

Autumn 2020

TSA INSIGHT

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UM TERMINALS IS BUILDING FOR THE FUTURE

Tank storage provides an essential interface between sea, road, rail and pipeline logistics

The quarterly magazine from the Tank Storage Association

Also in this issue, we look at the impending impact of Brexit on chemical supply in the UK.



Insight is published by the Tank Storage Association, the voice of the UK's bulk liquid storage sector.

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Peter Davidson Executive Director, TSA

Welcome to the Autumn edition of TSA Insight. More than ever before, we are having to view the world from new angles. In this third edition, we highlight the strategies, efforts and forward-thinking plans of the bulk liquid storage sector, once again leading from the front to navigate an uncertain landscape. In addition to sharing case studies and examples of innovation and evolution, our members share a wealth of lessons learned as we look ahead as a sector and ensure that we take full advantage of the opportunities of the future. Inside this issue, we also highlight the recent launch of TSA's new Safety Leadership Charter, reaffirming our commitment to the original principles of Process Safety Leadership and to major hazard safety, starting at the top. I hope you enjoy this new edition of Insight and don't forget to follow us on Twitter and LinkedIn to keep up to date with all our latest news.

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Online meetings and webinars

The COVID-19 pandemic has challenged our model of faceto-face meetings. To adapt and respond to the current situation, all of the following meetings will now take place online .

- 7 October 2020: TSA Council
- 8 October 2020: TSA SHE
- Committee
- 20 October 2020: TSA HR Committee
- 27 November 2020: TSA Customs & Excise Expert Committee
- 1 December 2020: TSA Technical Committee

For more information on TSA's meetings, write to info@tankstorage. org.uk

The TSA Annual Review of the UK's Bulk Liquid Storage Sector is now available at www.tankstorage. org.uk/publications

INSIGHT MAGAZINE

In focus

Tank Storage Association launches new Safety Leadership Charter

Last month, the Tank Storage Association formally launched a new Safety Leadership Charter, reaffirming its commitment to the original principles of Process Safety Leadership.

The Safety Leadership Charter consists of seven pledges that demonstrate commitment to managing major hazard risks by promoting an engaged, positive, informed and cooperative safety culture.

Peter Davidson, Executive Director of the Tank Storage Association, said: "The TSA is committed to ensuring that safety lessons and best practice are shared across the sector wherever possible. Our dedicated Safety, Health and Environment (SHE) committee is key to achieving this, and we remain a driving force in a number of industry safety forums, including the Process Safety Forum and the COMAH Strategic Forum. Since its publication in 2009, TSA's members have fully supported the Process Safety Leadership Group's Principles of Process Safety Leadership and the launch of our Commitment to Good Major Hazard Leadership further strengthens this support. Our aim is to ensure that these principles are embedded in all that we do as a sector."

Paul Denmead. President of the Tank Storage Association, commented: "The Tank Storage Association, with the support of its members, has developed the Safety Leadership Charter to promote a positive and cooperative safety culture within member organisations. This Charter clearly demonstrates our commitment to major hazard safety, starting at the top, and puts the TSA at the forefront of safety leadership within our sector."

Martyn Lyons, Chief Executive of Inter Terminals, commented: "High standards of leadership are essential to ensure effective control of major hazard risks. The Safety Leadership Charter, developed by the Tank Storage Association in conjunction with sector's leaders, is a testament to our strong commitment to strive for the highest standards and continue leading from the front."

For more information, visit www. tankstorage.org.uk/publications



BUILDING FOR THE FUTURE

One of the UK's leading bulk liquid storage companies has had a busy few months.



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As if the challenges of the coronavirus pandemic were not enough, UM Terminals (formerly UM Storage) has undergone a name change, rebranded and launched a new company website.

It has also put in place a strategic growth plan to build on the significant investment the business has made into upgrading its facilities and operations over recent years.

UM Terminals operates out of 8 terminals, strategically located across the UK, handling over 40 different products for its customers. It currently has a capacity of over 300,000 cubic metres of bulk liquid storage, but the plan is to grow this to over 400,000 cubic metres. One of the strengths of the business is the diversity of services it offers and product solutions.

Product solutions include vegetable oils, industrial, food and feed, chemical, fertiliser, fuels, biofuels and base oils. Services include blowing, blending, heating, processing and sampling among others.

There are three main strands to the new strategic plan. Firstly, the business wants to maximise its UK capability which may include expanding existing terminals or building new ones subject to demand.

Secondly, it is looking at ways in which it can harness the assets of the wider UM Group which has a network of facilities in Europe and other parts of the world storing molasses but which could be used to store other products to meet the needs of existing and new UM Terminals' customers.

The third part of the strategic plan is to look for acquisition targets that would be a good fit with the UM Terminals business.

UM Terminals employs over 60 people, working 364 – sometimes 365 days – of the year meeting its customers' needs.



It prides itself on its flexible, agile approach, something that was highlighted during the recent lockdown when it partnered with INEOS to create a hand sanitiser product to meet consumer demand during the pandemic.

In just a few days, both parties were able to agree a strategy incorporating a comprehensive governance procedure, to ensure all relevant health and safety guidelines were met efficiently, and a full review of the key requirements detailed by INEOS.

Once authorisation was received from HMRC, a new bespoke product was created using an in-line blending system at the UM terminal in Hull. UM Terminals was then able provide the necessary to operational cover to facilitate the increase in product movements via road and sea.

The company also launched its new Client Central Services operation during lockdown. Based out of its Regent Road Terminal in Liverpool, the new service integrates all weighbridge and administration from across the 8 terminals. A dedicated portal gives clients instant access to essential weighbridge documentation and current stock levels for each tank. They also have a secure log-in and can access their data 24/7, 365 days a year via a desktop, tablet or mobile device.

UM Terminals is a key part of today's UM Group which has a distinguished history stretching back almost 100 years.

UM's founder, Michael Kroyer-Keilberg, was involved in bulk liquid storage even earlier than this – he constructed his first tank for the storage of bulk molasses in 1911 at Victoria Dock in Hull.

The tank had a capacity of 3,000 tons and received its first shipment of molasses a year later from the sailing barque, Sunlight.

The Group's other services include the international trading of molasses, the sales and distribution of molasses and the procurement and marketing of vegetable oils for use in the animal feed industry.

InAugust, Ben Macersucceeded Chris Roberts as CEO of UM Group having previously been Finance Director.

Bryan Davies, UM Terminals' Managing Director, said: "While we are hugely proud of our history, we want to ensure that we still have a successful business in 50- or 100-years' time. The new strategic growth plan offers an exciting future for UM Terminals with its three core elements of maximising our footprint at our existing UK terminals, looking at ways to harness Group assets in Europe and elsewhere and looking for the right acquisition opportunities.

"Alongside this, we will continue to invest year-on-year in our facilities ensuring they provide our customers with flexible and innovative bulk liquid storage solutions underpinned by the highest quality, health and safety and environmental standards."

Commenting on the company's new name, Bryan added: "We felt that UM Terminals and the strapline 'Bulk Liquid Solutions' better described the services we offer. The range of services we provide our customers with goes so much further than storage.



<u>UM Terminals</u> operates out of 8 terminals. <u>strategically</u> located across the UK, handling over 40 different products for its customers. It currently has a capacity of over <u>300,000 cubic</u> <u>metres of bulk</u> liquid storage. but the plan is to arow this to over 400.000 cubic metres..

While we are hugely proud of our history, we want to ensure that we still have a successful business in 50 or 100 years' time. "I'm incredibly proud of the UM Terminals' team. The way they responded during the pandemic was inspiring. Every member of the team helped to give Britain what it needed. This included pharmaceutical products for our healthcare workers and families; animal feed that produces dairy and meat products; fertilisers to produce fresh fruit and vegetables; and vegetable oils for food products such as bread, cakes and biscuits.

"Our team worked tirelessly to keep Britain moving, often in extremely testing circumstances and highlighted the fantastic partnerships we have with our customers."

For more information, visit www. umterminals.co.uk

<u>UM Terminals' Managing Director.</u> <u>Bryan Davies.</u>



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KEITH JACKSON – A CAREER IN TANK STORAGE

Following his retirement from Inter Terminals after nearly 34 years in the industry, former Operations Director, Keith Jackson, looks back over a long and interesting career in tank storage.





y introduction to the world of bulk liquid storage was when I was

in the British Merchant Navy and sailing the world in various tankers. During my eleven years' service my primary duties as navigator were regularly interspersed with operating the cargo systems and maintaining deck equipment, as well as managing the deck crew after becoming Chief Officer on chemical carriers. On reflection this was excellent training for what was to become my career of nearly 34 years.

My first real encounter with what was then Simon Storage was from a chemical tanker in the early 1980's. Having spent a sleep-deprived week discharging vegetable oils in Vlaardingen before sailing a stormy North Sea in ballast to Teesside, we arrived at Simon's Seal Sands Terminal to load caustic soda. At that stage I didn't appreciate the challenge of operating a loading terminal. All I thought they had to do was get the product into my cargo tanks - how wrong was I!

Following redundancy from the Merchant Navy aged 30, I sought to equip myself for a shore-based career. This led me to enrol on Post Graduate Diplomas in both Management and Marketing with a dayrelease option, which was just as well because shortly after I spotted a vacancy for a Trainee Manager for Simon Storage at Seal Sands. I applied, got the job and that was the start of my career with Simon Storage, latterly Inter Terminals. I then completed these qualifications over the next 18 months on day release.

Tomorrow's World

In my early years with Simon Storage I was introduced to the different facets of the business and in 1988 was asked to compile a paper on what the 21st century terminal would look like. I still have a copy and it's interesting to reflect on how much of my 'Tomorrow's World' vision actually happened. For example, I considered how



regulation would become increasingly coordinated across Europe, with a growing focus on environmental and personal welfare. I concluded that the business had to evolve and develop new markets in order to survive and generate return on investment. How true this all turned out to be.

At that time the discussion around the decline of European commodity chemicals had already started, along with the volatility of oil prices and influence of OPEC - even in those days figures of \$7/ BBL were being mooted. Technology, IT and associated control systems were seen as rapidly emerging factors in the storage sector, as was the value of data to our business and to our customers. Unlike now. however, the concept of cyber security did not feature in the thinking of 1988.

Regulations

UK terminals were then operating under CIMAH regulations. COSHH had not yet arrived but the concepts of demonstration and risk assessments were clearly starting to form. Emission controls were being introduced in California and the Netherlands was actively contemplating the introduction of controls. Jumping ahead 30 years, air emission control is a serious and costly business and air quality and its impact on human health is a high priority. The change in approach over the last 30 years is quite staggering given current regulations.

At that time the chemical industry on Teesside, and indeed the UK, was very different from today. Terminal procedures were brief and given to operators to read and then follow – their involvement in creating or criticising these was certainly not encouraged. Today, the active participation of our people and the skill and knowledge they have is a deep vein to be mined.

In 1988 I had pondered on how skills and competence within the industry would have to improve to meet changing demands and I believe we have embraced the need to upskill our employees such that they are equipped to deal with both technical demands, but also the wider challenges of process and personal safety expectations coupled with the need for 'unease' in their daily work life to recognise potential hazards and risks..

Training for the Future

However, one area where I feel that as a sector we have not progressed as rapidly as some is gender balance, particularly within operations, engineering and maintenance where a female is still a rare sight.

It was a good day when Inter Terminals started a programme for mechanical and EC&I apprentices. The lack of these skills in the sector was becoming, and indeed remains, an issue. In conjunction with local training agencies we have found and developed some talented young people, including a young woman, who have been mentored by an enthusiastic team into wellqualified technicians for the future.

Buncefield

One cannot reflect on over 30 years in this industry without mentioning Buncefield and other international disasters like Texas City, which have shaped irrevocably the way we manage and structure our businesses. On the positive side, they have engendered new relationships and cooperation with regulators and were the catalyst for implementing process safety leadership within our industry.

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In my view as a senior manager with over 30 years' experience, it has never been more important for management to be engaged at all levels of the organisation to ensure risks are understood and well managed and for employees to be active rather than passive in this process.

Summing up, I'm pleased to say that the management trainee scheme I joined when I took my first job at Simon Storage all those years ago continued and evolved to attract a broad range of talented individuals into the business. Making that longterm investment has assured future generations of leaders equipped with the skills to meet the challenges of the future. I think this all helps to leave the business in safe hands for the future.

Inter Terminals' former Operations Director, Keith Jackson.



For more information, visit www. interterminals.com





Tank Storage Association responds to BEIS Committee's inquiry on Post-Pandemic Economic Growth

Earlier this summer, the Tank Storage Association submitted its response to the House of Commons Business, Energy and Industrial Strategy (BEIS) Committee's inquiry on Post-Pandemic Economic Growth.

In our submission, we highlighted:

- Like many other sectors, bulk liquid storage has also felt the impact of the coronavirus (COVID-19).
 During this challenging time, the industry and associated logistics have continued to work tirelessly to keep critical infrastructure operating.
 - Against background а of increased demand petroleum for storage globally and a decline in oil demand due to the COVID-19 pandemic, critical importance the of bulk liquid storage terminals in responding to market fluctuations and in improving the flexibility of the entire supply chain has undoubtedly come to the fore.
- TSA calls for a clear strategy to be developed

with the bulk liquid storage sector to set a joint vision for the future in order to protect the economic and strategic value of UK bulk liquid storage and unlock opportunities in support of the achievement of the UK's decarbonisation targets.

Commenting on the submission, Peter Davidson, Executive Director of the Tank Storage Association, said: "The bulk liquid storage sector is the pulse of our day-to-day life, providing the critical link in the transportation system for liquid products, from transport and heating fuels, to chemicals food-grade products. and Our submission to the inquiry highlights the vast and strategic advantages of the industry and associated logistics in unlocking opportunities and argues that time is of the essence. Now is the time to work together to unleash potential, drive recovery and enable solutions for change."

MARITIME AND PORT FACILITY SECURITY - 2020

Since the adoption by the UK in 2004 of SOLAS Chapter XI-2 and the **International Ship** and Port Facility (ISPS) Code, together with the enactment of the supporting legislation "The **Ship and Port** Facility (Security) Regulations 2004", things have changed quite substantially.





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XI-2 and the International Ship and Port Facility (ISPS) Code, together with the enactment of the supporting legislation "The Ship and Port Facility (Security) Regulations 2004", things have changed quite substantially; particularly for those with direct responsibility for security at ports and port facilities.

Today, the need for effective moves security ever increasingly up the workplace especially agenda, when considering the issues that lack of compliance may bring with it - deficiency or enforcement notices, fines, repercussions of a failure in your duty of care or reputational damage. Equally, as we move ever closer to leaving the European Union the negotiations surrounding

Brexit will inevitably require us to rethink our current protocols and procedures, work that has already started through the enactment of the The Ship and Port Security (Amendment etc.) (EU Exit) Regulations 2019 in February of last year.

The responsibility for enforcing the Regulations across all UK Ports & Port Facilities rests with the DfT's Maritime Security Division (MSD - this body was originally named TRANSEC and latterly titled MSRD). Due to the upsurge in terrorist activity, evidenced by the current national threat in the UK (England, Wales, Scotland and Northern Ireland) being held at SUBSTANTIAL, MSD are in turn demanding ever higher security standards and best practice be met to help counter this threat. Equally this year over 4,000 illegal immigrants have so far attempted to cross the English Channel in small boats and inflatables.

This in itself is putting an enormous strain on both the MSD and Border Force and accordingly on those of you with Ports and Port Facilities on the South Coast, where your vigilance is an essential ingredient in the battle to stem Today, the need for effective security moves ever increasingly up the workplace agenda.



the flow and stop our borders being breached. Have you briefed your employees on the procedures for dealing with any stowaways or unauthorised small craft which may appear uninvited at your facility?

So, what are the other issues that have arisen during this most challenging of years?

Those of you who are operating ISPS Compliant facilities will have received the 'Official Sensitive' documents from MSD relating to COVID compliant body and vehicle searching. In this open article we are not permitted to disclose the specific changes other than to make you aware of their existence and to encourage you to follow Public Health

England quidelines on searching, which means you must use appropriate PPE. It is worth remembering that a confirmed outbreak of COVID within your facility will almost certainly necessitate lock down. It may therefore be worthwhile considering running one of your quarterly ISPS Compliance drills to exercise these new changes brought about by the pandemic and thereby ensure you, your people and your business continue to operate safely.

We at Teamwork Security also recognise the restrictions that the pandemic is placing on our clients with their inability and natural reluctance to schedule "face to face" ISPS training and support meetings. In response to this we now offer



a full "online" support package (quarterly drills, annual exercise, audits etc.) using Microsoft Teams[®] and have developed, in conjunction with MSD, an accredited and approved three day "online" Port Facility Security Officer (PFSO) course. This now allows our clients to enjoy full ISPS support and thus compliance, without taking the risk of bringing in outside infection

Going forward it is our belief there will be a mixture of "online" and "face to face" mediums used for all the associated ISPS Compliance matters. The combination of the two methods will in our view reduce costs, increase productivity, maintain or improve security performance and be good for the planet by reducing travel.

information For more on Teamwork Security's online training or ISPS Support visit programmes, WWW. teamwork-security.co.uk or contact Chris Amos at chris. amos@teamwork-security. co.uk

BUILDING RESILIENCE IN THE FUEL STORAGE SECTOR

Oikos, leading independent oil storage facility in South East England, completes major investments to help futureproof customer fuel supply in a changing market.





esilience in our critical national infrastructure, in its widest sense,

has to be the focus of the UK's next economic chapter, not least after Covid-19. All too often, the focus is often on downstream and upstream fuel resilience and innovation, but the storage sector has to be a part of the solution and not overlooked. Oikos - a 70-acre bulk liquid storage facility on Canvey Island in Essex, with strategic access to the River Thames - is taking this challenge on through significant infrastructure investment at its site that supplies road and aviation (including to Heathrow, Gatwick, Stansted and Luton) fuels across South East England, one of the world's leading fuel hubs.

Project Premo, an additional, brand new third loading bay for diesel fuel, is nearly complete; a

fillip for a sector which has been going through an uncertain few months. At the same time, the company, now under the ownership of Aberdeen Standard Investments as part of its diverse range of energy interests, has recently recommissioned the Oikos feeder line that connects the terminal to CLH Thames B pump station and the national CLH pipeline network.

Tony Woodward, Oikos General Manager, commented. "Resilience for us is about creating options and spreading risk as we are a 24/7, 365 days a year operation. Customer demand is rapidly changing and the storage sector, as a piece of critical national infrastructure. has to be at the vanguard of those reforms. We are seeing a new focus on a wider range of diesel grades with customers rightly wanting them delivered in a faster, more flexible and agile way. To have been able as a business to deliver this on time and on budget, and to the highest, independently attested safety and security standards, has been very satisfying."

It is the evolving diesel market, resulting from changing consumer demand that has spurred the inclusion of additive injection at the new state of the art loading facility next to the existing loading bays. Customers, who were previously reliant on pipeline deliveries, now will be able to load a truck at 2,250 litres a minute with a gate to gate turnaround of around 20 minutes using new road loading arms, Accuload equipment to measure volumes and Fuel-Facs dedicated software and Distributive Control Systems to manage loading, and produce HMRC complaint paperwork. This builds on recent upgrading of existing storage facilities, a focus on new interconnectivity between different parts of the site and a deep-water jetty extension to cater for LR2 vessels up to 120,000 mt deadweight.

If the future of work and industry is one of responsiveness, the fuel storage market must be no different.

Based on the two new additive tanks and using a best in class additivation rack system and new large and small-bore pipework, a range of diesel grades can be supplied to delivery vehicles. "It is the creation of a further egress point for road fuel grades which can help our customer improve their market reach and service range to forecourts and bunkering Oikos is a 70 acre bulk liquid storage facility on Canvey Island. in Essex, with strategic access to the River Thames.





For more information about Oikos, visit www.oikos.co.uk





If the future of work and industry is one of responsiveness, the fuel storage market must be no different. Resilience in our critical national infrastructure, in its widest sense, has to be the focus of the UK's next economic chapter, not least after Covid-19. depots which makes this so game changing", added Tony Woodward.

The market of course needs to pick up as there has been a fall of 50% in road fuel volumes and a dramatic dive in jet fuel demand. And that is where Oikos is taking a forwardlooking view and a longer-term position. Such investment in the current climate of gradual recovery is welcome and it is not just in the oil storage and delivery infrastructure. The project has needed new lighting, security and safety features and has involved a range of civil, mechanical and electrical engineers along the way.

Project Annexus, which is the re-commissioning of the Oikos Feeder line between the Oikos Terminal and the CLH Thames B pump station has just taken place. This connects Oikos directly to the CLH Pipeline System and the UK's national pipeline infrastructure which better connects Oikos into the country's fuel resilience network.

Tony Woodward commented that "ultimately customers are demanding more options and different ways of ensuring their delivery chains. So, whether above or below ground, it is the role of storage terminals to enable those varied distribution channels." The whole project and pipeline underwent a thorough inspection process back in 2018 which saw a 'smart pig' sent through the pipe to report back on the pipe's condition and any potential issues.

The re-connection of the Oikos Feeder Line also compliments the existing connection to UKOP (United Kingdom Oil Pipelines) giving Oikos the distinction of being the only independent terminal to be connected to two national pipeline systems.

Plans are also being developed for an additional 300,000m³ of storage as part of the Southside Development as an integrated fuels terminal and distribution hub on a nationally significant scale.

It is encouraging to see the sector increasing its resilience at this point in the economic cycle. Such efforts do need the Government to continue to see the fuel storage sector as critical national infrastructure and to provide the policy and investment certainty over the long-term to ensure we see the innovation needed. To that effect, we look forward to seeing the much anticipated National Infrastructure Plan in the coming months as part of recovery and restart efforts.

For more information, visit www. oikos.co.uk



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BEYOND REACH... THE IMPENDING IMPACT OF BREXIT ON CHEMICAL SUPPLY IN THE UK

Having officially left the European Union, the UK is now in an transition period covered by the Withdrawal Agreement, but when we get to the end of 2020, all EU legislation will cease to apply in the UK – including REACH.





aving officially left the European Union, the UK is now

in an transition period covered by the Withdrawal Agreement, but when we get to the end of 2020, all EU legislation will cease to apply in the UK – including **REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)**.

On 31 December 2020, the UK will implement its own version of REACH, completely replacing the EU law. This has huge implications for UK businesses supplying or importing chemicals to and from Europe.

Wherever you sit in the supply chain, **Bill Atkinson**, **Chief Scientific Adviser** at Adler and Allan outlines the steps required to ensure you don't fall foul of compliance under the new laws.

REACH in brief

REACH applies to substances manufactured or imported into the EU in quantities of one tonne or more per year. It requires manufacturers, importers or distributors of chemicals to register them with a central body (currently the European Chemicals Agency, ECHA). Failure to register their substances means they are not able to legally manufacture or supply them.

What will happen with Brexit?

EU REACH will no longer apply to England, Scotland or Wales, and instead The Department for Environment, Food and Rural Affairs (Defra) and the Health and Safety Executive (HSE) will implement our own version – UK REACH. Companies in Northern Ireland will still be covered by EU REACH according to the 'IE/NI Protocol'.



Registration with UK REACH is likely to follow closely the process under EU REACH and as such should be a familiar process for most.

Registration with UK REACH is likely to follow closely the process under EU REACH and as such should be a familiar process for most.

UK-based However, as а storage operation, if you handle chemicals (more than 1 tonne per year per substance) going to or coming from European Economic Area countries post-Brexit, you may well have to comply with both the UK and EU versions of REACH. It is the responsibility of individual companies to assess their operations and decide whether they need to comply with both the UK and EU regimes, or just one.

What action will you be required to take?

lf you are а **UK-based** operation supplying only the UK market things should be fairly straightforward. As an importer, Only Representative or distributor, if you are currently registered under EU REACH, your registration will be automatically legally recognised or 'carried over' to UK REACH when the transition period ends on 31 December 2020.

You will still need to confirm your existing registration and provide supporting information to the HSE within 60 days of Brexit on 31 December, but the process will not incur any fee.

You'll then be given a new UK REACH registration number. Safety Data Sheets created under EU REACH will be valid under UK REACH.

UK classification, labelling and packaging of substances and mixtures (CLP) will also come into force, replacing (and expected to entirely replicate) EU CLP regulations regarding classification and labelling.

What about importing from the EU post-Brexit?

If you are **UK based but procure** or store chemicals from **EU/ EEA-based suppliers**, you'll need to go a little further. It's vital you ensure the chemicals (over one tonne per year) are covered by a valid UK REACH registration held by one actor within the supply chain. Even though the supplier is based in the EU there must be a UK registration covering the substances. Note that different rules may apply to re-imported materials too.

And what about exporting to the EU market from January 2021?

If you're **UK based but facilitate** supply to the EU market, after 31 December 2020 you will no longer be able to register substances in the EU. All existing substance registrations will need to be officially transferred to an EU/EEA-based legal entity. *This will not be done automatically* but will need to be actioned via the 'legal entity change' functionality in the REACH IT system.

Any substances you export after 31 December 2020 will still have to comply with EU regulations as well as UK ones, including EU CLP Regulation. This means you must classify and label your products accordingly. Though you will not need to submit notifications to the C&L (classifications and labelling) Inventory.

If you are handling *hazardous* mixtures headed to the EU, Annex VIII of CLP will still apply for mixtures for professional and consumer use, though UK-based companies will not be required to submit a poison centre notification here.



Time to put plans in place

The sooner you understand what your obligations are during the transition out of the EU, the sooner you can begin to make plans to comply. This may involve taking on more legal responsibilities than at present - even if you're a UK-based operation dealing only with the UK market.

It is clear that Brexit will have a potentially huge impact on chemical supply and consequent business planning for the years ahead. As the transition period of the Withdrawal Agreement ticks away, it's time to seek advice, do your research, and put action plans in place to avoid consequences further down the line.

For more information, visit www. adlerandallan.co.uk

The sooner you understand what your obligations are during the transition out of the EU. the sooner you can begin to make plans to comply. REACH applies to substances manufactured or imported into the EU in quantities of one tonne or more per year.



PAGeoTechnical have over 20 years' international experience in the management of complicated geosynthetic lining projects utilising specialist materials from the world's foremost manufacturers.

FIRE-FOAM: A BLESSING OR A CURSE!

PAGeoTechnical's Managing Director, Peter Atchison, talks to Insight about fire-foam.

Α

t first, this may seem an unusual heading but at least it has you

reading this piece!

Fire is probably the greatest fear of anyone in the petrochemical industry and fire / explosion is an ever-present risk for everyone in this sector. Fortunately, these events happen very seldom but we all remember "Buncefield" and the effect that it had worldwide. More recently, the explosion in Beirut, whilst not tank farm related, shows the risk of inappropriate storage of potentially explosive materials.

Another element of increasing concern is the environmental impact that we have on the planet, not only in providing fuel and chemicals which have a deleterious effect on the environment when used; but possibly, and importantly, the potential for pollution if spilled into the ground / into a water course during the operations around our storage and distribution facilities.

As an industry, we are rightly proud of our approach to both environmental and safety issues and have a laudable record of good management across both areas.

So, fire foam - or more correctly Firefighting foam - should be a popular addition to our safety armoury, offering as it does, quick and safe extinguishing (and prevention) of combustion and potential explosion. Used in all aspects of firefighting where fuel is involved, notably in aircraft fires and industrial applications. We have stored such materials for years to use in the hopefully unlikely event of a fire, as it offers effective and critically instantaneous extinguishing. As a prophylactic, we use the same foams to cover spillages as they replace any oxygen above the spilt fuel and prevent ignition.

So much for the "blessing", so

why a curse?

Most fire foams contain a compound known as PFAS Perand polyfluoroalkyl substances. These are manmade chemicals, found in many modern products as disparate as Gore-Tex and Teflon, which are resistant to grease, oil water and heat and have been around since the 1940s offering improvements in a vast array of manufactured products. Hence, they are ubiquitous in the environment and herein lies the problem: they are all around us and don't decay! Recently, we have identified that these compounds are migrating throughout our ecosystem and a growing body of science has found that there are potential impacts adverse health associated with PFAS exposure. These include liver damage, thyroid disease, decreased fertility, cholesterol. high obesity, hormone suppression and cancer.

In Australia, the use of firefighting foams has been identified as a major source of PFAS contamination, having no deicing pads (de-icing of planes not being a problem due to climate), fire foam drills were just conducted on the airfield and the foam washed away down the drainage systems. In the colder northern climates, these drills were normally conducted on de-icing pads which have containment systems as we are aware of the environmental effect of glycols etc..

So, what has all this to do with fuel storage? Well, here are three distinct issues:

1. Firefighting foam is expensive so, regardless of any environmental impact, we do not want to use more than we need to. If used in a preventative way to cover a potentially large area of spilled product in a contained area, such as a containment bund surrounding a large oil storage tank, this can involve a lot of product for a relatively minor spill. This has led to some operators working with specialists to sub divide their large containment areas, thus allowing small spills to be managed in a relatively small and confined area reducing massively the costs of foam suppressant and, of course, the resultant clean-up costs.

- Storage of the firefighting 2. foam itself becomes an issue. As a potential ground contaminant itself, we need to consider it as potentially as damaging as the main products we store, in the event of uncontrolled or unintended spillage. Storage tanks for the foam itself are starting to require their own containment secondary and some operators are choosing to site these tanks inside an existing contained area such that they comply and are close to the position of need. I suspect the risk assessment, however, will identify the almost comedic potential of not being able to deploy the fire foam as there is a localised fire surrounding the tank.
- Disposal: in the event of Fire-foam being deployed either as a precautionary measure or, heaven forbid, "in earnest". This would be expected to be considered as contaminated, be that as a result of the spilled product, the foam or the combination of both. Care in its disposal is critical and potentially onsite

storage lagoons or tanks for this contaminated fluid may need considering in overall site contingency planning.

Current design and solution processes in the management of sites' health, safety and environmental management audits will undoubtedly play a part in managing these newly emergent concerns. There is a new ISO document "Design with geosynthetics" due for publication later this vear. Furthermore, the CIRIA guidance document C736 is also under review. The incorporation of solutions in refurbishment of tank farm storage facilities will be necessary in terms of managing expectations from both regulators and management boards who will be balancing costs of compliance with risks from leakage events and reputational damage in a highly volatile and changing economic marketplace worldwide.

The geosynthetics industry along with civil engineering solutions and modern design, all have a part to play in managing this continually changing landscape.

For more information, visit www. pageo.co.uk



Join the voice of the bulk liquid storage sector

TSA champions the UK's bulk liquid storage sector and its role in supporting growth and prosperity.

We have several membership levels available for bulk liquid terminals, distribution terminals and hubs, as well as equipment and service suppliers.

Join us. Choose your membership at <u>www.</u> <u>tankstorage.org.uk/join-us</u> TSA offers a range of membership benefits, including weekly political and media updates sent directly to your inbox.

To receive all the latest information. news and guidance, visit www.tankstorage.org.uk/join-us_



To find out more, write to info@tankstorage. org.uk



STANLOW TERMINALS LIMITED HAS BIG AMBITIONS

F Terminals ambitions. L side of the N the major cit Manchester or a company that was only established in 2020, Stanlow

Terminals Limited has big ambitions. Located on the south side of the Mersey Estuary near the major cities of Liverpool and Manchester, Stanlow Terminals owns and operates the largest tank storage facility in the UK, with over 3 million cbm of capacity within its portfolio.

Created on the opening day of the new decade, Stanlow Terminals was a carve-out of Essar Oil UK's huge Stanlow Manufacturing Complex including tanks, pipes, marine facilities and Europe's largest road load-out terminal.

The UK's largest independent bulk-liquid storage terminal can boast unrivalled connectivity to domestic and international markets through road, barge and jetty connectivity, plus access to key national distribution pipelines such as UKOP and the Manchester Jet Line.

The location is strategically significant, serving the UK energy corridor and including major population centres, key regional airports and accounting for 60% of national transportation fuel demand.

But despite its close proximity, the company operates separately from the refinery with its own independent management team. With over 100 years of oil and oil product storage experience between them, they have an unrivalled understanding of the commercial and technical sides of the industry.

Led by Chief Executive Patrick Walters, the management team have extensive knowledge of the company's assets and a commitment to operational excellence and ongoing growth opportunities. This is underlined by the fact, that for the first time ever, the infrastructure around the refinery is now being professionally marketed for third party use.

Historically, Essar's priority had been on the safe and efficient operation of the refinery. The storage tanks, pipelines and the import/export marine facilities

Located on the south side of the Mersey Estuary near the major cities of Liverpool and Manchester, Stanlow Terminals owns and operates the largest tank storage facility in the UK, with over 3 million cbm of capacity within its portfolio.





were not viewed, until recently, as infrastructure assets which could be marketed to other companies. That has all changed with the creation of Stanlow Terminals as a standalone business making its own decisions on operations, maintenance and capital spend.

Although still in its early days as a standalone enterprise, Stanlow Terminals has a clearly defined long-term vision to maximise the site at Stanlow to create a cluster of growing energy and chemical businesses. The refinery and, increasingly, low or zero carbon fuel processors will be at the heart of this cluster, utilising the land and storage capability at Stanlow to grow their businesses. Fuels of the future will be manufactured. processed and stored on site utilising road, pipeline, sea and rail for in and outbound transportation.

The refinery itself is already earmarked as an anchor location within the Hynet initiative, designed to establish the North West UK as a low carbon hydrogen hub and help protect energy intensive industry jobs in the region. Earlier this year, the project - which will see the development of the UK's first Low Carbon Hydrogen Plant at Stanlow - received UK Government support. The plant will produce 3TWh of low carbon hydrogen (double the UK's total current production of bio-methane) which will be provided to industrial and eventually domestic customers in the region.

The facility will deliver low cost, low carbon hydrogen at scale and high efficiency and with a very high carbon capture rate. Over 95% of the carbon used in the process will be captured and stored, thanks to the project's pioneering carbon capture technology. When operational, the facility will capture 600,000 tonnes of CO₂ per annum - the equivalent of taking over 250,000 cars off the road.

But even today, Stanlow Terminals offers high quality associated storage and infrastructure assets with significant scale and world class loading and unloading facilities. Its 201 operating storage tanks offer a UK leading capacity of 2.9 million cbm (with an additional 104 storage tanks available within its perimeter offering a further capacity of 408,000 cbm). Beyond just its huge storage potential, the company offers its customers easy import and export options across a diverse bulk product range (crude oil, gasoline, diesel, jet fuel, biofuels and chemicals).

At Stanlow, the company hosts a well-resourced infrastructure portfolio. This includes the nation's largest road terminal, with 17 self-loading gantries (featuring a vapour recovery system), with a current capacity of up to 26.5 million litres a day. There are also six barge berths on the Manchester Ship Canal with the capacity to service loads of up to 12,000 tonnes.

Further down the Mersey, the Tranmere Oil Terminal is situated on the west side of the river opposite the Albert Dock Complex and Liverpool City centre. There, two deep water loading jetties, are available for crude and diesel import/export. The North and South jetties have a crude vessel capacity of 210,000 and 115,000 tonnes, respectively.

Essar and Stanlow Terminals have obtained all relevant environmental permits to ensure that the Stanlow Manufacturing Complex is



A commitment. to Health, Safety and Environmental excellence lies at the heart of the Stanlow Terminals business.

For a company that was only established in 2020, Stanlow Terminals Limited has big ambitions. compliant with all applicable environment regulations. A commitment to Health, Safety and Environmental excellence lies at the heart of the Stanlow Terminals business and with an excellent environmental and safety track record, it works closely with the appropriate regulatory authorities.

The company has a robust HSE management system in place, drawing upon the operational expertise of Essar to implement a market-leading solution of Hazard and effect identification, continually evaluating risks to ensure As Low as Reasonably Practicable ("ALARP") standards.

A Major Accident Prevention Policy and Major Hazard Risk Assessment systems, together with other key policies, also ensure every employee and stakeholder embeds a



culture of HSE excellence and responsibility in their daily work.

This has been recognised externally too. with an independent audit conducted by DNV allowing Stanlow Terminals to achieve International Standard ISO 45001 accreditation. Alongside this, the Stanlow Manufacturing Complex also received the Royal Society for the Prevention of Accidents (RoSPA) Gold Award in 2020 for its safety performance record.

For more information, visit: www.stanlowterminals.co.uk



Stanlow Terminals offers high quality storage and associated infrastructure assets with significant scale and world class loading and unloading facilities.







LATEST ON THE PETROLEUM DRIVER PASSPORT (PDP) SCHEME

The PDP Scheme, first proposed in 2012, has been up and running for nearly six years now. From its implementation in January 2014, it has grown and grown, and there are now over 11,500 cards issued.





t's hard to believe, but the PDP Scheme, first proposed in

2012, has been up and running for nearly six years now. From its implementation in January 2014, it has grown and grown, and there are now over 11,500 cards issued. This successful take-up has been in no small measure due to the fuel storage terminals and their long-standing support. The Downstream Oil Distribution Forum (DODF) are very grateful to them for their role in promoting and enforcing the PDP Scheme.

The PDP Scheme operates across all of the UK to ensure that all petroleum tanker drivers are trained and assessed to a consistent industry standard, which was originally agreed by industry representatives, regulators and union representatives. It is a voluntary industry scheme, backed by the UK Government, designed and implemented by industry. The DODF retain ownership and

management of the PDP Scheme on behalf of the industry, and the TSA has been a DODF member from its inception.

The Scheme delivers a consistent of level classroom/practical training to all petroleum tanker drivers, backed up by a standard and a system of approval and enforcement. All petroleum tanker drivers should have a PDP card regardless of their employer, type of vehicles, grade(s) of petroleum product, or loading point. It is additional to ADR training, and importantly includes a practical assessment of a driver's loading, driving and unloading skills and knowledge. As with an ADR licence, the PDP card is held by the individual driver to allow freedom of movement between employers.

UK Terminals are the primary point of enforcement for the PDP Scheme. The Terminals issue site-specific loading cards to suitably qualified individuals, and have agreed that drivers with PDP card are demonstrably trained and competent. Therefore, the Terminals require drivers to have their PDP card to load, and carry out spot checks on annual validity. As with every other sector, this year has not progressed as planned! In late March the DODF reviewed the PDP Scheme in the light of the Covid-19 pandemic. Our priorities

were to follow Government guidance, reduce risk to all parties involved, and keep the economy moving by ensuring drivers could continue to work safely, load at Terminals, and deliver product. As a result, DODF introduced temporary amendments to allow for the difficulties in training and assessing drivers due to the Covid-19 restrictions. These amendments include an extension to PDP card expiry dates (all driver PDP cards, which expire between 1st March 2020 and 1st November 2020, remain valid until 30th November 2020) and allowing drivers to complete their annual refresher at any point in the 2020 calendar year.

As lockdown restrictions have begun to ease, DODF and the PDP Scheme Manager, Scottish Qualifications Authority, have worked closely with BEIS, DfT and Unite the Union on the safe restarting of training and assessment. In August, we issued comprehensive guidance to training providers, which included measures for conducting classroom training and practical assessment safelv. To help further, we have granted a temporary dispensation to use a distanced drive assessment as part of the

practical assessment to avoid having two people in a cab, and, in conjunction with SQA, introduced the option of online training for annual classroom training.

Looking forward, we are planning the following:

- a marketing campaign to promote PDP Maintenance (a driver's PDP card is only valid if they undergo classroom training and pass a practical assessment every year), through posters, articles, social media, etc. We have introduced "PD Prompts" - drivers can sign up to receive reminders when it's time to renew their PD Passport/when their annual assessments are due (www.pdpassport. com/pdpassport/PD_ Prompts)
- to strengthen retail driver training by introducing additional training and assessment on ACoP L133 'Unloading petrol from road tankers' to ensure forecourt delivery safety standards, awareness and competency is improved and maintained.

and we are working with the Trade Associations to ensure the PDP Syllabus continues to align with current loading ✓ PD Passport

Petroleum Driver Passport

processes/terminology.

The TSA have been involved in the PDP Scheme from the beginning. Peter Davidson is a member of the DODF and represents the Trade Associations on the Finance Committee, while Barrie Salmon is part of the PDP governance body group. The DODF thanks TSA for their continued support and expertise.

The DODF are proud of the PDP and its growth; this scheme ensures all petroleum tanker drivers are trained to the same consistent high standard.

To find out more, visit www. pdpassport.com

Downstream Oil Distribution Forum

Independent Chair, **Peter Oakford** at peteroakford@ hotmail.com Secretariat, **Jenny Clucas** at jenny.clucas@cogentskills.com)

HUMAN RELIABILITY AND CRITICAL TASK ANALYSIS

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perators of UK regulated Seveso (COMAH) sites will be familiar with the Competent Authority's direction on major hazard critical task analysis and the requirement to assess the likelihood of, and if necessary, reduce the chance of human error.

This requirement is set out in the COMAH Competent Authority Inspecting Human Factors at COMAH Establishments, (Operational Delivery Guide)¹ HSE's Human Factors Road Map. As most tasks involving transfer and storage of hazardous substances will be safety critical it is difficult for terminal operators to work through this analysis in a systematic and prioritised way.

A Prioritisation Methodology

Working with several major hazard facilities in recent years, I have developed a systematic methodology which focusses on the most important safety critical tasks and provides an opportunity to identify which are most likely to lead to human error but also where, when undertaking a task there is little scope for recovery from an error in advance of an incident. Focussing on the most important, in terms of achieving a safe outcome, and those tasks which are most likely to fail without chance of recovery, means that operators can focus their attention and improvements where it matters the most.

The analysis of the factors relating to human reliability are best made by a team which includes representatives of those who actually undertaken the tasks so an open discussion can be held around the way the work is actually undertaken rather than simply reviewing documents and procedures.

Identifying Safety Critical Tasks

The methodology works best where the control and mitigation measures have already been captured as Bow-Tie^{**} diagrammes. If not, an initial list of control and mitigation measures in place to prevent a major incident should be drawn up. Then this list of controls should be analysed to identify which involve some degree of human involvement. An adaption of the CCPS / Energy Institute Guidelines of Bow Tie Barrier Analysis, as illustrated in Figure 1, helps with this sifting. Those control or mitigation measures falling into categories 3 and 4 should be taken forward for reliability analysis.

Figure 1: Identifying Safety Critical Controls. (Courtesy of CCPS and Energy Institute)

	Control Type:	Attributes	Function		
1	Passive Hardware	The control measure works by virtue of its presence			Act
2	Active Hardware	All aspects of control are executed by technology	Detect	Decide	Act
3	Active Hardware	The control is achieved by a combination of human	Technology	Human	Human
	& Human	behaviour and technological execution	Detects &	decide	Initiates
	(predominately		Alarm		response
	hardware)				
4	Active Human	Control is achieved just by human actions, often	Human	Human	Human acts
		interacting with technology	observation	evaluation	(including
					acting through
					technology)
5	Continuous	The control measure operates continuously			Continuous



Deciding on the Most Important Tasks

From the initial list of category 3 and 4 tasks the next stage is to select those which make the greatest contribution to controlling the risk of a major incident. This is done by applying the matrix shown in Figure 2. Each task should be ranked by its relative importance to preventing a major incident. For example, in the prevention of overfilling a tank during loading, checking the ullage space in the tank before adding product could be considered as more important then say monitoring the rate of filling. This is not to say both are not important, but this sifting stage is aimed at ranking all the tasks first identified. The guide words 'helpful', 'important' and 'vital' help with these judgements. The next issue to consider is the potential consequence of an error made for each task. So if an error would either immediately, or at some time later, result in a major incident then it should be ranked as 'Serious', alternatively, if the consequence could only be minor, even performed incorrectly, it should be classed as 'minor'. For example, routing product into the wrong tank, if the products were incompatible and could cause an adverse reaction would be considered serious whereas routing the product to the wrong tank where the result has only quality but no safety implications, could be considered as 'Minor' in consequence.



The first tranche of safety critical tasks subject to reliability analysis should be those rated as high criticality.

Probability of Error

A short summary of HSE's job-related performance influencing factors, PIF's, are used to decide what the risk of error is for each task selected from the criticality analysis stage. These factors are shown in Figure 3. A simple scoring system is used to rate each PIF. Each factor is scored using 6 points if the factor is not met, zero if it is fully satisfied and for any uncertainty or only partial compliance – 3. The example shown in Figure 3 rates the chance of error as 'high' because there is no written procedure or clear indications on the plant / equipment to guide people to the correct actions.

Opportunity for Recovery

Some errors may be discovered in time to prevent a major incident. Figure 4 shows the factors to consider when making these judgements. In this case there is a 'moderate' chance of recovery of an error in this task.

Overall Reliability

To complete the assessment the final task reliability or risk of error the chance of error and the opportunity for recovery are categorised according the error risk matrix shown in Figure 5. In the example of the pipeline inspection, the risk is judged as high because the PIF score is high combined with a moderate opportunity for recovery.

	Performance Influencing Factors			
	Task:	High Pressure pipeline inspection - internal condition inspection and analysis		
	Job Factor	S	Values	Score
1	Is there a performe	written procedure setting out the steps to be taken and how each step is	No = 6	6
2	Is the writ	ten procedure or checklist correct for the task being undertaken?	No = 6	6
3	Are there action?	clear signs, signals, and other information available to assist in the correct	No = 6	6
4	Is there a tolerance	good system/equipment interface (labelling, alarms, error avoidance/ to reduce the chance of a mistake or lapse?	Unclear = 3	3
5	Is the task	difficult or complex, involving multiple stages?	Yes = 6	6
6	is the task	routine?	No = 6	6
7	ls sufficie	nt time normally available to complete the task?	No = 6	6
8	Are appro	priate tools needed for the task always provided?	Yes = 0	0
9	ls effectiv contractor	e communication / exchange of information with colleagues, supervision, , etc needed to complete the task?	No = 0	0
10	Does the v lighting, v	vorking environment cause some degree of stress e.g. (noise, heat, space, entilation)?	Unclear = 3	3
			Total PIF Score	42
			Risk	High
			Ulah Diek	40.60

Figure 3: Scoring the risk of error using job-related performance influencing factors

High Risk	40-60		
Medium Risk	20-39		
Low Risk	0-19		

Figure 4: Opportunity for recovery from an error before a major incident could occur

Re	ecovery Factors Values Sco			
Task High pressure pipeline inspection - internal condition inspection and analysi				
1	Can a mistake be easily detected or could it remain hidden?		3	
2	Is the task undertaken by more than one person at the same time?	No = 6	6	
3	Is a checklist or job-aid used to guide the correct and complete actions or to indicate signs of	No = 6	6	
	unsafe conditions?		6	
4	Is the work checked by another person before being completed?	No = 6	6	
5	Would a mistake / error lead to an immediate adverse consequence?	No = 0	0	
6	Is the work action recorded in a log or other record?	Yes = 0	0	
7	Is there an automated back up system or alarm which would activate before the top event or	Yes = 0		
	adverse consequence occurred?		0	
	Total Recovery	Potential Score	21	
		Risk	Moderate	

Poor	25-42
Moderate	16-24
Good	0- 15



Making Improvements

Where the human error failure risk is high (poor reliability) then action must be taken to reduce the chance of a critical error. This can be done by automating the task or where this is not practicable, by reducing the PIF score or increasing the opportunity for recovery. This is shown in Figure 6.

Figure 6: Making improvements

Reliability Actions				
	High risk	Improve PIF	Automate or Redesign the Task	Automate or Redesign the Task
PIF	Medium Risk	No action	Improve recovery factors or reduce PIF	Automate or Redesign the Task
	Low risk	No action	No action	Improve recovery factors
		Good	Moderate	Poor
		Recovery Potential		

A list of example improvement actions is available on request from the author.

Conclusions

The methodology outlined combines prioritisation of safety critical tasks to ensure that attention is focused on the most critical safety related tasks and a two-stage reliability analysis looking at likelihood of error and opportunity for recovery. This systematic approach has been shared with HSE and included attendance of inspectors at a company workshop where the analysis was being applied to a large range of safety critical tasks.

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MANAGING IN A CRISIS IS IN OUR DNA

In this article, we look at the way we have managed our own business continuity through the lens of how we manage an emergency.



he world has changed beyond all recognition. We have seen

some businesses shut up shop overnight, while others remain, providing essential services to homes and businesses up and down the country. In this article we look at the way we have managed our own business continuity through the lens of how we manage an emergency.

A culture of resilience

While our 90-year heritage is built on fuel, we have emerged as the leading responder to environmental emergencies caused by a variety of factors. Our response capability means we are experts in navigating a crisis. We are routinely called upon to attend a wide variety of emergencies ranging from sewage leaks to tanker rollovers, and all the way through to major incident spills, such as high-volume breaches, which demand large scale protection and restoration of entire ecosystems be it on land

or on water.

We have applied this knowledge to ensuring our own business resilience throughout the crisis, adapting to each new situation as it arises.

Take our resource allocation for example, putting the right people in the right place at the right time, whilst maintaining social distance. There are a lot of moving parts in this crisis and demand for different products and services is likely to flex over the next six months as different parts of the economy restart. That's why whether it's a small or large industrial accident or even national emergency we manage our resource to cope with demand.

When attending an incident on the ground, one of the key things we have learned is to listen to the local stakeholders to understand the situation and monitor for changes. This current crisis is no different; we are keeping regular contact with our customers to anticipate their demand. For example, when travel picks up again, we are ready to support airports and forecourts with their fuel infrastructure and maintenance requirements, ensuring they can return safely and efficiently to service when required.



But even now, while demand patterns are changing, it is a great time to get some of the basic PPM work done, so you are ready to get back to business when lockdown eases. Preparation is key.

No two jobs are the same

Responders must always be prepared for the unexpected and unknown. The many variables at play in a tanker rollover that is leaking the same substance as last time make for a unique set of circumstances in each situation. Every one of these variables must be factored in to get the job done as quickly, effectively and safely and as the last time.

Navigating an ever-changing landscape requires flexibility and an ability to be pragmatic. In an emergency there is one goal, to stop the spill and reduce the environmental risk. The means of delivering this outcome could be different every time.

Adjusted processes

Throughout the Coronavirus crisis, just as in an emergency response, we have adjusted our working practices to allow us to support our customers.

The way we have always operated is to look at a problem

and work dynamically to find а solution and implement safely while considering it the commercial angle for the customer. We have worked pragmatically and dynamically with resourcing, hiring additional vehicles and reallocating assets, to ensuring teams can work safely.

For the majority of services we deliver, we have been identified as key workers and have adapted our operation to allow us to continue our great service. For example, colleagues travel in different vehicles to adhere to all government guidance on social distancing. We've built this into our resource strategy, meaning we know how many people and what time we need ahead of arriving on site. The adjustments we have made have been critical to us remaining operational throughout.

Resilient supply chain

But it's not just your own business you need to consider in times of crisis. How reliable is your supply chain? You need a partner that delivers quality and is reliable. The adage 'pay cheap, pay twice' has critical importance today. It can be tempting to cut corners in such an uncertain time, but this often leads to longer term higher costs.

Right at the very start of this crisis we looked at our own supply chain for items such as PPE. By predicting what would be in high demand through the crisis we were able to ensure we had reliable equipment stocks throughout to ensure we could respond to any job.

Practicing resilience

Regular callout exercises with clients are conducted to test their protocols and practical deployment readiness, such as the ones we conduct with port and harbour associations to test their Oil Spill Contingency Plans, from strategy and resources, to public health and environmental concerns. We have applied the same business resilience testing to our operation during the Coronavirus crisis to ensure we are able to continue to meet the demand of our customers.

Keeping Britain moving compliantly and safely

Throughout this crisis we have been instrumental in maintaining Britain's fuel infrastructure as well as tank servicing and spill response for large national organisations.



Throughout this crisis we have been instrumental in maintaining Britain's fuel infrastructure as well as tank servicing and spill response for large national organisations. We are here to support and guide our customers to ensure that the operational return after the crisis happens as smoothly as possible. A resolution to an emergency cannot wait – it requires immediate attention - and that's why resilience and agility is part and parcel of how we operate every day.

Conclusion

As we look to the next phase of this crisis and the gradual re-starting of the economy, to ensure business continuity you need a partner who has resilience in its DNA. We are here to support and guide our customers to ensure that the operational return after the crisis happens as smoothly as possible.

For more information, visit www. adlerandallan.co.uk



REYNOLDS TRAINING SERVICES ACHIEVES LEVEL 3 APPRENTICESHIP QUALIFICATION APPROVAL



The Bulk Storage Operator Technician level 3 qualification has gained approval from the Institution of Chemical Engineers (IChemE).



eynolds Training Services is proud to announce another first.

Our innovative Bulk Storage Operator Technician level 3 qualification has gained approval from the Institution of Chemical Engineers (IChemE). It is the first level 3 diploma to be approved by IChemE.

This level 3 qualification forms part of our sector-leading two-year Bulk Liquid Terminal Technician Apprenticeship. This approval is testament to the hard work our team and our partners have put into creating both this diploma and the wider apprenticeship.

Our mission was to create a robust recruitment pathway for the Bulk Storage and High Hazard sector with a focus on process and occupational safety, human factors and emergency response. By training and empowering individuals at the very start of their career we, at Reynolds Training, are helping to create an environment of competence that will resonate throughout a person's career and, therefore, throughout the industry.

As our managing director, John Reynolds, says: "It's about building a process safety culture through the individual. By empowering the individual, you empower industry. It's that simple.

"This new qualification creates clear career pathways for individuals, to show them how they can not only advance their own aspirations, but that of our industry.

"We want to promote this through the whole work-life of a career and by setting a positive cycle of competence in motion across all departments and levels of a site, from the boardroom to the coalface."

Careering the industry forward

The Bulk Storage Operator Technician level 3 Diploma and the associated Bulk Terminal Technician Liquid Apprenticeship offer a mix of classroom-based training and vocational onsite training and competency assessment delivered at CATCH - home to Reynolds' technical training centre in Stallingborough, North East Lincolnshire, UK.

Having this qualification approved by IChemE provides a new route to technical recognition for the sector, meaning that apprentices can go on to the professional Engineering Technician (EngTech) Certification. The commended assessors our course leaders for teaching the process safety fundamentals to an exceptionally high standard.

They also recognised the outstanding excellence of the facility at CATCH.

This includes a full-scale tank farm that offers a realistic, professional environment in which trainee engineers gain work-based experience in realworld problem-solving and risk assessment for major accident hazards.

"An incredibly proud moment"

As a business, it's an incredibly proud moment for us. We took a brand-new qualification, presented it to IChemE then worked with them through their process.

To be the first health and safety provider to achieve this award is an honour. It's a massive achievement for any organisation.

Bill Harper, who volunteers as part of IChemE's qualifications activities and led the assessment of the programme, said: "It is hugely encouraging to see the trainees are highly committed to the profession and acting as ambassadors for the programme, inspiring others to consider this as a pathway to professional qualification."

"A testament to Reynolds Training Services"

Peter Davidson, executive director of the Tank Storage Association, commented: "The bulk liquid storage sector is and will continue to be an important source of career opportunities.

"With a new wave of innovation and extensive demand skilled qualified for and specialists, we are delighted that this sector-leading apprenticeship programme has received recognition, a testament to Reynolds Training Services' commitment to the development of the next generation of talent in the UK."

More about Reynolds Training Services

Reynolds Training Services are the leading provider of training, competence assessment and management for the bulk liquid and gas sector, accredited by leading awarding bodies including NEBOSH, IOSH and GQA, delivering to the high hazard industry both nationally and internationally at site or from our world class training facilities located in the heart of Lincolnshire.

Learn more about what we do here: www.reynoldstraining.com

Insight asks John Reynolds about the Bulk Storage Operator Technician level 3 qualification

Q: How does this new qualification help individuals and industry?

John Reynolds: "The new qualification creates clear career pathways for individuals. It's about showing them how they can not only advance their own aspirations, but that of our industry. As a technical qualification, it signposts a career journey through iChemE's engineering technician process. From managerial, safety engineering, maintenance and beyond, it empowers people to broaden their career horizons, advance their skills and, crucially, keep those ever-burgeoning skills within the sector."

Q: How does this advance process safety?

John Reynolds: "At Reynolds Training, we work to a simple logic: by advancing an individual's career prospects, you are in fact enhancing process safety. In essence, you empower one person, then another, then you are empowering the entire industry. It's about building a process safety culture through the individual." Q: How will the qualification address the skills shortage?

John Reynolds: "The UK is alive with apprenticeships - it's a time-honoured methodology for passing-on training from one generation to the next. Apprenticeships are a proven formula in other sectors. That's why we created the 'Bulk Liquid Terminal Technician Specialism', which then gained approval from industry for use with the 'Science Manufacturing Technician Apprenticeship Standard'.

"We have made huge strides as an industry in creating a training pipeline, but the risk remains real of a skills gap opening up between the old and new hands - which leaves us, as an industry, potentially vulnerable. The new Bulk Storage Operator Technician level 3 diploma, which is part of our two-year apprenticeship, recognises this and helps to proactively rectify the problem." By training and empowering individuals at the very start of their career we, at Reynolds Training, are helping to create an environment of competence that will resonate throughout a person's career and, therefore, throughout the industry.

RTS Managing Director, John Reynolds



To find out more, visit www.reynoldstraining. com



PUTTING THE TSA AT THE HEART OF THE UK'S ENERGY TRANSITION

Stopford Energy & Environment outlines how the new BEIS energy transformation fund and other low carbon initiatives will benefit Tank Storage Association members.





he UK Government's climate change commitments

have introduced a considerable amount of legislation which aims to penalise Greenhouse Gas (GHG) emissions and incentivise GHG savings. Understandably, many organisations wish to avoid the penalties whilst profiting from the incentives on offer. Others wish to actively demonstrate their corporate social responsibility by switching to 'green' energy supplies and cutting their overall carbon footprint. Stopford has the capability to assist in all areas of GHG emissions reduction.

GHG emissions may arise either directly through the on-site combustion of fossil fuels, such as coal and gas, or indirectly using grid electricity which is generated from fossil-fuelled power plants. GHG emissions also arise using 'carbonintensive' resources. To incentivise GHG reductions, the Department of Business, Energy and Industrial Strategy (BEIS) have launched the Industrial Energy Transformation Fund (IETF), a £315 million suite of funding opportunities which are open to TSA members*.

The TSA are active in this area and have made several recommendations about the energy transition in the bulk liquid storage sector. These include, 'empowering industry by facilitating cooperation and knowledge transfer in the area and 'setting clearly safety', defined transition paths and realistic timelines to enable a stable landscape for long-term investments'. The IETF initiatives will support the TSA membership on the road to realising their key recommendations.

Emission savings can be achieved through energy efficiency measures or the use of low/ zero-carbon energy sources and resources.

Energy efficiency

The Department of Business, Energy, and Industrial Strategy (BEIS) have launched the Industrial Energy Transformation Fund (IETF) Phase 1.

The funding is available over the period to 2024. It will support

To incentivise GHG reductions, the Department of Business, Energy and Industrial Strategy (BEIS) have launched the Industrial Energy Transformation Fund (IETF).

businesses with high energy use to transition to a low carbon future, and to cut their bills and emissions through increased energy efficiency.

Figure 1: Image from 'The Industrial Energy Transformation Fund' Summary of responses to consultation – June 2020. Shows the Industrial Decarbonisation policy landscape. waste heat

- energy recovery from waste pressure
- resource process optimisation

However, they are not funding:

 energy efficiency measures in transport, lighting, or building heating and cooling



To be eligible:

Your project must focus on deployment of technology that has been proven to work through successful operations and/or is qualified through test and demonstration. The technology must improve the energy efficiency of an industrial process or processes. Your project must only be possible because of this funding.

Example technologies include:

- improved process control
- more efficient heat exchange
- more efficient drying
- energy recovery from

electricity generation, such as solar, wind, combined heat and power

It is probable that most TSA members would be eligible if they are already blending biofuels on-site, this would put these sites within SIC^{**} 19.2 Manufacture of refined petroleum products (excluding petrochemicals manufacture), within this there is a subsection - blending of biofuels, i.e. blending of alcohols with petroleum (e.g. gasohol).

For TSA members energy



optimisation for the heating of oils, recovering heat from boilers could be considered and may be eligible for these grants.

Stopford's consultants have successfully helped clients obtain the required funding and supported the implementation of the Low Carbon-based projects. Included below; are examples where Stopford have been involved in the implementation of Low Carbonbased projects that could be of interest to TSA members.

Oils from renewable sources

of decarbonising А way fuel terminals may be to manufacture an amount of their current fuel, from waste, such as converting waste plastic to oil. Using a pyrolysis process, waste plastic in the absence of air can be broken down to generate a range of oils and and syn-gas. Surplus energy could also be produced, which could then be used by other parts of the site and could lower operating costs. If sites are going to be streamlined based on the lower demand of conventional fossil fuels, then space could be allocated for these types of plants.

Stopford have been involved in the waste to energy sector for over 15 years and have significant experience working as consultants on energy recovery, design and delivery of complex projects and developing our own technologies.

Hydrogen switching

Traditionally high-pressure gas storage may not be within the current portfolio of most TSA members. With the initiatives for the hydrogen economy this may change. The UK Government have recently announced a £90 million package to tackle emissions from homes and heavy industry the fund includes construction of 2 of Europe's first-ever large scale, low carbon hydrogen production plants.

Stopford have been involved with hydrogen switching projects, assessing the engineering and safety measures required to switch over to hydrogen.

Carbon accounting

Carbon accounting helps business to quantify and measure the direct and indirect emissions to the Earth's biosphere of carbon dioxide and its equivalent gases from their industrial activities. This allows for the right decisions to be made to help mitigate against the emissions. Stopford have been involved with providing expert advice in the following areas:

- Cradle to grave carbon footprint appraisals
- Embodied and operational GHG emission baselines and forecasting across multiple sectors
- GHG emission inventory analysis support for multinational global clients
- GHG emission reduction
 strategies
- Carbon Disclosure Project
 (CDP) submittal support
- Streamlined Energy and Carbon Reporting (SECR)
- Financial liabilities including the Climate Change Levy (CCL) and Carbon Reduction Commitment (CRC)

Corporate sustainability reporting & carbon accounting are becoming the norm for companies. Key performance factors which capture value from sustainability. These factors can help drive the investment of capital to allow for innovation, the start of new ventures and build resilience.

Authors

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*Subject to meet eligibility criteria and funding deadlines **SIC Standard Industrial Classification of economic activity

Links

www.tankstorage.org.uk www.gov.uk/government/ organisations/department-forbusiness-energy-and-industrialstrategy

For more information, visit www. stopford.co.uk

Trimble.

3D LASER SCANNING OPENS PATH TO OPTIMAL OIL STORAGE TANK INSPECTION





ith oil storage in high demand over the last months, oil

company owners and tank inspectors have scrambled to maximize tank assets, increasing the need for tank measurement and inspection to ensure regulatory compliance.

The combination of too much oil production, plummeting prices, and suppressed demand from the COVID-19 pandemic were driving a major effort to keep petroleum storage tanks and terminals in good repair, retrofit or improve old tanks so they are more efficient, and construct new tanks and tank farms.

Technology Creates a Better Way to Look at Storage Assets

Under constant market pressure, oil producers, tank owner/operators and tank inspectors are looking for faster, more efficient construction and inspection methods. One of those methods is the use of 3D laser scanning, which enables quick, safe and accurate creation of point clouds, a detailed, graphic representation of tank structures to reveal any problems.

API 653 standards call for measured data on the verticality of tank shells, the roundness of tank shells, flatness of the tank bottom and any subsidence. Today, measurements that used to be gathered by surveying instruments known as total stations are increasingly made with laser scanning technology.

Laser scanning uses lidar (light detection and ranging) to capture millions of individual points on a tank's shell, bottom and roof. It also captures information on appurtenances such as nozzles, access points, stairs and ladders as well as nearby structures and terrain. Built-in cameras in the scanner capture digital images that provide additional documentation of tank conditions. The 3D laser scanner

can also be used for fitness-forservice assessments (FFS). To conduct a scan, the operator places the scanner at a few locations around a tank. In a few minutes, the scanner captures a point cloud consisting of closely spaced 3D points on the tank and structures. Depending on the size of the tank, the operator performs multiple scans to capture the entire site. In most situations, crews using high-speed scanners can complete the work in less than one hour. When the field work is completed, the inspectors begin the process of inspecting the digital copy of the tank.

Scanning Software Reveals More Tank Detail

Early lidar data-processing software was focused on managing point clouds and offered only limited functionality for analysis or modelling. With today's laser scanning data and software, API and ISO standard reports and more information can be ready in half the time than the traditional scanning method required. The additional data from laser scanning offers a more detailed look at a tank with technology now providing a scanning range up to 600 meters and a mere 14 millimeters spot size at 100 meters.

The software takes data from an inspection and automatically merges multiple point clouds into a single cohesive dataset. With the software enabling basic clean-up and organization, the resulting point cloud provides a comprehensive and precise picture of the tank.

Once the scanning data is imported and processed. the software can be used to examine the entire tank, leading to recommendations and approaches for any required maintenance and repairs. On out-of-service tanks, where the interior is scanned, inspectors can get detailed maps of the tank bottom, using colorcoding to indicate bends or depressions. Similarly, software can compare the tank shell to true vertical reference and automatically identify bulges or deformations that exceed a specified amount. This is where the benefits of laser scanning are really seen as the data shows the entirety of the tank surfaces, not just a sampling of areas that are documented with traditional methods.

With only a marginal increase in time on site, field operators can extend the scans to capture the surrounding ground and features. Customized analysis routines in the software enable technicians to efficiently isolate the structure or earthen berms that make up a secondary confinement. From there, the software can identify low areas or spill points in the containment berms, and then compute the capacity of the containment to compare it to the measured capacity of the tank and determine the efficacy of the secondary containment.

Throughout the processing, analysis and reporting phases, the software provides a 3D visualization of a tank. Users can easily create virtual views from anywhere in the project, including viewpoints from inside or above the tank.

Viewing software makes it possible to view the project and make basic measurements while preserving the integrity of the original data. The visualization tools serve another purpose, and that is to explain any issues to stakeholders. The graphics and extra reporting provided by the software help justify the needed expenditures for repairs or improvements.

Author

Jason Hayes is a Product Manager at Trimble Inc., where he is responsible for guiding the development of 3D laser scanning software and promoting Trimble laser scanning solutions.

For more information, visit www. trimble.com





The voice of the bulk liquid storage sector



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TSA Insight Magazine - Issue 3