majority of major international companies have well established arrangements in place to ensure diversity of their workplaces. They welcome employees from different backgrounds, genders and ethnicities.

And yet, with the majority of Sellafield's workforce based in a remote coastal community hours from any major urban hubs, diversity hasn't been something which has come easily, or naturally.

"Our workforce is predominantly white, male, middle aged and straight," admits Jon Seddon, the Finance Director who serves as chair of the newly established Equality, Diversity and Inclusion council (himself a straight white man in his 50s).

"It's not that people like me are the problem, but if we want to think differently and attract the brightest minds on the planet then we have to make sure we are the kind of organisation where people feel comfortable, whatever their background. Frankly, we're not that kind of place yet. But we will be," he added.

Working with our owners, the Nuclear Decommissioning Authority, we decided that it was time to tackle the diversity challenge.

Jon adds: "Some people would say that we're not doing anything ground breaking – but it is ground breaking for

Respected. Included.
Performing at our Best.

us, as a business, as an industry and as a community, certainly in West Cumbria, if not in Warrington.

"If I go back 12 or 18 months we wouldn't have even been talking about these subjects, let alone making it a major area of focus for the business."

We took part in an NDA estate-wide equality diversity and inclusion (EDI) survey at the end of 2017 and, having published the results at the beginning of February, have started putting plans in place to address the issues that were raised. More than half of the 11,500 workforce took part, creating a great baseline on which to measure the success of future work on inclusion.

The results, good, bad and in-between, were published in full for the entire workforce. With promotional work carried out to encourage the workforce to read and understand the data.

"Some of the results were disappointing – but we weren't entirely surprised because they confirmed to us some things that we'd seen raised in focus groups that were held before the survey", said Alan Rankin, our human resources lead for EDI.

"Perhaps the most concerning results for me were the statistics that said people lose their enthusiasm within two years of joining the company. This was underpinned by data telling us that new ideas aren't welcome, and that we are not a meritocracy, with thousands telling us that they didn't think promotions were decided fairly, and that it wouldn't be their ability alone which would help them progress.

"We put such a focus on taking the brightest and the best apprentices and graduates, we provide world class training for them, but that's only worth the effort if we then provide a culture for those people to shine and reach their potential in the workplace."

There were other areas of concern – people didn't feel they could talk openly about mental health, for example, and while most people said their line managers were supportive, one in four said they'd either been bullied or had witnessed bullying in the workplace.

"We must all have a zero tolerance approach to bullying, so for so many of our people to be telling us that they see bullying happening, and that it is commonplace, is very worrying. We have to change it, and fast," Alan said.

It's Alan's job to produce the strategy, outlining how an organisation as big as ours tackles our diversity challenges and starts to build a more inclusive culture. Day-to-day he's pulling the right people together and helping them focus on the right things so that they can achieve the right outcomes.

"How do you eat an elephant? One bite at a time," said Alan. "A lot of it is about communication and visible leadership. You get the culture that you accept, and so if you want to change it, you have to start at the top.

"The executive are well represented on our ED&I council, which shows they take it seriously, but we need to do more, and some people say that the best way to kill an idea is to give it to a committee.

"If you look at the statistics and the easiest things to start to change – people said they didn't think they could talk about mental health at work. What's the best way to fix that? Easy; start talking about mental health at work, and encourage others to do the same.

"Our chief nuclear officer, Euan Hutton, recorded a very short video blog in which he talked about his own battles with anxiety and depression. The response was phenomenal. It was shared far and wide on social media and our intranet.

"Suddenly we've got people all over the business coming forward and saying they were happy to share their stories – so we're telling those stories, and we've got a poster campaign which actively says to all of our employees that it's okay to talk about mental health at work, and to ask for help if they need it.

"Doing that doesn't solve the problem overnight, but it's a start. We're benchmarking some mental health workplace programmes at other organisations, and in the near future we'll introduce some kind of programme like that across our organisation.

"We've focused on mental health first because it is something which affects everyone, but while the work on mental health has been the most public so far, we're doing some work behind the scenes to look at how we tackle the other issues. Later in 2018 we'll be doing a lot more on bullying and harassment, for example, and we're working with the other companies in the NDA estate so that we can share best practice."

The ED&I Council supports a number of groups looking at specific interests. This includes a number of areas covered by the protected characteristics of the Equality and Diversity Act. A new intranet hub has been created, so employees have a one-stop shop to find online information and support on a whole host of topics. Part of this hub was launched when we recently marked National Autism Week.

> "We will build an inclusive and diverse culture, where people can be themselves and be accepted – that's the goal – however long it takes."

Alan said: "It's not that we're starting completely from scratch – there had already been some great work done by the HR team, and in particular, Carl Lewthwaite, who has been working for years on a broad variety of difficult and complex cases and helping individuals with specific needs, including our LGBT community and those with neurodiversity and mental health issues.

"The truth is that we probably weren't really ready to look ED&I in the round. We knew we had to deal with cases, but we didn't have a strategic approach. We're not there yet, and we'll be working on it for the next few years at least, but the first step towards fixing any problem is recognising it.

"We will build an inclusive and diverse culture, where people can be themselves and be accepted – that's the goal – however long it takes. Everyone at work has the right to be respected, included and performing at their best."

The NDA's Chief Executive, David Peattie, has instructed the businesses in their estate to make ED&I a priority, and the NDA has also created a council of their own, on which the various site licence companies are represented.

"The evidence on ED&I speaks for itself, as does the experience of businesses across the world. Organisations that take it seriously attract and retain the best people, perform better and ultimately are more successful. So treating everyone equally and with respect isn't just the right thing to do, it's good for our mission," he said.

How we rate ED&I across Sellafield

5,696 Respondents

WHERE WE DID WELL

93% understand why equality, diversity & inclusion are important to our organisation (Q.48)

My manager supports me to achieve my full potential (Q.11)

76% AGREE

The survey results show that across the estate employees feel supported with **94%** agreeing that their manager supported them when they needed time off for personal reasons (Q.5)

WHERE WE NEED TO DO BETTER

FAIRNESS AND MERITOCRACY

- I understand how people are appointed to jobs (Q.34) — **48%** AGREE
- The process of filling vacant posts ensures the most capable person gets the job (Q.35) — **31%** AGREE
- I believe promotions are decided fairly (Q.36) — **35%** AGREE
- Advancement in our company is based solely on ability (Q.45) — **17%** AGREE
- I believe I have as much opportunity for advancement as anyone else (Q.47) — **49%** AGREE

BULLYING & HARASSMENT

NEARLY 1 IN 4

say bullying & harassment is tolerated*

OVER 1IN4

of employees say offensive comments are tolerated in the workplace (Q.23)

*based on an average of 2 questions (Q.24 & 25)

LEADERSHIP

1in4 say leaders don't treat people with respect

INNOVATION & CHALLENGING THE STATUS QUO

NEARLY 2/5

of all employees who completed the survey say it is not ok to challenge the status quo (Q.18)

OVER 1/3

of all employees say good ideas are routinely rejected (Q.27)

Case study: Neurodiversity

We have long employed people on the autistic spectrum – and we've had many parents of autistic children working within the business over the years.

Carl Lewthwaite, from the human resources team and a member of the site diversity council, said: "Over the years I've helped lots of people who had some form of autism – people have come to me for help or line mangers have come to me for help, but often it has been because the autism was an issue or the person was struggling, and I've been asked to step in and provide something that solves the problem.

"I would say that we are generally very supportive if someone comes to us and asks for help, and our track record proves that. However, it is often getting that person to come forward and talk to the company is the hardest step. And of course those people who we don't know about, we haven't had a mechanism to support.

"For example, our autistic employees have told us that in the past they've not been as successful as they might have been in promotion interviews, because they find the set up challenging. How many people might have failed in that situation before someone came to us and asked us to adjust the process so they weren't unfairly disadvantaged?"

Help is now at hand. The Sellafield Autism Support Network was set up following a chance meeting between two parents of autistic children, who also happened to be employees.

Supported by Carl and Alan Rankin, our human resources lead for ED&I, the support network has now become an officially endorsed sub-group of the ED&I Council.

> "I would say that we are generally very supportive if someone comes to us and asks for help, and our track record proves that."

Carl said: "It was originally formed by two employees who met during lunch times, to share their experiences of coping with life with autism. They were approached by others and then came to me, and we helped get the group established officially."

As time has moved on, the group has grown, and there are now 50 members, who range from parents of autistic children, employees who are autistic themselves, and managers who have autistic team members.

Josephine Stabler, who founded the group alongside her colleague Joe Robson, said: "When Joe and I met, we realised that support for parents could be quite limited. We wanted to share our experiences, knowing that there was someone on hand who had been through things.

"Over time, the group has grown and is now supported by the company's diversity council, who have been incredibly encouraging, and we have a senior sponsor and advocate in Jamie Reed."

The backing of the council has enabled the group to help more people, and to signpost the most useful sources of advice and guidance.

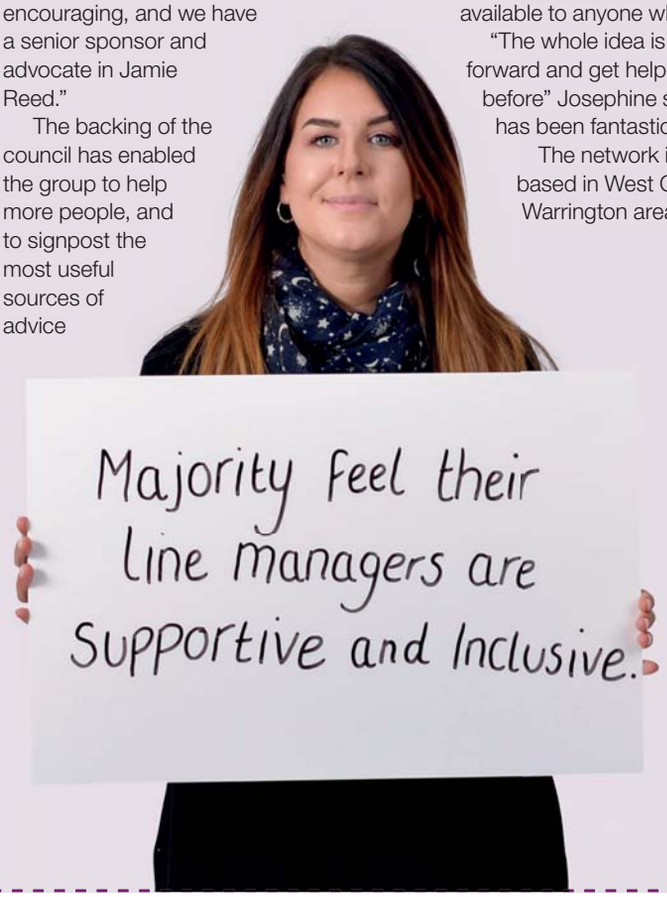
Josephine added: "The group believes there is no such thing as an autism expert – the condition really can vary from one person to the next. We don't claim to know everything, but what we can be, with the company's support, is a listening ear and a source of help – pointing people in the right direction."

Members have shared their experiences on the company intranet page, via a blog set up by Josephine: "Often just the fact that you're not alone and that you can talk to someone who has had a similar experience can really help. Lots of our members tell us that they'd felt it was something they couldn't really talk about at work before, but the network has really helped, and the growing network means individuals can support each other." She added: "Often just the fact that you're not alone and that you can talk to someone who has had a similar experience can really help."

There is a 'neurodiversity' section on the new employee ED&I intranet hub, and the network have created a library of text books and other advice which they make available to anyone who needs it.

"The whole idea is that you can come forward and get help more easily than before" Josephine said. "The reaction has been fantastic."

The network includes employees based in West Cumbria and at the Warrington area offices.



Case study:

Transgender awareness and the LGBT community

Statistically in a workforce of 11,500 people you would expect to find, roughly, 150 people who were living with some form of gender dysphoria.

As we approached International Transgender Day of Visibility in 2017 there were just two such individuals known to us and one of them, Andi Rutherford, was determined to do something to change that.

She had transitioned 18 months earlier — but not before, in her words, "wasting" a huge chunk of her career battling depression and seeing her work performance suffer due to an acute lack of confidence.

She stepped forward, stood proud, and led the way — badgering the business to fly the rainbow flag and mark International Day of Visibility in 2017.

"It was about saying to people it is okay to be who you are here" Andi explained. "Not everyone was in favour of it, but I asked and asked and eventually I think I wore everyone down, and they agreed to do it.

"When I finally decided to transition at work I'd intended to just turn up in my frock and get on with my job — but when I thought about the years I'd wasted and the anguish of worrying if I'd be accepted for who I am, I just thought I had a duty to do something to make life better for the next person who comes along.

Andi has worked on the Sellafield site, on and off, for the best part of 20 years. Born and raised in West Cumbria, part of her time away had been spent trying to conceal her true self from a community and workplace that, she feared, wouldn't be ready to accept her.

Andi said: "I was living as a woman 90 percent of the time outside of work, but come Monday morning I would put a man's suit on and come into the office, because that was what I felt I had to do. I spent years living a lie, and all the time desperately worried about what would happen if anyone found out."

The impact on her mental health was devastating: she withdrew from the kind of normal conversations colleagues have about families or weekend plans, fearful that she may say the wrong thing and be 'outed'.

"After a while people stop asking you if you've had a good weekend or what you were up to. It was awful, because I might have been away and had the time of my life, but I didn't dare mention it in the office in case I said the wrong thing and people realised, so I just avoided talking about life outside of work. I had fewer friends than you'd expect someone to have. I just didn't think Sellafield, or West Cumbria for that matter, was ready for someone transgender."

Andi planted the seed with some of her colleagues at various points over the years, asking questions to gauge their opinions on certain topics. While most people were positive there were always enough negative comments to put her off telling them why she was probing.

"Every time I asked there was always a few people who said things that made me know that they would be really uncomfortable. Nothing absolutely hateful — but enough to let me know that they had a problem with 'people like that' and to put me off. But eventually something had to give.

"I got to the point where I felt like my head was going to explode and I had to go and talk to my manager. I'd be 'outed' vindictively, and my manager asked if he could talk to me about what he called my alter-ego. I told him that actually it was the alter-ego that was coming to work.

"He wanted to help me, was very genuine and as supportive as he could be, but there was no information available to him and I'm not sure he really knew what to do. It was hard for him to be in that position.

"My biggest concern was probably with security and the questions I might get asked — there was nobody I could go to and seek advice from at work. I leaned heavily on Carl Lewthwaite, who was great and looked for help from outside the company.

"That's why I'm so determined now to help others — I'll answer most of the questions that people ask me and I'll always be here if anyone is feeling as I did, and wants any advice."

Like all the best stories, Andi's has a happy ending.

In the past year, since the flag was flown to mark International Transgender Day of Visibility, a number of other employees have had conversations with human resources about gender dysphoria.

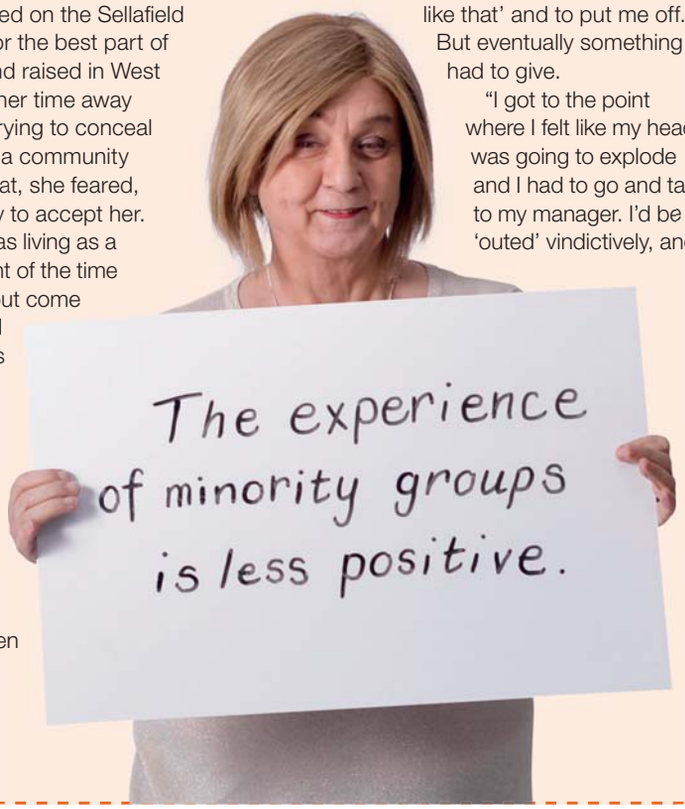
"It feels like after years of hard work we've come so far so quickly. I still get the odd negative comment but people generally are really supportive and I'm a positive person so I don't let it get to me. If there is bigotry, I ignore it, because you'll always get a little bit of that but the positives outweigh the negatives so much.

And Andi herself has seen a big improvement in her working life.

"My performance at work has improved and I've got so much confidence. I've completed a project management qualification which I'd never have even dreamt of applying for, and I've become a rep for Prospect Union — which has seen me speaking in front of hundreds of people at conferences, representing the Union on LGBT matters. I could never have done that before.

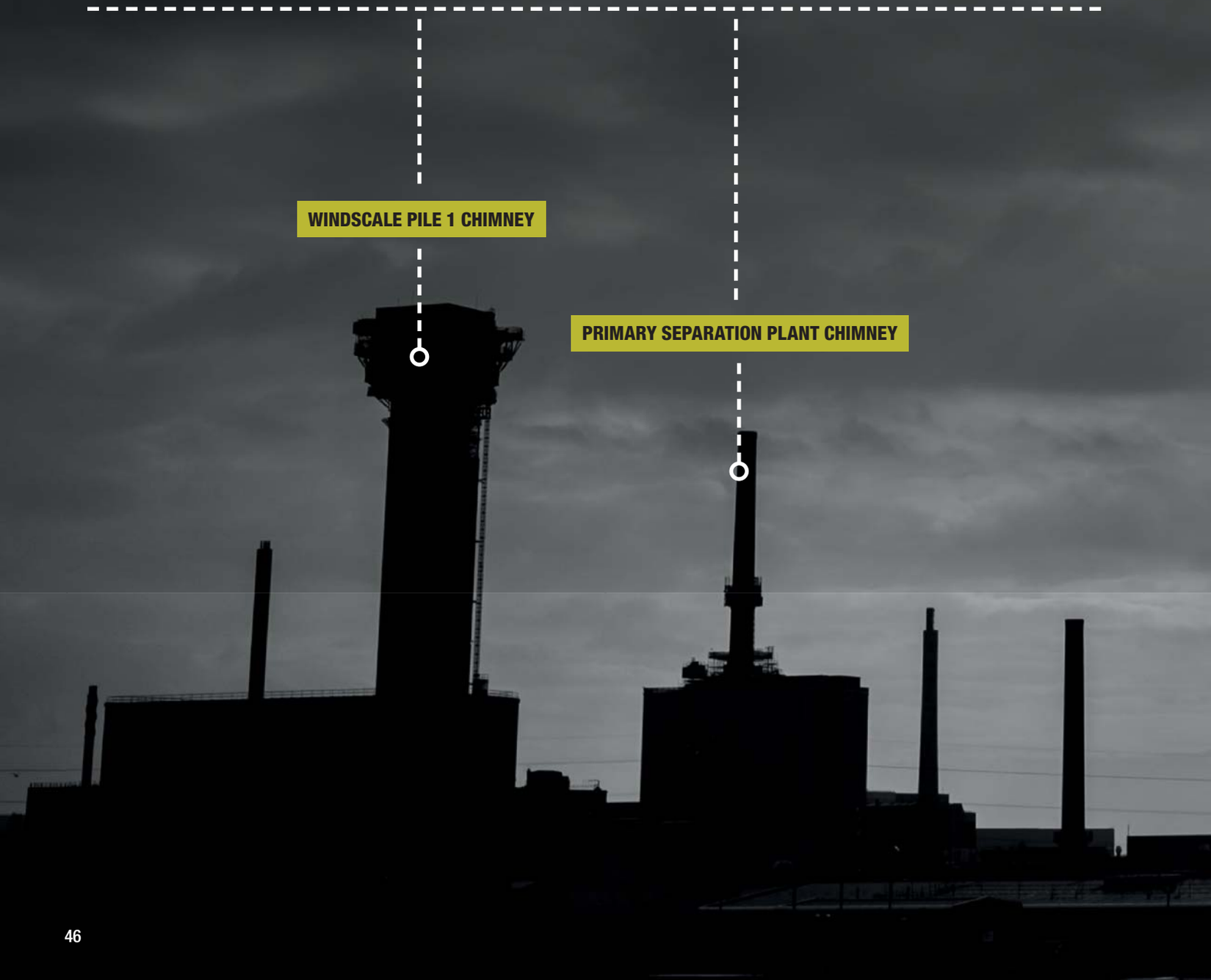
"People have said I'm brave and I always correct them — if I was brave I wouldn't have wasted so much of my life. If I had one regret it would be that I didn't do this ten years earlier.

"But my hope is that, because Nicole (another transgender employee) and I have come forward, it'll be so much easier for anyone else in the future to be respected and included at Sellafield." ■



KNOCKING DOWN ICONS

Work to remove two of our most iconic chimney stacks continues.



WINDSCALE PILE 1 CHIMNEY

The next big skyline change gets nearer this year, with work to demolish the former Windscale pile one chimney gathering pace.

The chimney is an icon of the Sellafield site, having been visible since the early days of the Sellafield mission.

Our decommissioning partners ADAPT are installing a new Liebherr tied tower 'super-crane' to aid the removal of this legacy structure. At 154 metres high when fully extended, the crane will be the tallest structure ever seen on the site.

Despite its impressive height, the crane will have a small profile, and will be tied to the stack in three places. This means it's unlikely to be visible until well on its way up the chimney.

Work to install the crane started in January, but like so many jobs on the Sellafield site, is weather dependent. The plan is to install the crane by the middle of this year, but weather delays could see this timescale extended by a number of months.

While work to install the crane takes place, the chimney itself cannot be neglected, and maintenance work is ongoing and planned over the next few months. These will ensure that the project can progress safely.

PRIMARY SEPARATION PLANT CHIMNEY

The 61 metre stack on top of the Primary Separation Plant is currently being removed.

The stack doesn't meet modern safety standards, which means its removal is a priority.

Below a roof canopy, work is undertaken by both specialist machinery and by hand. Operators access the workface via a bespoke self-climbing platform that hugs the stack. As work is completed, the platform is unclipped and moved a metre lower, to allow access to the next section.

To date, the team have removed around 4 metres of chimney and flue lining. We expect to complete demolition by spring 2020.

"The way we're demolishing the chimney sounds simple – conventional construction techniques will be used to cut the structure into large blocks, and these will then be removed using the tower crane.

"However, the geography and complexity of the Sellafield site makes the job a challenging one. The huge crane needs to avoid other high risk activities and facilities, and its height and scale meant that the piling into the ground was necessary."

Dave Tyson, Sellafield Ltd project manager

CELEBRATING 10 YEARS of Technical Specialist Trainees (TSTs)

NAOMI BUTLER

1st YEAR

Background:

Experience in care homes. Whilst doing that, and an NVQ in care and social work, I knew that my interest lay in maths and science.

From a first day that never happened to a first year full of experiences, technical specialist trainees past and present meet up to compare notes as the scheme celebrates its 10th anniversary…

It's just over 10 years since the first technical specialist trainees, better known as TSTs, started their careers at Sellafield.

The **Technical Specialist Trainee (TST) scheme** was created by Sellafield Ltd and training organisation Gen2 to develop advanced technicians with experience in nuclear plant operations, coupled with graduate-level engineering knowledge. Since then, nearing 160 trainees have been through the programme.

JAMES DE WOLF, one of the first trainees and **NAOMI BUTLER**, who has just completed her first year on the scheme, discuss their experiences and why they took this apprenticeship route. Both James and Naomi deliver work supporting high hazard and risk reduction across our legacy facilities.

Routes into the workplace can be less than straightforward and for former trainee James, the drive to work can be even more so.

JAMES DE WOLF

10th YEAR

Background:

I studied maths, physics, art and music at A-level. It was a relative who spotted the article in the newspaper advertising the course and encouraged me to apply.

HOW DID YOU GET INVOLVED IN THE SCHEME?

James: I studied maths, physics, art and music at A-level. I'd applied to do an Automotive Design degree at Loughborough University – to draw and design cars. I'd never heard of Gen2 or the TST scheme. It was a relative who spotted the article in the newspaper advertising the course and encouraged me to apply. I was called for an aptitude test and interview and got through. I saw it as a risk at the time but I decided to go for it and travel each day rather than move away. It also appealed that I would get a salary while working. Some of the appeal of university is to go away; I saw this as the best of both worlds. I was able to stay at home with family and friends but get qualifications and new experiences. It was good to be one of the first eight students on the scheme; we developed with it. I won't forget my first day – well second day as the first one I want to forget. On the way to Sellafield my car went into a deep pot hole and resulted in two burst tyres. I and two other TSTs had to wait for the recovery van and didn't make it to our first day. Not the best start. Fortunately things have gone smoother since then.

Naomi: I took a gap between leaving school and joining the apprenticeship (three years) so I was a bit older than the others on the course. Initially I wanted to go into care work and applied to uni to do nursing.

Immediately I felt I needed more hands-on understanding so I dropped out to get experience in care homes. Whilst doing that, and an NVQ in care and social work, I knew that my interest lay in maths and science. I knew about the TST scheme but I didn't think I was clever enough to pass the aptitude tests. I gave it a go… and here I am. Our intake was 30 – a lot more than yours James so we were split into two groups.

> "It's such a great opportunity to get a salary while you're working, picking up experience and getting a degree qualification."

WHAT KIND OF WORK DO YOU DO?

J: Originally I worked as process engineer and technical specialist on Sellafield MOX Plant until its closure and then in Spent Fuel Management. I now work in Decommissioning supporting high hazard and risk reduction work across the legacy areas as a senior nuclear strategy and technical advisor.

N: I've just completed the first year on the degree apprenticeship scheme on the nuclear pathway (nuclear scientist/nuclear engineer). I'm currently working with legacy ponds and silos, in the improvements team. The improvements area is interesting; I'm looking forward to moving into Operations and getting more hands-on plant experience. You get a big say in your development. You say what your interests are and your manager tries to guide you in the right direction and make it happen.

HOW DID YOU COPE WITH ALL ASSIGNMENTS, WORK DEMANDS AND COLLEGE?

J: There is a lot of work. It's difficult and you do have to spend extra time at college and at home to get the work done. You can work out with your line manager and get the balance right. The project degree in your final year is a significant piece of work but it's a great sense of achievement when it's completed and you present it to management. For my honours degree, the project I delivered was about getting more material into packages for long-term storage. It was really interesting and a valuable piece of work as the fewer packages that are needed, the fewer stores we need to build. It's good to do work that is making a difference.

ARE YOU STILL INVOLVED IN THE TST SCHEME?

J: Yes – I mentored a student through his foundation degree, to give guidance and answer questions, and meet up if needed. I have also been also involved in the aptitude and interview process as well for TSTs. I went along to the recent 10-year celebratory event. It was great to meet up with trainees from the different years and those involved in the interviews and tests.

N: It was a really good day. I presented at the event – a view from new starters on challenges and opportunities. It was good to mix with others. I think it's important to get involved and push yourself. You can be given so much and then it's up to you what you make of it. TSTs are now on Sellafield's apprenticeship council; it's good to have a voice, raise improvements and questions that others want asked.

WHAT ADVICE WOULD YOU GIVE TO ME AS A FIRST YEAR?

J: Because we were the first people on our course, we were scared to ask for help. There were teething problems as you'd expect with anything when starting up. Through the years as people raise issues, challenges, you flag these up and changes get made. If you feel you're not based in the right area or not getting support, haven't got a good enough project for your degree etc., have the confidence to speak up, to say, this isn't relevant to me.

N: Yes – there's really so much opportunity, if you're willing – Sellafield can only do so much. It's good to grab the opportunities, speak to others like we're doing today, and get involved. I'm looking at becoming a STEM (science, technology, engineering and maths) ambassador. Former TSTs have represented apprenticeships on a national scale. That's a fantastic opportunity for personal development and to help others who are making decisions on their careers – to show others what it could mean for them.

WOULD YOU RECOMMEND THE APPRENTICESHIP TO OTHERS?

N: Yes. I'm really enjoying the course. When we started you do a bridging course for the first few months. This is really good as you touch on different areas such as mechanical engineering, electrical and chemical engineering as well as nuclear and quality – you get a good foundation. It really helps bring the likes of me, who'd been out of education for a few years, up to speed. There are different pathways now; as the scheme has developed it's grown more specialist areas such as quality and ICT. It's good to get on site knowledge whilst doing your course; it's a high calibre course. More could be done in schools to highlight the value of the apprentice scheme/

degree apprenticeship. I felt in my case that the steer is still towards university.

J: Absolutely. I'd say it's a no-brainer; go for it. It's such a great opportunity to get a salary while you're working, picking up experience and getting a degree qualification. Also, while you're learning that goes towards your accreditation memberships, in my case, IChemE. My cousin is applying this year as he's seen how well I'm doing.

WHAT ACHIEVEMENTS ARE YOU MOST PROUD OF?

J: Getting a first class Bachelor of Engineering Degree with Honours in Nuclear Plant (Operations and Process).

When I started my manager gave me a copy of 'Spreadsheets for dummies' – to help with work I was doing. I'm now setting up a centre of expertise in this area and am 'a go to' person on site for this; I'm proud of that.

In 2012 I went on a two month expedition across the Empty Quarter (Rub Al Khali) Desert and Wadi Sayq in Oman, one of the most uninhabitable places in the world. The expedition was to determine the presence of the critically endangered Arabian Leopard, which proved to be successful. I presented the outcome of the expedition to the Omani government and recommended by the British Schools Exploring Society (BSES) to become an Expedition Leader. It was great for my personal development and an experience I'll never forget.

N: I was involved in a 'loss logging' project to capture equipment downtime. I helped create a database and was part of an improvements team that eventually led to the development of a training package for a masting operations on a skip handling machine. This project went on to win a Sellafield Ltd Transformation award last year. I'm proud to have helped towards this.

WHERE WOULD YOU LIKE TO BE IN 10 YEARS' TIME?

J: I want to keep developing. I'd like to follow the specialist development route at work rather than the manager route. I'm interested in expanding the work I'm doing on $3m^3$ boxes (waste storage boxes for future retrievals) around the detail and the design of these. I've relocated to Hinton House at Warrington but I regularly travel to Whitehaven on the company bus service between sites.

N: Hopefully I'll have my degree and still work at Sellafield. I'm interested in mentoring TSTs, and helping others with the experience I've gained. And I want to be doing a job I like. I'm unsure what that'll be, fingers crossed.

J: I'm happy to mentor you Naomi and discuss your project with you when you come to do it. It's all about helping each other. ■

TST/degree apprentice scheme

The degree apprenticeship nuclear is currently sponsored by Sellafield Ltd, Morgan Sindall, Balfour Beatty and Jacobs. It is delivered by Gen2 and validated by the University of Cumbria.

The aim of the programme is to provide industry with highly skilled and qualified technicians and engineers with strong academic ability in science and engineering complemented by extensive on-plant experience.

15
firsts BEng Hons

34
Distinctions at Foundation Degree level

50%
Almost 50% split male/ female apprentices

11 cohorts

159 trainees

146 retained (92%)

7 pathways
There are now 7 different pathways available. These are: technical, operations, scientific, quality, design engineer, ICT and civil asset management

Level 6
Led the development of a nationally recognised Level 6 (BEng/BSC Hons apprenticeship in Nuclear (2014)

2007
scheme launched (first trainees on Sellafield site January 2008)

One
of the first employers in the UK to implement a Degree apprenticeship

97%
Over 97% of applicants were recruited from within Cumbria

Making complex simple

In the year that Men Behaving Badly hit our screens and Boys II Men declared the End of the Road, it was truly the start of a new direction for a freelance graphic designer working from his spare bedroom, after picking up some small projects for British Nuclear Fuels at Springfields. A quarter of a century later and we are just one of the complex industries supported by Preston based SME, Forepoint.

With miles of security fences, an armed police force and civilian guard force in place, Sellafield is not the easiest place to get into. The challenge for our corporate affairs team is to take the work we do at Sellafield and make it as accessible as possible. *Sellafield Magazine* is just one of the ways that we do that, and we couldn't make the publication without the help of the team at Forepoint.

The site's relationship with Forepoint first started in 1992 when entrepreneur freelance designer Simon Bailey worked with British Nuclear Fuels at Springfields. Forepoint director,

"The way that we work with Forepoint is a true collaboration"

Steve Gill, explains: "It is what everyone starting a business needs, their first break. To go from those small jobs in the early 1990s to last year being named by Design Week as one of the Top 100 agencies in the UK is a testament to our team's expertise and our undeterred commitment to customer service."

Steve said: "Anyone working in the design industry, or in any industry in fact, will know the importance of a having a great client list. Experience, expertise and track record are what influence others to work with you.

"Working for BNFL, and now Sellafield Ltd, has enabled us to build up an incredible amount of knowledge on the nuclear industry. Sellafield is highly regulated, has strict security requirements, a wide range of stakeholders and some very complex messages that need to be communicated in a highly engaging, understandable and accessible way. As a result of our work with them, we've become experts in making a very complicated story, simple.

"Without a shadow of doubt, it's these skills and abilities that have helped us to attract so many other complex organisations, with their own communications challenges. Sellafield Ltd continues to be an important client for us, but we do not rely on the company. Historically they represented 50-60% of our business but thanks to our diversification programme it now accounts for only 20-25%."

That diversification includes the likes of AWE, BAE Systems, Dominos Pizza, DXC Technology, Madame Tussauds, Moto Hospitality, RAC, Redrow Homes, Rolls-Royce, Royal Navy, Scandit, and Tata Steel.

Head of corporate communications, Emma Law, said: "The way that we work with Forepoint is a true collaboration, they are very much an extension of my team. As well as *Sellafield Magazine*, they support us with branding, exhibitions, printed literature and much more. From posters designed to encourage our employees to submit their innovative ideas for improvement, to the design of the totems at our site gates, they have helped us to engage with internal and external stakeholders.

"They also worked with us to create and install the Sellafield Story exhibition in the Beacon Museum, Whitehaven which was described as 'simply, a wonderful experience' by Professor Brain Cox when he opened the exhibition in 2014. Our contract with Forepoint includes an expectation that they will create a positive social impact as a result of the work they do with us, and through this arrangement the team has provided additional support to the museum team including building a new museum website." ■

"Our business really has come of age, during our successful working relationship across the nuclear sector, from the early days of supporting BNFL through to our very collaborative working process with Sellafield Ltd as they are now. Over this journey we have amassed a wealth of experience in dealing with complex communication challenges. These proof-points have been crucial in qualifying our capability and has enabled us to diversify to support other industries and clients with equally complex challenges and needs."

SME FACTFILE:

Forepoint 25

Located: Preston & London

Founded: 1992

Number of employees: 21

Turnover: circa £1.5m

Specialities and services:

Forepoint is a supplier of design and digital solutions: website and ecommerce (design, build and hosting), apps, exhibitions, banner stands, identity & branding, internal and external campaigns, advertising campaigns, video, animation, augmented reality, 3D rendering, brochures, annual reports, direct mail, presentations and much more.

Accolades:

- RAR Recommended
- Design Week Top 100
- The Drum Top 100
- Prolific North Top 50
- RAR Awards winner
- CIPR Excellence Awards winner
- IoIC National Awards – Award of Excellence
- BIBA Small Business of the Year (shortlisted)
- Northern Digital Award (finalist)
- RAR Award (finalist)
- CiB Awards winner

Accreditations:

- ISO9001: 2015
- Cyber Essentials Certified
- Founding Member Digital Lancashire

Website:

www.forepoint.co.uk

FROM THE
ARCHIVES

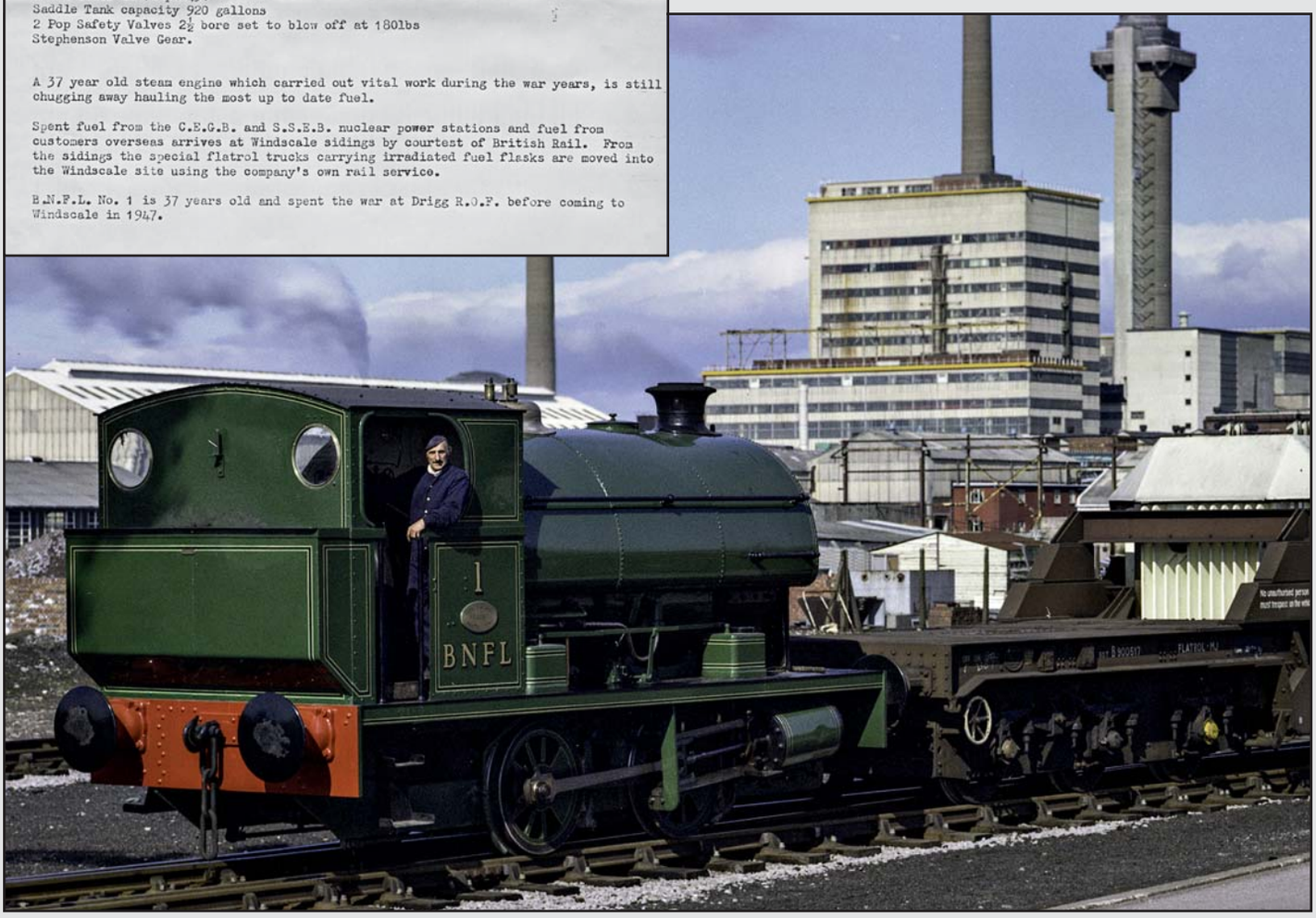
DETAILS FOR THE ENTHUSIAST

Makers: Peckett & Sons Limited Bristol Year 1942
Reg No. 2027
Height 11'5"
Width 8'2"
Length over Buffers 23'5"
Wheel Base 5'6½"
Wheel Radius 3'3"
Radius of Curve 50'
Cylinder Box 14"
Length of Stroke 22"
Classification 7 Saddle Tank
Type 0-4-0 Side Valve
Unladen Weight 24 tons
Working Weight 30 tons
Boiler 12 gun metal plugs 124 tubes
Tube Plate ⅝" thick Tubes 9'8" in length
Tubes 1¾ outside bore. Tube thickness 11 guage
Heating surface 540sq. ft. Fire Box 63 sq. ft.
Grate area 9¼ sq. ft. Total 603 sq. ft.
Boiler pressure 280lbs
Traction Effort 85% Pressure = 17140lbs.
Load:- Gradient 1:60 265 tons
Gradient 1:80 359 tons
Gradient 1:100 640 tons
Gradient level 830 tons
Horse Power at 10mph 456
Saddle Tank capacity 920 gallons
2 Pop Safety Valves 2½ bore set to blow off at 180lbs
Stephenson Valve Gear.

A 37 year old steam engine which carried out vital work during the war years, is still chugging away hauling the most up to date fuel.

Spent fuel from the C.E.G.B. and S.S.E.B. nuclear power stations and fuel from customers overseas arrives at Windscale sidings by courtest of British Rail. From the sidings the special flatrol trucks carrying irradiated fuel flasks are moved into the Windscale site using the company's own rail service.

B.N.F.L. No. 1 is 37 years old and spent the war at Drigg R.O.F. before coming to Windscale in 1947.



Train – BNFL No.1

A Beecroft and Sons locomotive from the 1940s is pictured here still working hard in 1979.

the original

NORTHERN POWERHOUSE

We recently became an official partner of the Government's Northern Powerhouse programme, a high-profile initiative established to redress the North-South economic imbalance and to attract investment in skills, innovation, transport and culture into northern cities and towns. On the next page we ask our head of Development and Community Relations, **Jamie Reed** and Northern Powerhouse Partnership Director, **Henri Murison** for their views on the Northern Powerhouse, our involvement and how Cumbria can benefit from this government vision.

AN INTERVIEW WITH

Jamie REED

HOW LONG WERE YOU AN MP AND WHY DID YOU GET INTO POLITICS?

I was an MP for 12 years representing the constituency of Copeland, the area I was born and raised that features the UK's deepest lake, highest mountain and the biggest nuclear facility in Britain, Sellafield.

I put all my energy into providing the best service possible to the Labour party, and was very vocal in the support of the rural and remote communities, including West Cumbria, campaigning for a number of key strategic imperatives such as improvements to health and education, better infrastructure and, of course, support for the nuclear industry.

I ultimately left politics to join Sellafield Ltd because I wanted to play a bigger role in the community I represent. I believe there are real barriers to progress on a lot of issues in parliament at present, and leaving Westminster provided an opportunity to go back to an industry I've always cared a lot about and do more for the community I live in.

IS YOUR BACKGROUND IN THE NORTH I.E. DID YOU GO TO SCHOOL/UNIVERSITY IN THE NORTH?

I attended Whitehaven School, then studied English at Manchester Metropolitan University before gaining an MA in mass communications at Leicester University. I've previously worked for BNFL as a press officer in Cumbria, and was a Labour Group advisor for Cumbria County Council.

WHY/HOW DID YOU BECOME INVOLVED IN THE NORTHERN POWERHOUSE?

You only have to look at some of the key milestones in our history to realise that we are the original Northern Powerhouse. For example, we produced material for the UK's nuclear deterrent, carried out research and innovation at the site that gave birth to the civil nuclear industry, hosted the first commercial scale nuclear power plant, the list goes on.

We now employ 11,000 people, receive funding in the region of £2bn a year, are home to more than 200 nuclear facilities and host the largest inventory of untreated nuclear waste in the world. The company and its supply chain are tackling Sellafield's portfolio of decommissioning, reprocessing, spent fuel management, nuclear waste management and material management.

> "You only have to look at some of the key milestones in Sellafield Ltd's history to realise that we are the original Northern Powerhouse."

Our vision fits closely with the aims of the Northern Powerhouse, such as improving connectivity and transport to enable future growth, work on skills, science and innovation leading to export opportunities. Together with the other partners, we will work to help make the Northern Powerhouse a reality.

We are a major industrial player with fantastic skills, technology and buoyant supply chain. It is important for our future that we broaden understanding of our mission and our contribution to the regional and national economy.

HOW DO YOU FEEL GOVERNMENT, BUSINESS AND OTHERS CAN SUPPORT THE NORTHERN POWERHOUSE?

I believe collaboration and partnership across government, industry and communities through initiatives like the Northern Powerhouse is the best chance of realising the Northern Powerhouse ambitions. For example, in Cumbria I want to see the economy diversify and have greater private sector involvement. In future I'd like to see dependence on Sellafield's dominance of the local economy reduced. Because of the work we've done, because of the partnerships we've created we're aiming for a much bigger, diverse and more sustainable private sector economy in Cumbria.

I don't think that there is a magic button in Westminster anybody is going to push to solve all our problems. The Northern Powerhouse initiatives have got to be solved on the ground. Working in partnership with the community – like we are doing – you can improve education, develop entrepreneurship, attract new investment etc.

HOW DO YOU SEE CUMBRIA BENEFITING FROM THE NORTHERN POWERHOUSE AND HAVING A VOICE, ESPECIALLY WITH MAJOR NORTHERN CITIES AND REGIONS HAVING HIGH PROFILES?

As previously stated, it's down to companies like ourselves and the community to make sure that we have a voice that will result in the creation of a stronger sense of place.

We are doing our bit through changing the way we do things on the site; changing our organisation and our structure; working with our partners more; involving our supply chain and delivering more value for money than ever before that's resulting in increased performance.

AN INTERVIEW WITH

Henri MURISON

HOW LONG AND WHAT ROLES HAVE YOU HELD WITHIN AND OUTSIDE OF GOVERNMENT?

Over the last decade, I have worked at senior levels across the voluntary sector, local government and business. Having worked for the Labour Party, I went on to work in policy in the voluntary sector. I also held senior positions at Newcastle City Council where I was part of the Cabinet there. My quality of life portfolio included transport and the environment, housing and community safety.
I went on to work as Research Director at the Office of the Police & Crime Commissioner for West Yorkshire and, most recently, I led on Public Affairs at the Yorkshire Building Society where I helped to make the Bradford-headquartered mutual a leading voice on Northern investment and infrastructure matters.

IS YOUR BACKGROUND IN THE NORTH I.E. DID YOU GO TO SCHOOL/UNIVERSITY IN THE NORTH?

I went to school in Boroughbridge and Harrogate in Yorkshire, and after graduating from the University of Cambridge with a degree in Social & Political Sciences, I returned to the North.

WHY/HOW DID YOU BECOME INVOLVED IN THE NORTHERN POWERHOUSE?

I have a passion and true commitment to the North, and now I'm helping achieve the Northern Powerhouse vision, I am leading the efforts to make a success of it. To make us as prosperous as the south, to contribute to our global success as a country.

My colleagues and I are bringing the North together and driving the North's ambitions, focusing on key issues such as education and skills, connectivity and how the North can lead the next Industrial Revolution. It's a real honour to be the first permanent Director of the Northern Powerhouse Partnership.

One of our key focus points is, of course, for the North to be more competitive and urgent attention must be given to improving the performance and aspiration of the North's schools; the quality of support for people to re-train once in work; the transport infrastructure that connects key Northern cities and Manchester Airport to access the world, as well as all our connections for freight and roads east to west; our digital infrastructure, such as fibre and mobile connectivity; attractiveness to business investment; and the overall level of ambition in its decision making.

"I have a passion and true commitment to the North, and now I'm helping achieve the Northern Powerhouse vision, I am leading the efforts to make a success of it."

HOW DO YOU FEEL GOVERNMENT, BUSINESS AND OTHERS CAN SUPPORT THE NORTHERN POWERHOUSE?

As Jamie states, collaboration and partnership is crucial, and I am working alongside a diverse and passionate Board of senior Northern businesses and civic leaders.

Most of the change we need we can lead for ourselves. Businesses like Sellafield have, with their supply chain, demonstrated how world-leading knowledge developed here in the North can be exported and change the way we meet our energy needs globally. We need investment in railways and roads, of course we do. But as businesses we need to help find ways to contribute to the cost and how best to do it, so we can bring forward improvements to benefit business growth sooner.

HOW DO YOU SEE CUMBRIA BENEFITING FROM THE NORTHERN POWERHOUSE AND HAVING A VOICE, ESPECIALLY WITH MAJOR NORTHERN CITIES AND REGIONS HAVING HIGH PROFILES?

Cumbria is integral to the Northern Powerhouse – from West Cumbria at the forefront of energy to Carlisle as the gateway to the borderlands with Scotland. It is vital to have a network to bring cities like Sheffield, Manchester and Leeds closer to each other – but Northern Powerhouse Rail must also bring them all closer to Carlisle. Much of the economic growth the North must achieve will come in sectors like energy and advanced manufacturing, which are often outside the largest cities. It is vital that those growing up here today can access world-class opportunities, such as the National College for Nuclear in Lillyhall, and be aware of and have access to what the rest of the Northern Powerhouse can offer them beyond Cumbria.

It is hard enough to cross from one side of the county to the other – we will fix that, so it's easier to live and work around the North than it has ever been before. ■

Top Left: An operator working at the Waste Vitrification Plant.
Top Right: A vitrified product container ready to be monitored before being sent to the Vitrified Product Store.
Above: Vitrified waste is returned to its country of origin through the Vitrified Residue Returns programme.

IN FOCUS:

High Level Waste Plants

Our high level waste plants are a suite of facilities that manage the most hazardous by-product of spent nuclear fuel reprocessing. They take this product and make it as safe as possible before it is either returned to its country of origin or is stored prior to eventual deep geological disposal. The importance of this work, and each of the facilities doing this, cannot be understated.

Sellafield's vitrification journey actually started in the late 1970s when a small BNFL design team followed the French lead in exploring the possibility of converting highly active liquor into glass. Whilst we initially developed our own process and test rig, we eventually settled on the French technology, and construction of the waste vitrification plant began in 1983.

THE WASTE VITRIFICATION PLANT

Manufacturing lines 1 and 2 started operation in 1990, while a third, more modern vitrification line was completed in 2002 and entered into full operation in 2004.

Vitrification is a crucial part of our approach to reducing hazards on the Sellafield site by converting highly active liquor into a much more stable, solid glass for long term storage at Sellafield until a long term solution and location for the waste is identified.

The recipe for the glass includes glass frit and sugar along with the liquor which is first dried out in a rotating oven called a calciner. These ingredients are tipped into an electrically powered melter operating at a temperature of around 1200ºC to create the liquid glass. This molten glass is poured into product containers at regular intervals and allowed to solidify.

Once filled, product containers are seal welded, decontaminated, monitored and transferred to the Vitrified Product Store, for interim storage or pending export to reprocessing customers through the Vitrified Residue Returns programme.

The technology behind vitrification was developed and tested in France at the Marcoule site before being adapted for use here at Sellafield. The early adoption of such technology was innovative and allowed us to manage our highly active liquor stocks, but it was also embryonic. The complex chemistry involved in the process, coupled with the harsh operating conditions for the equipment have contributed to extended plant down time. These, alongside the challenges of adapting the French plant, have meant performance has never matched the predicted output levels.

THE VITRIFIED PRODUCT STORE

Once clean containers of vitrified waste are produced, they are transferred to our 8,000 capacity store, located adjacent to the vitrification plant.

The containers are kept in storage prior to being returned to their country of origin or eventual disposal in a geological disposal facility. Each container generates around 2kW of heat (the equivalent of a small room heater), so air flows over the channels to cool the containers by natural convection. This means that there is no contact between the cooling air and the containers – ensuring safety.

THE RESIDUE EXPORT FACILITY

Taken into active commissioning in 2008, the residue export facility enables us to safely export containers of vitrified waste to their country of origin.

This is the final step in the spent fuel cycle, and ensures we're able to meet both our contracting obligations and UK government policy, which states that waste from reprocessing contracts signed since 1976 should be returned to the country that benefited from the reprocessed fuel.

The facility was designed to be able to accommodate different styles of transport flasks, and to meet the requirements of our overseas customers who inspect flasks and containers prior to transportation.

THE VITRIFIED RESIDUE RETURNS PROGRAMME

This programme returns the waste to its country of origin, and requires close collaboration between ourselves, International Nuclear Services, Pacific Nuclear Transport Ltd and our owners, the Nuclear Decommissioning Authority, along with the nuclear operators and governments of those countries.

The programme's maiden voyage took place in 2010, with 28 canisters of higher activity waste being returned to Japan. A further eight transports have since taken place, with another eight planned before the programme in completed in 2025/26.

By the end of the programme, waste will have been returned, by sea, to Japan, Australia, France, Germany, Italy and Switzerland.

Above: One of the manufacturing lines where the highly active liquor is mixed with glass.

Below: The containers are kept in storage in the Vitrified Product Store.

Each container generates around 2kW of heat (the equivalent of a small room heater), so air flows over the channels to cool the containers by natural convection.

Top Left: Vitrified containers stored in our 8,000 capacity store.
Top Right: The Waste Vitrification Plant started operating in 1990.
Bottom Right: Clean waste containers ready for export to the store.
Above: A transport flask containing vitrified waste outside the Residue Export Facility, awaiting transportation to its country of origin.

THE FUTURE

Vitrification allows us to reduce our stocks of highly active liquor. As this our most hazardous product, this is our priority. However, even when this is done, there will still be a job to do.

In fact, our high level waste plants will deliver hazard reduction long beyond the end of reprocessing. The next step after reprocessing will be to vitrify the liquor that has been used to clean out our reprocessing plants – Thorp and Magnox.

After this, we will vitrify any liquors arising from the post operational clean out of the evaporation facilities.

Until this point, we are working hard to ensure we deliver the throughput required from our ageing vitrification lines. To do this we have to either increase productivity or availability. This is especially important as the feeds we will receive in the future will be more diluted, which would mean we have to work our lines harder and increase the feed rate to fill the containers at similar rates.

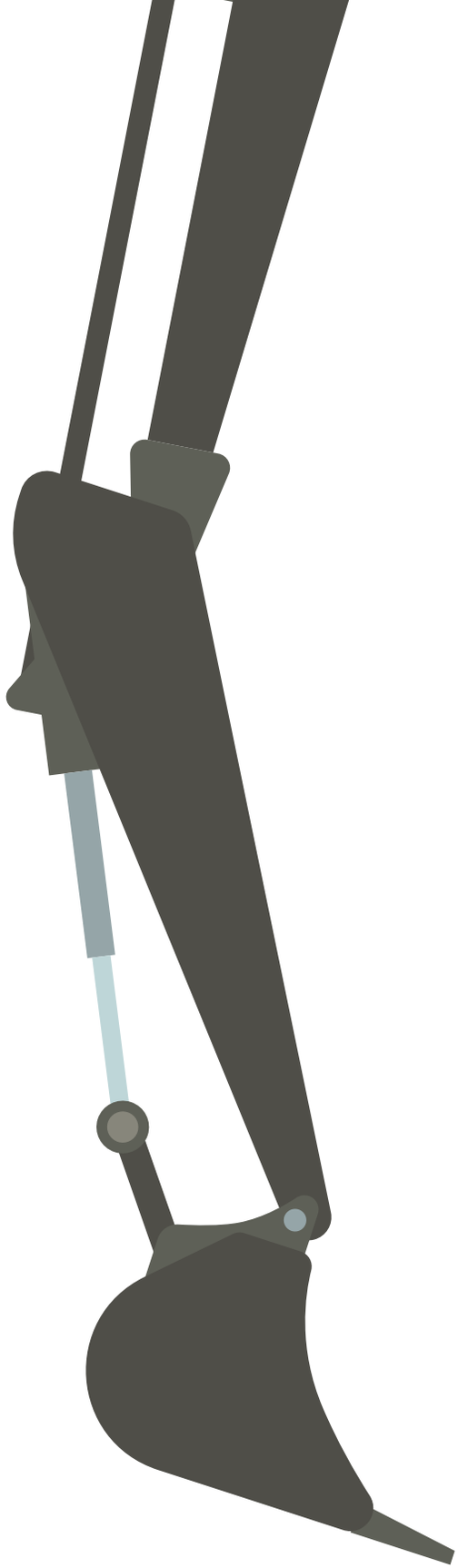
All of these clean out liquors will have a different chemical makeup to those which came from reprocessing. Those liquors from the post operational clean out of the highly active storage tanks will include solids that must be vitrified.

These solids will react differently, and less favourably, with the glass we currently use, which means we've spent time working with both the National Nuclear Laboratory and our glass suppliers James Kent Group plc to come up with a new formulation, which avoided the need for changes to the operating kit in the plant.

It's not until the late 2030s that our vitrification plant will have completed its crucial job, and only then can we start to decommission the plant and give it the retirement it will so sorely deserve. ■

DELIVERING DEMOLITIONS

As time moves on, our mission will increasingly be focused on the clean-up of the Sellafield site, and the management of the wastes this creates. One of the challenges of this is that the demolition of our facilities is expensive work and is difficult to fund within annual budgets. With that in mind, we are developing a new contracting approach, and central to this is forging a different relationship with our supply chain.



Cleaning up the Sellafield site will take a century. With more than 1,000 buildings, including hundreds with a nuclear inventory, plans to remove these have to be carefully planned – recognising that finite funding means that some facilities will be more of a priority than others.

Traditionally, larger or more complex facilities might actually not be demolished quickly, because the cost would be more than the funding we have available for this work at any given time. But despite this, we still have care and maintenance costs to keep these facilities safe.

This is why we've developed a new contracting approach which helps address this problem. Outcome based contracting is a mechanism that empowers our supply chain to lead project delivery, enabling faster remediation of the Sellafield site.

John Grace, Sellafield Ltd project lead said, "This approach is based on developing a shared purpose with aligned outcomes, which the supply chain are free to deliver. Rather than direct the supply chain on how to undertake the work, we instead let them come up with the best solution, at their own risk. Our role is instead to enable and support the supply chain in developing and delivering this."

The first project to be undertaken in this way is the demolition of the former Windscale blower house. This is being delivered by the consortium, Cumbria Nuclear Solutions Ltd.

Mark Denham-Smith from Shepley, one of the consortium partners, said: "This project is progressing well, and I firmly believe this is due to the close working relationship all partners have developed. We're all working to deliver the same end result, for the benefit of the Sellafield mission and our respective companies."

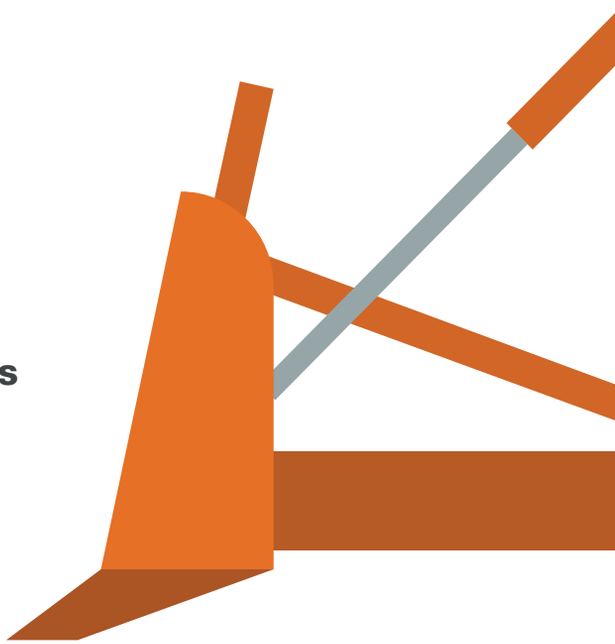
The project was split into two phases – Phase 1 was developing the concept design and fully understanding the scope, this took four months to deliver; Phase 2 is the delivery of all remaining project outcomes under a fixed-price contract and is on schedule for completion in September 2019.

Payments are only made once tangible benefits have been delivered. This means there will be a pre-determined payment once the maintenance burden of the blower house has been removed (the old building has gone), rather than the 'old' approach of paying out for each of the individual steps along the way.

This allows us to spread the cost over an agreed period of time, rather than the traditional model of projects being more costly at the start (when more work is under way).

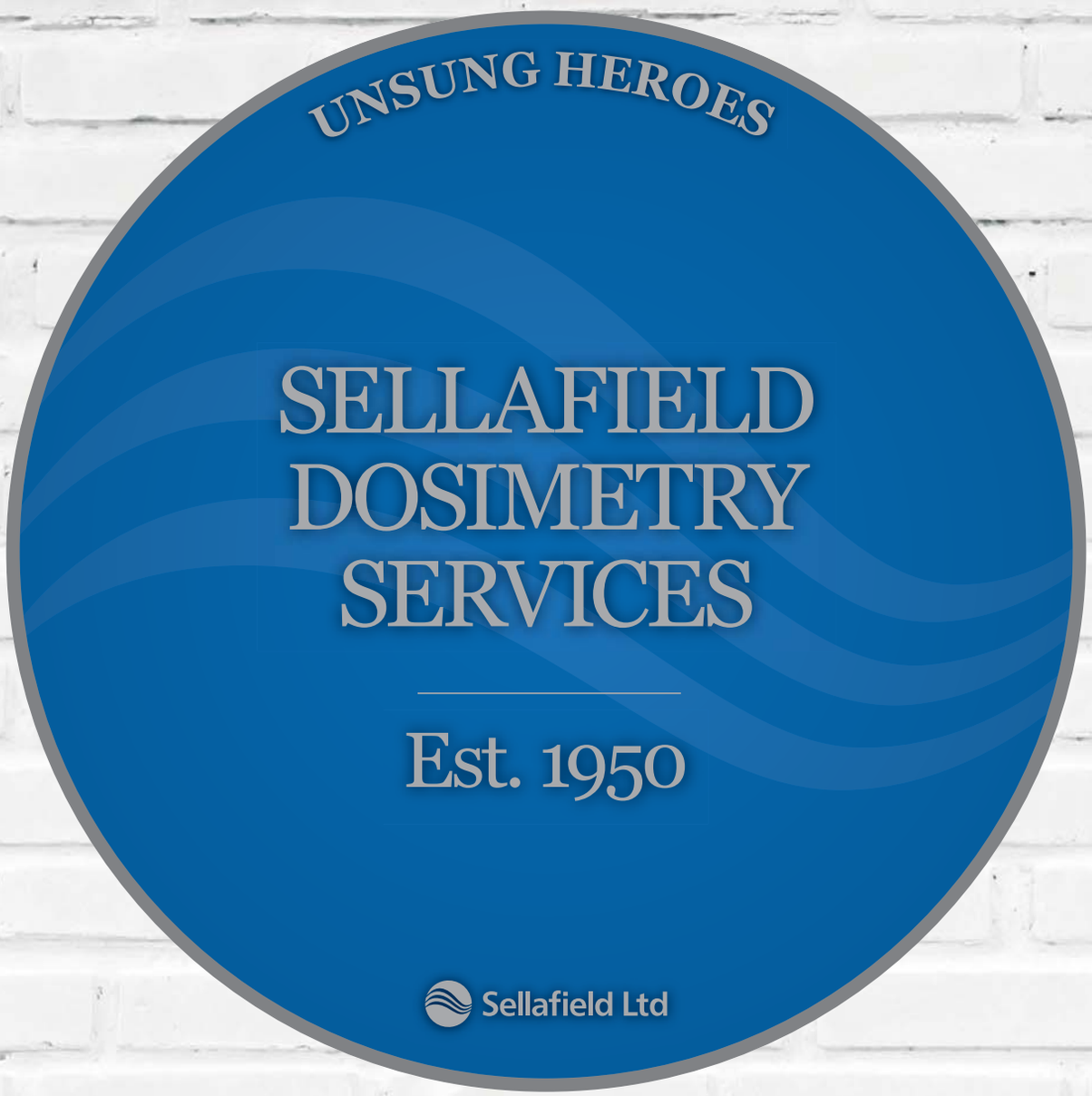
Paul Botterill, from React Engineering, another of the consortium partners, said: "From the very beginning, this project has been very different from others we've been involved in at Sellafield. Roles and accountabilities are clear, which means that we have been allowed to get on with developing a demolition solution that works. I look forward to continuing this working approach in the future, as it is clear that it delivers for everyone."

Outcome based contracting will be used to deliver further remediation work on the Sellafield site, including the demolition of one of the former Calder Hall turbine halls. This will free up spaced needed for the creation of a new effluent management plant. ■



"This project is progressing well, and I firmly believe this is due to the close working relationship all partners have developed. We're all working to deliver the same end result, for the benefit of the Sellafield mission and our respective companies."

Mark Denham-Smith from Shepley



Our unsung heroes

As a nuclear site a lot of our work at Sellafield, from construction and operations to decommissioning and waste handling, involves people working in areas with the potential for radiation exposure. Anyone working in these areas wears a dosemeter to measure and monitor any radioactive dose. So the team behind ensuring the efficient delivery of this service is a vital cog in our safe operations on site.

Without the services of the Sellafield dosimetry team, the site could not operate.

Workers who are routinely exposed to radioactivity, either by working in the nuclear industry or elsewhere, such as medical workers or aircrew, regularly wear dosemeters to measure and control the radiation doses absorbed.

Every time a worker at Sellafield needs to go to work on plant or in an area where there is the potential for radiation exposure, they need to pick up a dosemeter. This is a personal 'badge' that measures and monitors radioactive dose.

The dosimetry team that organises the wearing, measurement and records from this vital piece of equipment, and other dosimetry services, is central to the radiological protection of our employees. These services check that doses are being kept as low as reasonably practicable and individuals' doses are not being exceeded.

Our head of dosimetry services, Christine Wilson, explains: "It is a legal requirement under the Ionising Radiation Regulations that we monitor anyone entering our controlled or supervised areas. Without any dosimetry provision, work could not take place.

"Over five million dosemeter badges have been processed over the years; around 100,000 each year and biological sampling of the workforce began in 1950 with more than a million results now held in our database."

While dose monitoring began on site in 1950 the way we do it has evolved. Film technology was used until 2011 when we switched over to using a Thermoluminescent dosemeter. One of our old style film badges has literally been consigned to history and sits in the British Science Museum.

The team of 25 is responsible for running five Health and Safety Executive Approved Dosimetry services, providing the full range of dosimetry requirements for the site. This includes external and internal radiation monitoring and dose calculation and the coordination and dose record keeping of around 15,000 radiation workers.

They also deliver a range of services that support radiation protection on site including static air sampling with more than 200,000 papers measured each year covering 80 buildings, and an environmental gamma monitoring service for site assessing dosemeters placed at various locations around the site's perimeter fence.

The team aren't just our unsung heroes. They provide dosimetry services to the National Nuclear Laboratory and more than 300 contracting companies that work at Sellafield, as well as to the Low Level Waste Repository, Springfields Fuels Limited, Magnox Limited, British Energy and Rolls-Royce. ■

BIOLOGICAL SAMPLING

3,000+

samples per year

WHOLE BODY MONITORING

800+

personnel measured each year

STATIC AIR SAMPLING

200,000+

papers measured each year covering over 80 buildings

CO-ORDINATION AND DOSE RECORD KEEPING

15,000

current radiation workers.

ELECTRONIC PERSONAL ALARMING DOSEMETER SERVICE

10,000

issues per week used to monitor and control dose on a daily/task basis.

FROM THE
ARCHIVES

January 1960

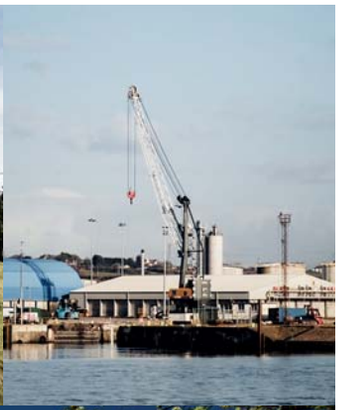
Employees living in the Greengarth accommodation knew how to have a good time! Here is a shot of one of their amateur dramatic performances.

SOCIAL IMPACT

PHOTO FEATURE

In the last issue of *Sellafield Magazine* we interviewed head of community and development, Gary McKeating, on our new social impact strategy. In that feature Gary spoke of the benefits of long term strategic investment in our communities.

From office accommodation and schools to harbour side and town regeneration, the nuclear industry has a proud history of investment in West Cumbria. We take a look at this legacy in photographs…



SOCIAL IMPACT PHOTO FEATURE

EDUCATION

The nuclear industry's investment in West Cumbria's education infrastructure includes financial support as well as the skills and experience of our employees. Examples include Ofsted rated 'Outstanding' West Lakes Academy, Lakes College, Energus, Construction Skills Centre, Project Academy for Sellafield, and the new Whitehaven Campus.


LILYHELL

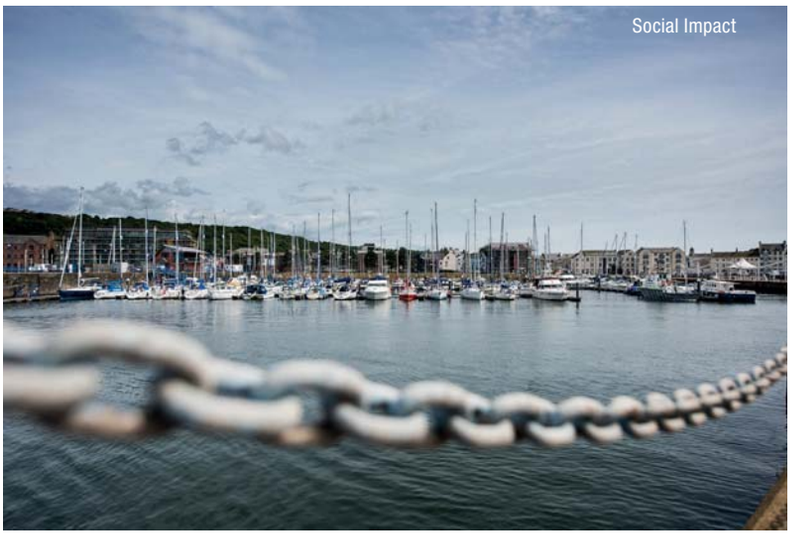

SITE
ENTRANCE


Wates
Wates

SOCIAL IMPACT PHOTO FEATURE

HARBOUR REGENERATION

Via investment in Britain's Energy Coast the nuclear industry supported the regeneration of Whitehaven's marina by funding the installation of floating pontoons.

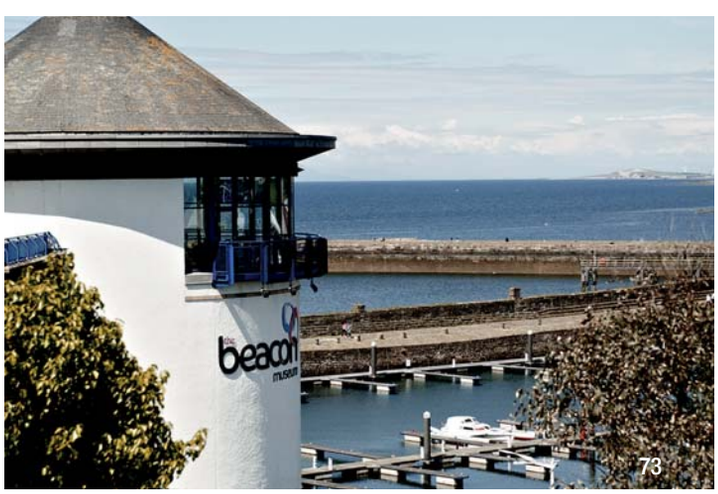



the
beacon
museum

SOCIAL IMPACT PHOTO FEATURE

BEACON MUSEUM

We work in collaboration with Copeland Borough Council on the operation of the Beacon Museum in Whitehaven. The facility tells the story of Whitehaven's industrial heritage and social history and includes a floor dedicated to telling the Sellafield story.



SOCIAL IMPACT PHOTO FEATURE

ALBION SQUARE

The Albion Square office development in Whitehaven town centre is home to more than 1,000 of our employees, presenting a significant economic opportunity for the town. They join colleagues based in the Copeland Centre and the Vertex building.


InterBulk
UBC
PILOT
DERWENT

SOCIAL IMPACT PHOTO FEATURE

PORT OF WORKINGTON

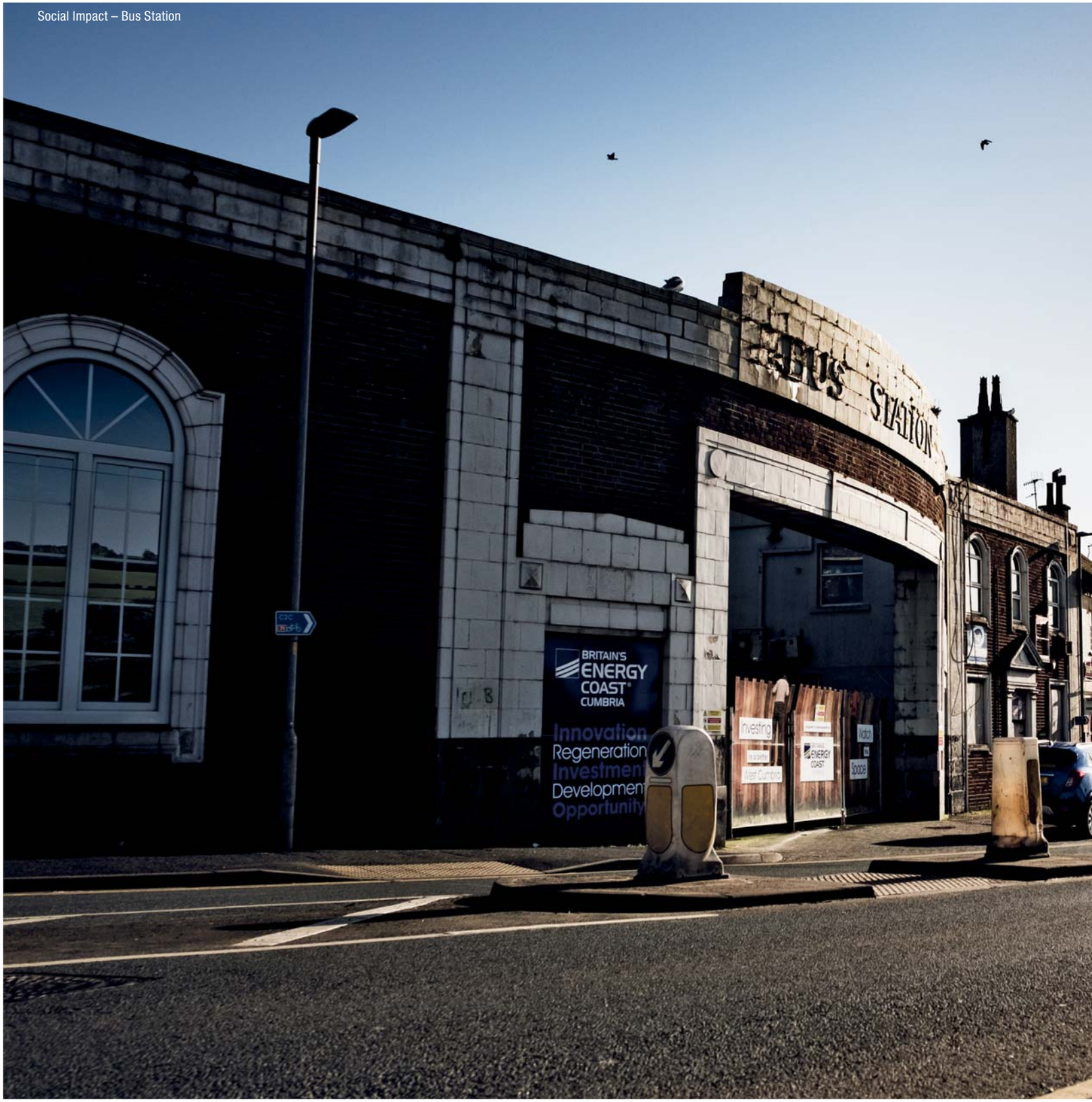
The investment in the Port of Workington created a commercial container handling facility and associated infrastructure, the only such facility between the Clyde and Mersey.


WESTLAKES
SCIENCE AND TECHNOLOGY PARK

SOCIAL IMPACT PHOTO FEATURE

WESTLAKES SCIENCE AND TECHNOLOGY PARK

Sitting on the edge of Whitehaven, the industrial park is now home to the Nuclear Decommissioning Authority headquarters, the Dalton Institute and a host of nuclear and engineering companies.



SOCIAL IMPACT PHOTO FEATURE

BUS STATION

Our latest strategic investment will see a former bus station in Whitehaven transformed into a multi-million pound business hub.

An artist's impression

Working in partnership with developer BEC, we are investing £2.6m to convert a derelict transport exchange into a £4.1m hothouse for tech, digital, media and creative start-ups.

The scheme is being funded by our owner, the Nuclear Decommissioning Authority (NDA) and is part of a wider £300m regeneration of the town led by BEC and partners including Whitehaven Harbour Commissioners and Copeland Borough Council.

The building could be open as early as next year and alongside units for fledgling firms, the plan includes:

- conference and meeting space for 75 people;
- an artisan food and drink outlet, open to the public;
- health and wellbeing facilities.

The project is part of our transformation, which seeks to leverage public and private sector investment to help grow and diversify the west Cumbrian economy.

Our head of development and community relations, Jamie Reed, said: "West Cumbria has always been a crucible of innovation, energy, and ideas. We pioneered the civil nuclear industry and we're leading the world in decommissioning and waste management.

"Now we're positioning ourselves for the next wave of growth in the tech and digital industries. That means unleashing the energy and ambition of local people to innovate, invent, and inspire.

"The bus station scheme will provide the ideal environment for collaboration and creativity, allowing the next generation of tech entrepreneurs to lead our economic renewal.

"This is Sellafield transformation in action – creating partnerships, unlocking investment, and helping to build a diverse and sustainable private sector."

Andrew van der Lem, of the NDA, said: "This is fantastic news for Cumbria.

"Our investment will not only transform a derelict building but will provide a focal point for local economic growth in key areas like technology, digital, and creative."

The building will work with the Beacon museum to provide education opportunities for schoolchildren, college students, and adult learners.

It will be linked to existing regional and national economic growth programmes via the Cumbria Local Enterprise Partnership.

Rob Miller, head of property and development at BEC, said: "This innovative and exciting development will complement the North Shore regeneration scheme.

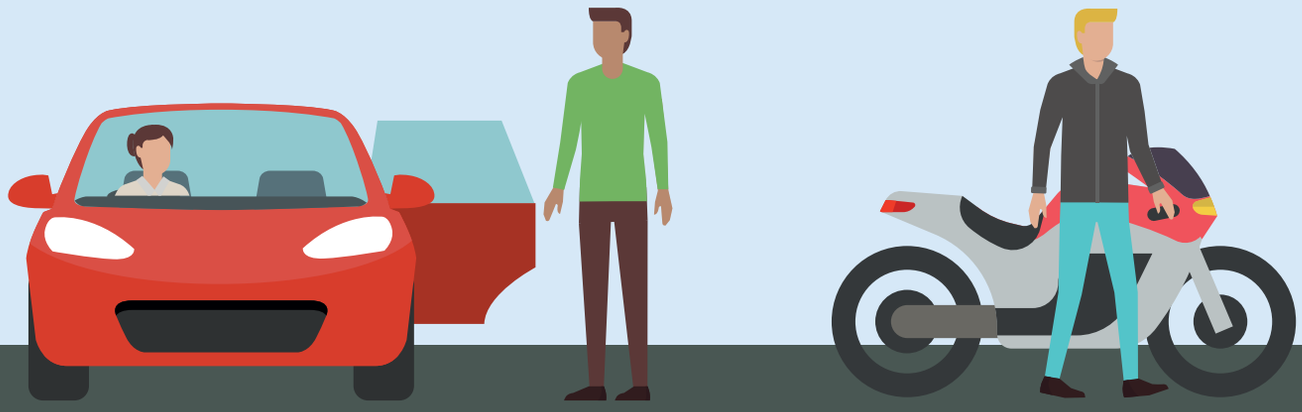
"It is the start of a major delivery phase for BEC. We are looking forward to opening the doors to ambitious businesses and the public."

Michael Pemberton, BEC chief executive, said: "This is a bold social investment by Sellafield Ltd and underpins commitment to economic diversity in our region.

"We are delighted to welcome them on board as a strategic partner in the scheme. The overall North Shore plans will be the catalyst for major change in Whitehaven and the Buzz Station will be a valuable asset for the town." ■

Scan the QR code to view the latest bus station video.


FEWER
SPACES
MORE
OPTIONS



The Sellafield site might be located away from the country's urban metropolises, but twice a day the road network slows to a crawl, you'd be more used to seeing in a city centre. This is just one of the reasons why earlier this year, we started making wholesale changes to our travel and transport arrangements.

The location of the Sellafield site away from urban locations brings its advantages, given the work we undertake, but it also presents a challenge when it comes to transporting more than ten thousand people to the site each weekday – with public transport options that could be generously described as limited.

Over the years, this has meant a reliance on the car as the primary travel option. However, this has led to congestion on the roads surrounding site at the start and end of the working day, as well as at shift handover.

On top of this, over the past sixty years our mission has changed. This has seen the site get more congested, with less space available for car parking.

All of the above meant that at the start of the year, we launched a series of changes designed to reduce the number of cars travelling to the Sellafield site each day. These changes recognised that having fewer spaces meant we needed to give people more travel options.

Liz Spedding, who has led the work, said: "The Sellafield site has dominated the skyline for years, and people know that as they approach it, the traffic dominates the roads in much the same way. The work we are doing is trying to ease these problems, while ensuring that our employees are still able to get to work as smoothly as possible."

"The Sellafield site has dominated the skyline for years, and people know that as they approach it, the traffic dominates the roads in much the same way"

The changes made so far include the introduction of four park and ride locations and two new commuter coach routes, the extension of inter-site bus services. These have seen the use of the Albion Square shuttle service increase by 75% and the commuter coach service tenfold. >

Liz added: “The changes we have made so far are just the beginning. We will be introducing further restrictions on vehicular access to both the site and the neighbouring car parks. But we won’t do this until we have developed enough alternative options. These will include further park and ride locations operating and more buses operating expanded timetables.”

In long term, we also plan to move a further thousand employees off the Sellafield site, if they don’t need to be based there.

These changes alone won’t solve the infrastructure problems in West Cumbria, but they will reduce the impact the Sellafield commute has for the rest of the region. Doing this doesn’t just help the community, it also ensures we can deliver our mission as effectively as possible on the land we have available on the cramped Sellafield site. ■

10 FACTS ABOUT PROJECT ACADEMY FOR SELLAFIELD

1 TRAINING DELIVERED IN PARTNERSHIP WITH THE UNIVERSITY OF CUMBRIA AND WITH OTHER HIGHER EDUCATIONAL ESTABLISHMENTS ACROSS THE NORTH WEST

2 491

491 PEOPLE CURRENTLY ENROLLED

3 889

people have started **training** there since it opened

4 13

SUPPLY CHAIN COMPANIES SENDING THEIR STAFF AS WELL AS STUDENTS FROM THE NHS, LOCAL GOVERNMENT AND LOCAL CHARITIES

5 20

SCHEMES AVAILABLE FROM ONE DAY INTRODUCTION COURSES UP TO PHD

6 17 2018

NEW COURSES IN DEVELOPMENT (TO BE AVAILABLE IN 2018)

7 93% PASS RATE

8

NEW JOBS CREATED IN CUMBRIA

9 Winner of NDA supply chain award 2017 – Best Enhancement of Capacity and Capability

10 Highly commended at the Daily Telegraph Educate North Awards

Cumbria Women in Nuclear

Gender equality has been the hot button issue of 2018. Movements like #metoo have shone a light on inequality and unfairness faced by females in the workplace. And the nuclear industry is no exception.

WIN UK WAS ESTABLISHED IN 2014 TO INCREASE THE SKILLS BASE IN THE NUCLEAR INDUSTRY

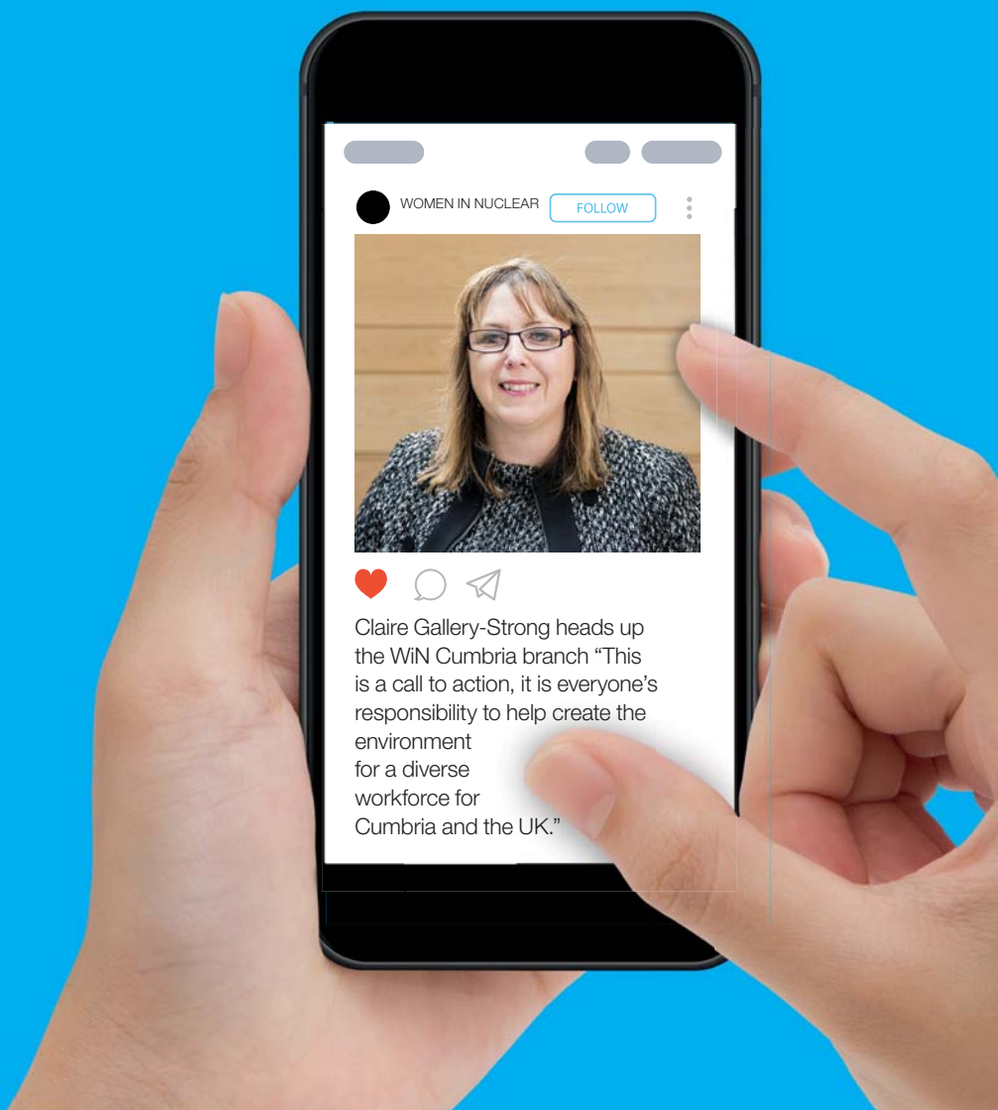
@WomenInNuclear

Cumbrian entrepreneur and MD of Prima Uno Limited, Sarah Purdham, is supportive of WiN; “This is something very close to my heart as there is a huge wealth of talent and experience in women in West Cumbria and in the nuclear industry.”

12 30 143

@WomenInNuclear

12 30 143



Women in Nuclear

Follow

10 mins •

The launch was a call to action to ensure everyone helps to create an inclusive and fair environment within the nuclear industry.

Like Comment Share

Currently just 22 per cent of the UK's nuclear workforce is female. And that figure is significantly lower at senior management levels.

While industry leaders grapple with solutions to rebalance their boardrooms, sisters have been doing it for themselves at Sellafield.

A group of female employees joined forces with other nuclear professionals to launch a Cumbria branch of the Women in Nuclear (WiN) group.

Fittingly, it was launched on International Women's Day at the new National College for Nuclear campus near Workington.

Claire Gallery-Strong heads up the group. She said: "There is a unique concentration of nuclear capability in Cumbria.

"We believe by strengthening links we can help the local industry reach its full potential by maximising the talents of all.

"The launch was a call to action. It's everyone's responsibility to ensure we create an inclusive and fair environment that helps attract, retain, and build a diverse workforce for Cumbria and the UK."

@WomenInNuclear

Recognising the unique contribution that the county makes to the nuclear sector, 'Women in Nuclear UK' have launched a dedicated 'Cumbria' branch.

12 30 143

@WomenInNuclear

3542

Like: 777

The WiN Cumbria team will carry out the objectives of WiN UK for the Cumbria region. It will engage with the local industry and support career progression through training, mentoring and networking. It also aims to attract younger women into the nuclear industry through engagement with local schools and universities.

22 PER CENT OF THE UK'S NUCLEAR WORKFORCE IS FEMALE

"WE BELIEVE BY STRENGTHENING LINKS WE CAN HELP THE LOCAL INDUSTRY REACH ITS FULL POTENTIAL BY MAXIMISING THE TALENTS OF ALL."

@WomenInNuclear

Angela Seeney from the Sellafield Ltd leadership team wants to see more females in senior positions.

12 30 143

"We can signpost people to help, whether through training, mentoring services or building a personal network."

Speakers at the launch event included Cumbrian entrepreneur Sarah Purdham, managing director of Prima Uno, a specialist project planning consultancy.

"This is something very close to my heart as there is a huge wealth of talent and experience in women in Cumbria and in the nuclear industry," said Sarah.

"I'm looking forward to helping people follow their dreams and harness their career ambitions by listening to people and sharing my experiences, my own journey and also some of the mistakes I have made along the way."

Equality and diversity expert Alison McDermott and our own Dorothy Gradden OBE also spoke at the event.

WiN UK was established in 2014 to increase the skills base in the nuclear industry by encouraging gender balance, improving the representation of women in leadership, engaging with the public on nuclear issues and supporting the industry with tools and information. ■

Women in Nuclear

10 mins •

Follow

Representatives from 45 organisations showed their support and discussed how together they create a more diverse workforce for Cumbria and the UK.

Like Comment Share

@WomenInNuclear

Professionals gathered from the across Cumbria at a launch event, pledging to address gender balance in the region.

12 30 143

@WomenInNuclear

12 30 143

SUCCESS

The mission to gain access to the nuclear waste inside the 'locked vault' of the Pile Fuel Cladding Silo has featured heavily in every single one of our last six issues, so we couldn't really let issue No.9 pass without mentioning the small fact that… We've Done It!

Pictured here are our six silo doors tightly attached to the granddaddy of nuclear waste stores and safely closed over the rectangular holes we've cut behind them. Behind the six holes are six nice clear spaces which used to be blocked by the deflector plates we've now removed, using remote water jet cutting tools fed through small holes – like keyhole surgery on an industrial scale.

These achievements are easy enough to describe in a single paragraph, but actually delivering them has been one of the biggest engineering feats we've ever taken on. Now all

the key modifications to the Pile Fuel Cladding Silo building itself have been done to get at the waste inside – meaning it is ready to start being emptied in 2019 once the retrievals equipment has been assembled on the new superstructure built next to it.

Next year the silo door (by then inside a fully enclosed retrievals building module) will be lifted up and a crane will reach in through the hole and lower down a grab to scoop up the Intermediate Level Waste so it can be exported in 3m³ boxes.

"Getting access to this nuclear waste store which was built with no thought of how it would be emptied has involved years of planning and preparation, hundreds of dedicated people and many millions pounds of investment. It's also involved a massive team effort with our main contractor partner Bechtel Cavendish Nuclear Solutions and businesses such as Babcock Marine (Rosyth), James Fisher Nuclear and Shepley Engineers," said Head of the Pile Fuel Cladding Silo Programme Steven Carroll. ■

"A once in a lifetime achievement that has helped change the mindset of Sellafield Ltd and the nuclear industry." Paul Foster, CEO, Sellafield Ltd.

Sir Jeremy Heywood
Head of the Civil Service

Experts from @NDAgovuk at #Sellafield have overcome one of most complex engineering challenges in the site's history by cutting the 6th & final hole in the Pile Fuel Cladding Silo, a locked vault that was never designed to be opened.

Tweet from the UK's top civil servant

OUR CHOSEN CHARITIES 2018

As well as making strategic social impact investments and regular sponsorship and donations, every year our employees choose their charities of the year, one from Cumbria and one from Warrington.

A total of 1,588 votes were cast for the 12 shortlisted charities. And the winners were... The Great North Air Ambulance Service for Cumbria and Harry & Co. for Warrington.

We look forward to working closely with both of these amazing charities throughout the year.

The Great North Air Ambulance (GNAAS)

The GNAAS operate three helicopters throughout the year, across the North-East, North Yorkshire and Cumbria. Their response to around 1,000 call outs each year sees pioneering pre-hospital care brought to the scene, with on-board specialist trauma doctors and paramedics bringing accident and emergency expertise. They rely on the support of the public to operate.

Chief executive of GNAAS, Graham Pickering MBE, said: "This is brilliant news. We are humbled to have been selected, especially as it was voted for by the staff. The impact of this support could mean the difference between life and death for someone out there. The money raised will help us to respond to someone in their hour of need and everyone at Sellafield can be proud knowing they are played a part in that."

Harry & Co.

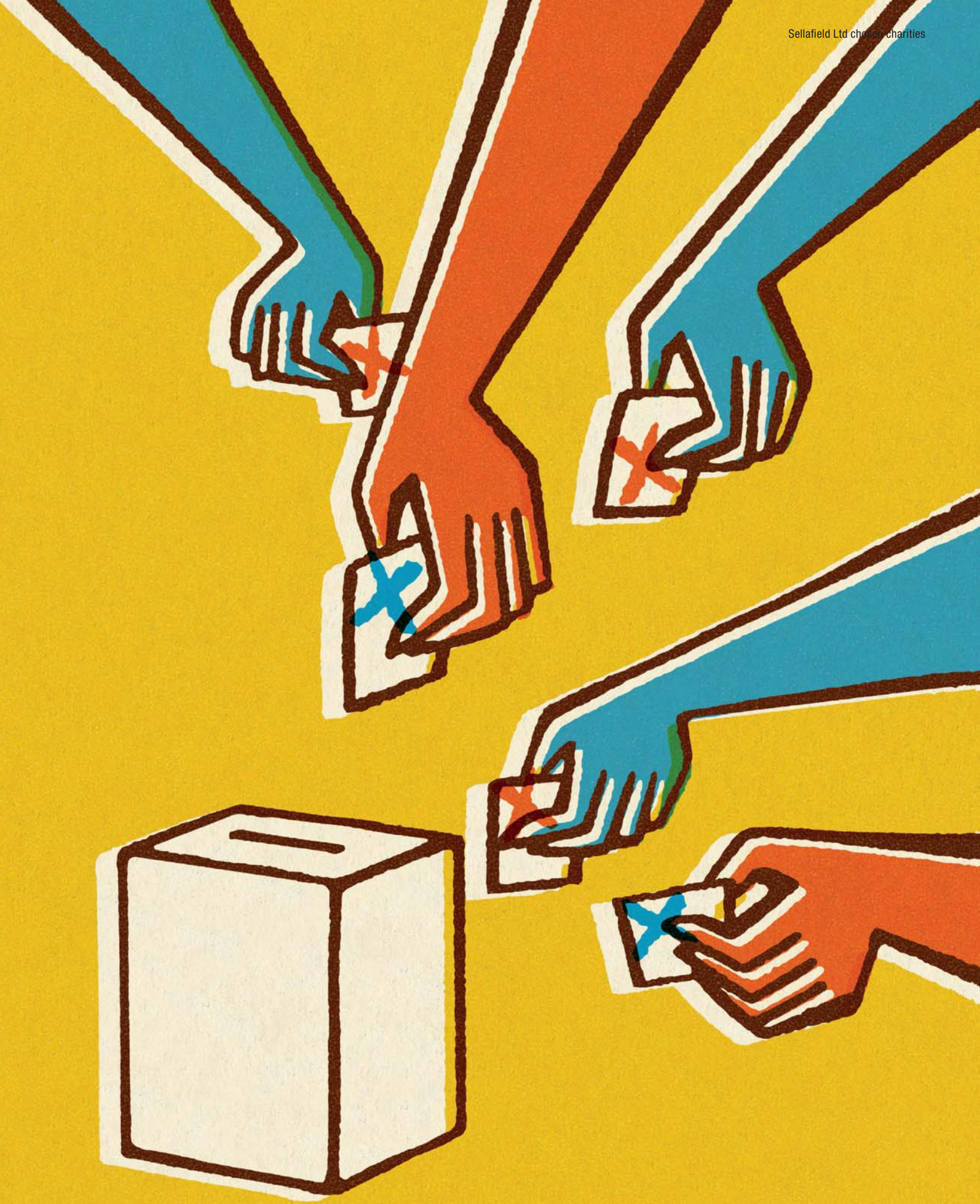
Harry & Co. provide support for maternity bereavement services and family and individuals dealing with neo natal care. Their work sees close relationships with local hospitals and the bereavement co-ordinator for maternity, neo natal care and paediatric departments locally.

Parents who have experienced the death of a baby, trainee midwives, grandparents and healthcare professionals in the field of maternity bereavement make up their committee.

Kate Tinker from Harry & Co., said: "The opportunity your campaign will provide will not only help us in fundraising, but also raise the profile of our work and our baby loss campaign in general – so this is a massive chance for us to combine forces."

"AS WE LEAD A STEP CHANGE IN OUR SOCIAL IMPACT ACTIVITY, SEEING THE CONTINUING COMMITMENT FROM OUR WORKFORCE TO SUPPORT LOCAL CAUSES IS REALLY ENCOURAGING. THE CHOSEN CHARITY SCHEME IS NOT EXCLUSIVELY ABOUT RAISING FUNDS, IT'S ALSO ABOUT THE INCREASING AWARENESS OF THE WORK THAT ORGANISATIONS IN OUR COMMUNITY DO TO SUPPORT LOCAL PEOPLE."

GARY MCKEATING, HEAD OF COMMUNITY RELATIONS



FEBRUARY 2018

NATIONAL COLLEGE FOR NUCLEAR

Ensuring world-class training and skills development across a range of advanced and higher technical skills levels and degree level courses – that's the new National College for Nuclear (NCfN).

The college officially opened in February and has two sites – a Northern hub at Lakes College in West Cumbria and a Southern replica building at Bridgwater & Taunton College, Somerset – that will work closely to deliver the 'workforce of tomorrow'.

We, along with EDF Energy, are leading industry input into the two-storey college that will help to ensure its curriculum and qualifications are based on employer need.

It is one of five government funded national colleges, and will bring a new way of teaching to students while bridging the gap between further education colleges and university, preparing students for the workplace.

Apprenticeships and Skills Minister Anne Milton said: "The National College for Nuclear is going to be critical for this country in building a highly skilled workforce, to not only fulfil existing capacity but also to make sure we grow the industry."

The college combines theoretical work with hands-on experience. There are virtual reality rooms to provide students with experience of working in a nuclear environment, an engineering workshop is equipped with the latest technology, laboratories and simulated 'restricted' areas give a detailed view of the work involved at a nuclear plant.

Dame Sue Ion officially opened the college in Cumbria, and said: "This is a flagship facility that will provide access to world-class technology to individuals looking to start or further develop their career in the nuclear industry.

"It is an exciting time for the industry, and it is encouraging to see investments by government, industry and academia into this facility. The nuclear sector is really taking an active role in training the workforce of tomorrow."

The first cohort of students at the Northern hub are studying an ECITB Level 3 Access to Nuclear Engineering and Science Diploma three days a week.

One of the students, Millie Parker said: "This is a really interesting course, combining practical activity with theory, and we are very fortunate to have access to this excellent facility.

"I would like to continue my studies and complete a degree apprenticeship in electrical engineering or nuclear science."

Colin Reed, NCfN Board Chair said: "I'm excited about the opportunities that this brand-new training facility will offer young people in industry, in the supply chain and globally once they've completed their courses."

We, along with EDF Energy, will work alongside Lakes College and Bridgwater, plus higher education providers University of Cumbria and University of Bristol, and aim to train 7,000 people by 2020.

Colin added: "Our mission is changing as we transition into a fully-fledged environmental restoration project. This will require re-training and reskilling of our staff and a new pipeline of talented individuals with higher level skills across a range of disciplines."

The college offers a range of qualifications, from post-16 access courses through to degrees. Subjects include robotics, systems and mechanical engineering.

NCfN northern site operations director, Les Agnew said: "Lakes College, who will deliver the curriculum, have a new nuclear staff of five who have professional nuclear experience and academic qualifications. I can't wait to have a full college of 300 students, some full time and others on block release, meeting the needs of the industries not only in Cumbria but regionally and nationally."

One of the new lecturers is Tanya Brown, a former BNFL and NNL employee who has completed a Masters in nuclear science. She said: "This is a very exciting time for the industry, and I'm very proud to be teaching the next generation of workers in this first-class facility."

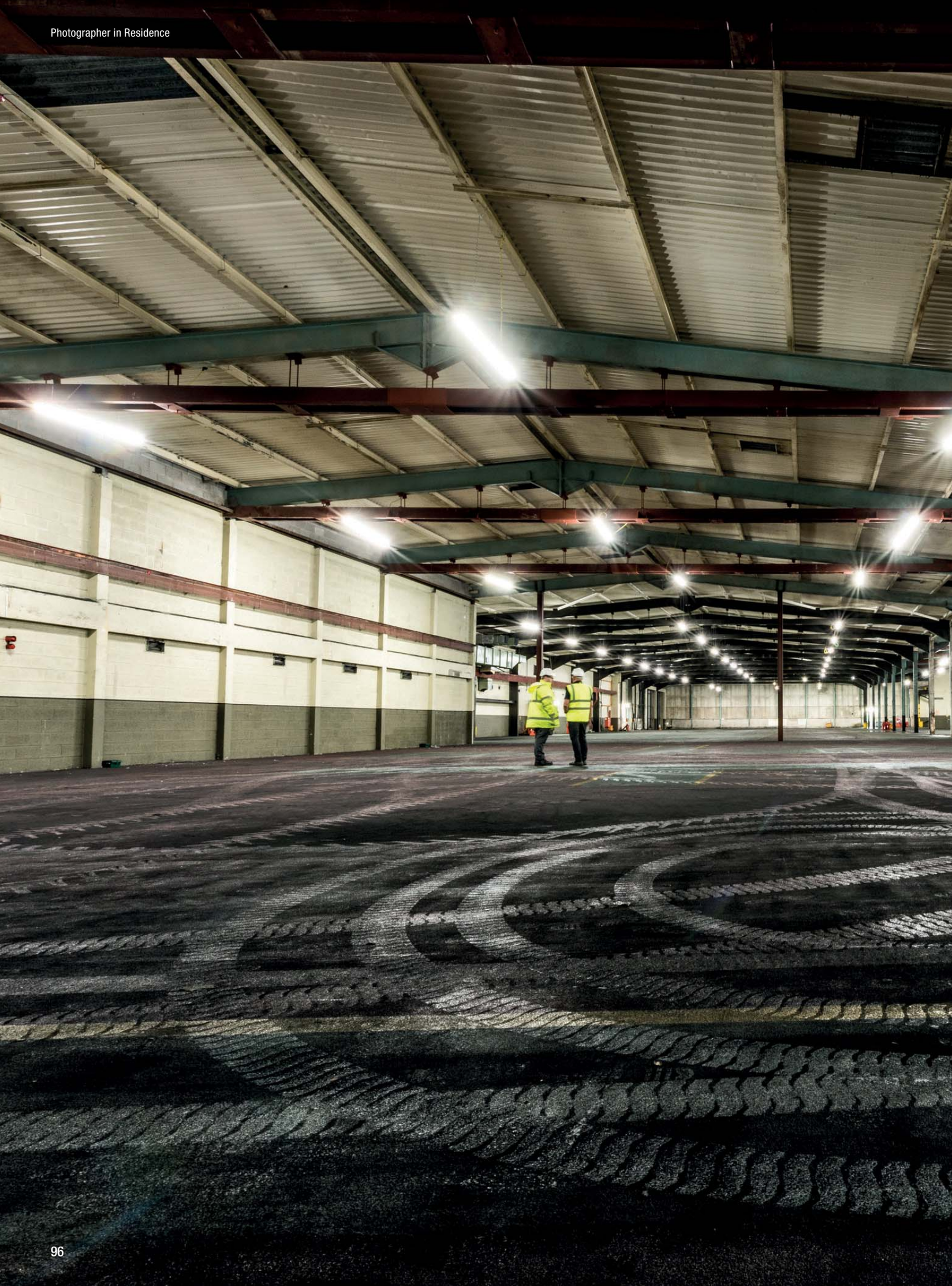
National college for Nuclear

Date:

February 2018

Location:

National College for Nuclear at Lakes College, West Cumbria



PHOTOGRAPHER
in residence

Tracks, memories of a former life.

The building has transformed over time from a textile factory to a graphite workshop, then to a warehouse. Soon the building will be a receiving centre for 3m³ boxes.

The scale of things at Sellafield constantly amazes and inspires me. It was difficult to convey just how huge a space this is but I feel that this image gives a sense of the sheer size of the building.

Michael Lishman

FIVE MINUTES WITH

Alex Walsh

After working in France and Australia, living in London, Kent, Grange over Sands and Manchester, Alex Walsh is currently settled heading up our Warrington offices.
I really enjoyed an interesting catch up with Alex who told me all about himself, his career and what he is currently up to both inside and outside of work.

What and where is your background, you certainly do not have a local accent?

I was born in London eldest of three children, living with my postman dad and my stay at home mum along with my younger brother and sister. When I was about 7/8 years old we moved to Lewisham in Kent, my brother suffered with bad asthma, so we were better off away from the city.

I was the first and only child to go to University in our family, I studied a Nuclear Engineering degree at Queen Mary College, and I wanted to "Save the Planet"

Since gaining my degree I have always worked within the Nuclear Industry. I have worked for Rolls-Royce, United Kingdom Atomic Authority, Nuclear Electric, and then BA Systems took me to Barrow in Cumbria. This opened the door to Sellafield Ltd with some 11,000 employees based over two sites, our design and functions houses in Warrington as well as the plant in Cumbria, I have had the chance to keep my home and my family based in Grange over Sands with a base for me in Salford Manchester to carry out my current role. Up to 8 years ago I had made 7 house moves.

What are you doing in your current job? How many people does this involve and where are they?

Head of Warrington offices, means looking after some 2,500 people within the Warrington area, at our Daresbury base and various offices at Birchwood. I am responsible for ensuring all of the facility management goes to plan. I am also responsible for setting the culture (way of life, attitudes, values, morals, behaviours) and leadership for our business.

This is a very exciting time as by 2020/21 the plan is that we will all be based together on the Birchwood campus finally, which is exactly the right location where a lot of our suppliers and partners are also based in this nuclear hub. Decisions are still ongoing, approval from our owners will soon be finalised and shared with the Warrington community and we can start putting those plans in to action.

I am so looking forward to seeing the new way of working, in attractive surroundings, modern environments, people being proud to work in a stimulating area full of nuclear excellence, in this high demand area.

Do you enjoy your work, are there many obstacles?

The reason I love my work so much is because I am faced with so many obstacles, every day is full of challenges. This means people open up to new ways of doing things, full of new ideas it is really satisfying to see all of this daily.

What are you most proud of in Sellafield Ltd?

I am so proud of this workforce and all we do for local charities, all the money we raise, all of the team work in our local communities. The work we do in schools and schools outreach and the massive impact we have on our local community.

What do you like to do in your spare time?

I love to go running with Harvey my golden retriever, doing lots of DIY at home, cooking Indian food, it's my favourite with all of those spices and as you can tell by my waistline I also enjoy eating.

What books are your favourites and why?

Economic and management books, materials around equality, diversity and inclusion, helping people to be more inclusive, means they will be more comfortable in their own skin, so they will put in more energy and passion which will result in more innovative ideas.

Where do you like to holiday?

I've done too much flying over the years, I am not really a big fan of it either. There are lots of nice places nearer home to visit, last year we holidayed in Cornwall, this year we are going to Crete.

Sellafield Ltd

There are lots of ways to stay up-to-date with the work we are doing at Sellafield:

Sellafield Ltd

the original northern powerhouse

In partnership with

NORTHERN POWERHOUSE HM Government