Issue 5 Spring 2021

TSA
Tank Storage Association

INSIGHT

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

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CHALLENGES IN STORE: HOW EXISTING FUEL STORAGE AND TRANSPORT INFRASTRUCTURE IS CRUCIAL TO ACHIEVING NET-ZERO

The quarterly magazine from the Tank Storage Association

Also in this issue, we look at careers in the bulk liquid storage sector and the paths available to newcomers in the industry.

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 Spring edition of TSA Insight.

In this issue of the magazine, we explore some of the most significant examples of industry's innovation as we look ahead to seize the opportunities of the future. Against a fast-evolving landscape, career prospects in the tank storage sector are also expanding and new and exciting opportunities are emerging for the next generation of talent. We therefore explore careers in the sector and the paths available to newcomers in the industry. In navigating current challenges, this issue highlights how industry has adapted to deliver training in a virtual setting, and we speak to members about the vitally important theme of ensuring safety in our facilities.

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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TSA News:

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Online meetings and webinars

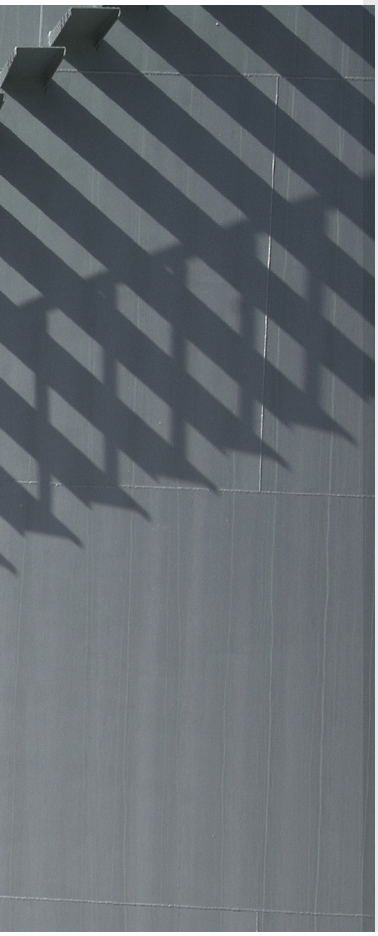
The COVID-19 pandemic has challenged our model of face-to-face meetings. To adapt and respond to the current situation, all of the following meetings will now take place online.

- 21 March 2021: TSA Council & AGM
- 15 April 2021: TSA SHE
- Committee
- 20 April 2021: TSA HR Committee
- 27 May 2021: TSA Customs & Excise Expert Committee
- 8 June 2021: TSA Technical Committee
- 23 June: TSA SHE Committee

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

TSA's Future Vision Report is available at www.tankstorage.org.uk/publications

Tank Storage Association launches new careers guides and career profiles to inspire the next generation of talent



Tank Storage Association has launched two new careers guides and career profiles which together explain what an apprenticeship involves and detail future career options and prospects in the bulk liquid storage industry.

Our industry offers rewarding and diverse career opportunities in business, operations, engineering, safety, marketing, science, IT, supply and trading, and many other disciplines. It is also important for environmental science, chemical and engineering graduates, related vocational skills as well as training and apprenticeships. Whatever skills you have, chances are the bulk liquid storage industry needs them.

In launching the two guides, Peter Davidson, Executive Director of the Tank Storage Association, said: *"In today's fast-evolving landscape, career prospects in the tank storage sector are expanding and new and exciting opportunities are opening up for the next generation of talent. Whether you are thinking about an apprenticeship, have a degree or are looking for the next step in your career, the bulk liquid storage industry needs you. With unprecedented opportunities ahead, now is the time to join a growing and exciting sector and play a part in shaping the future."*

For a copy of the Tank Storage Association's career guides, visit https://tankstorage.org.uk/publications/

COMAH STRATEGIC FORUM - "ALIGNED BUT NOT JOINED"

Over the last eight years, the remit of COMAH Strategic Forum has grown from a place of discussion to a place of decision and action, where strategic topics are decided and follow up action agreed.

Ken Rivers

A better game than tennis

The Forum was established in 2013 with a view to bringing the Competent Authorities and "chemicals sector" together to discuss matters of strategic importance in the management of major hazards.

Over the last eight years, the remit of CSF has grown from a place of discussion to a place of decision and action, where strategic topics are decided and follow up action agreed. The forum provides a platform and framework within which the various bodies involved in managing major hazards in the UK can more coherently interact. Practical problems can be nipped in the bud and longer-term strategic imperatives can be identified and addressed.

Key to its success has been the open, frank and mature relationship that had developed over the years between regulator and regulated in managing major hazards. The sharing of different experiences, insights and perspectives were recognised as leading to better outcomes and mutual credibility & trust built up through delivery on promised action.

It was not always so. It took the crisis surrounding the Buncefield terminal incident in 2005 to change the nature of the interaction between regulators and industry. Up until then, developments progressed like a game of tennis with one party proposing change which would be rebuffed with counter proposals from the other side. Solutions and ideas were battered backwards and forwards across the net to try to "win the point". Buncefield put an end to that. Buncefield was a shock to the industry, it was a shock to the regulator and most importantly a shock to the public. The whole credibility of the industry and the regulatory regime was under fire. We were all in the same boat, reputations were all on the line and the usual tennis match was not going to give us the answer.

I am proud of the way the leaders at the time stood up to the challenge. Industry and regulator all shared the view

that a Buncefield incident must never happen again. We recognised that by pooling our knowledge, experience and insights that we could deliver better, more effective, more efficient and more timely solutions. And that whilst we might not know what had gone wrong at Buncefield (and there was a commission working on that), we did know what had to go right and so we together could move quickly into action and delivery prompt and meaningful change.

TSA was a major contributor to this new paradigm and to embracing the mindset shift of "aligned but not joined" which recognised that we shared a common goal of preventing major incidents and that it was through open, frank discussion and pooling our different perspectives that we could best achieve that goal. It led to industry becoming more self-disciplined and holding ourselves more to account and it led to a more mature and collaborative relationship with the regulator.

The success of the Buncefield Standard Task Group in working together to identify, develop and deliver real change was subsequently continued and built on by the Process Safety Leadership Group which went on to establish the leadership benchmarks for managing major hazards in the UK. TSA again played a crucial role in establishing these guidelines.

Better outcomes in turn build trust and credibility and create a virtuous spiral, which manifests itself today in the COMAH Strategic Forum.

It has been a real privilege to chair the forum over the last seven years and to work with such a committed and diverse group of leaders including TSA's Peter Davidson. Managing major hazards can be a real challenge but I have been inspired by the dedication and commitment of everyone involved to find answers to the real problems and issues that face us.

I joined the forum in 2014. The initial imperative was to shape the Better Regulation review into major hazard legislation as well as ensuring the seamless introduction of Seveso III changes. There were some important and significant changes introduced including:

- COMAH Intervention Managers – single point of contact
- Coordinated Intervention Plans including EPR (England & Wales)
- Regulatory Challenge mechanism
- Clear information for business e.g. *"Understanding COMAH - What to Expect From The Competent Authority"* and *"A Guide for New Entrants"*
- A Performance and Recognition Framework that describes how the CA takes businesses performance into account when planning interventions
- Streamlines COMAH Safety Report assessment processes(Seveso III)

As mentioned, the remit of CSF has subsequently grown over time from a place of discussion to a place of decision and action, where strategic topics are decided and follow up action agreed. CSF commissions other bodies active in process safety to deliver in their areas of expertise for example on high level guidance with Chemical & Downstream Oil Industries Forum (CDOIF), on knowledge transfer with Process Safety Forum and on areas of competence with Science Industry Partnership Process Industries (SIPPI).

We have also identified the opportunity for a similar body in

the area of emergency planning and response. Together these form the "jigsaw" of interlocking parts of which CSF looks after strategy. In all these areas, TSA is also contributing and making a difference.

As the forum's influence has grown, so has its membership. The original Competent Authorities comprising HSE, EA, SEPA and Welsh Office now includes the Office for Nuclear Regulation (ONR). The major Trade Associations in the sector CIA, UKPIA, CBA and of course TSA have been joined by UKLPG and BCGA. The Unite union has added a further dimension to the forum.
Scope has moved beyond the "chemicals sector" to embrace all onshore CoMAH operators. At the present time, the forum's reach through the trade associations extends to about half of all CoMAH sites

One of the key achievements was a agreeing a vision for success that was shared by both the Competent Authorities and industry. This common vision provides clarity on what we are trying to achieve and enables us to focus action on delivering those outcomes.

The "vision" was published in July 2015 and re-endorsed in 2018. The main points are:

- Thriving safe and sustainable sector with a regulatory regime that supports business growth, high standards and strong compliance
- Good COMAH performance is seen as good business
- Principles of Process Safety Leadership and lessons of Buncefield are embedded in way business manages major hazard risks
- Confidence is underpinned by greater transparency in public reporting and sharing learning
- Consistent good performance and evidence of continuous improvement results in earned recognition and proportionate regulatory scrutiny
- Standards and expectations are clear giving business certainty. Business holds itself to account
- Regulators operate in a joined up way and adopt a consistent, risk based and proportionate approach

The question then was "what is the most important thing we need to do to achieve this vision?"

You may find the answer surprising – it was to turn "good practice" into "common practice". So, this is not about creating new tools and processes, but rather making sure that the existing armoury of good practice is known, available and used across industry.

Most – if not all – of the major incidents have causes that we have seen in earlier incidents and for which remedies and cures have been identified. The problem is we do not apply this learning comprehensively, consistently and continually enough. And a big part of the challenge is how we reach out to those who are not currently engaged or committed.

The CSF response has been to prioritise "leadership" and "outreach" with action plans to address these imperatives in a number of ways.

Leadership is key to delivering this change. We already know what good leadership in major hazard management looks like. The Process Safety Leadership Group published a set of principles together with organisation and resources as far back as 2009. The CSF working group on leadership, led by Peter Davidson, Executive Director of TSA, has helped to update and roll out that picture of "good leadership" across

the CoMAH sector through a major initiative on *"Major Hazard Leadership & Managing Risk Well"* in 2019, complemented by a number of publications, and culminating in the Competent Authorities' introduction of the leadership inspection delivery guide with support of the Trade Associations.

From now on leadership is on the regulator's inspection agenda with clear expectations on what good looks like. Equally for companies and their COMAH sites, there is support from Trade Associations and through the CSF website on how these requirements can be effectively and efficiently met. We believe together this can make a real difference.

Whilst getting leaders on board will help with outreach, it is equally important to stimulate interest and provide readily accessible information on "good practices". CSF has helped to do this through its website where there is a repository of information and links. Connection and engagement are prompted through CSF newsletters and encouraged through Trade Associations. CSF have also initiated an annual Open Meeting with a particular welcome to COMAH sites which may not be that well connected. The first meeting was very well attended and received. Unfortunately, subsequent events have been impacted by the pandemic.

Work continues in developing a compelling case for change through examples and case studies as well as looking at authenticating/validating "good practices".

What next?

There is still much to do to achieve the vision we originally set out in 2015 and to make "good practice" into "common practice". The work on outreach and growing leadership continues, but equally there are emergent challenges that need to be grasped.

The COVID pandemic has changed the ways we work and is likely to structurally influence how we organise and conduct our businesses to be more resilient. What are the major hazard implications? How will we manage the impact of Brexit and seamlessly repatriate legislation? The impetus on Climate Change and Decarbonisation is accelerating. What are the process safety implications on existing infrastructure as focus changes? How do we understand and manage the major hazard implications of greener solutions? Have we fully grasped the impact of changing weather patterns and extreme events caused by climate change?

New technologies such as digitalisation, big data, artificial intelligence, and cyber security provide significant opportunities to enhance process safety but equally have risks that require managing.

So, it is timely five years on from setting our initial vision to do a stock take of what we still need to do and to then consider how to integrate these new challenges into CSF's strategy for the next five years.

I am sure that making good practice into common practice will remain central. We have a body of experience painfully acquired over the last 40 years or more that we still need to learn to apply more comprehensively, consistently and continually.

Equally, there is an opportunity to share this learning with other industries. The building sector springs to mind. The Grenfell fire could be the building industries equivalent of our Flixborough

or Seveso. We could help significantly shorten the 40-year journey it took us to reach today's state of maturity to the benefit of thousands of people across the UK.

As I step down as Chair of CSF, let me leave you with some closing thoughts from my time in New Zealand:

Kua tawhiti ke to haerenga mai, Kia kore e haere tonu
He tino nui rawa ou mahi, kia kore e mahi nui tonu

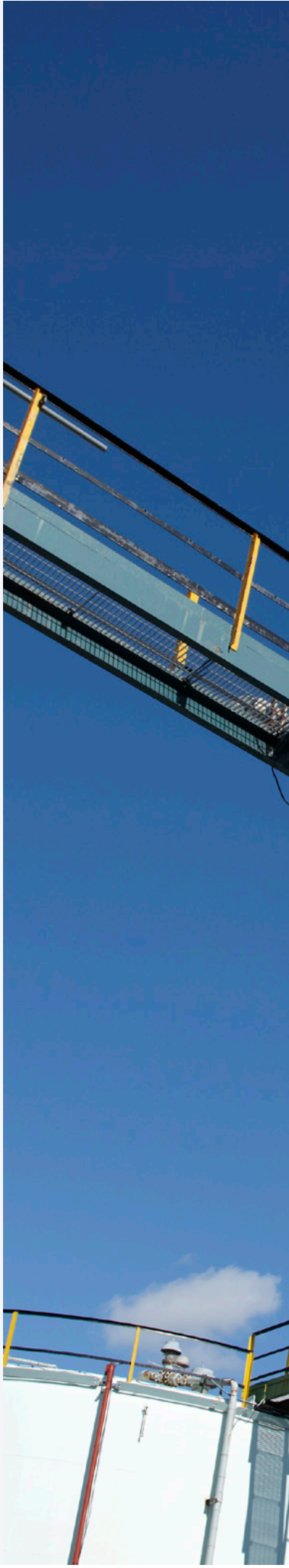
We have come too far not to go further
We have done too much not to do more

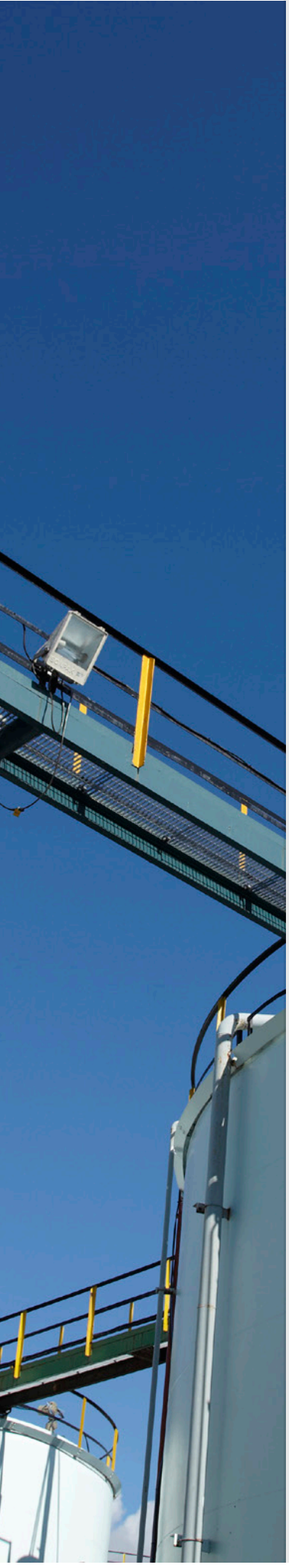
For more information on the COMAH Strategic Forum, visit: https://webcommunities.hse.gov.uk/connect.ti/COMAHSF/groupHome

Author

Ken Rivers has over 35 years' experience of the international downstream oil industry with Shell, working on various aspects of refinery operations. During this time, he became an expert on process safety, and Chair of the Buncefield Standards Task Group (an industry/regulatory body set up to improve safety following the Buncefield explosion in 2005).

In 2007 he moved to New Zealand and joined Refining NZ as its Chief Executive Officer, and was also a founding member of the Business Leaders Health and Safety Forum in New Zealand. He returned to the UK in 2012 when he was appointed Chair of the COMAH Strategic Forum. He has also been the Chair of the Midstream Oil Sector Government Task Force and President of the Institution of Chemical Engineers (IChemE).





Industrial Energy Transformation Fund (IETF) - Phase 1 Spring 2021

In 2020, the UK government launched the new Industrial Energy Transformation Fund (IETF), designed to help businesses with high energy use, such as energy intensive industries, to cut their energy bills and carbon emissions through investing in energy efficiency and low-carbon technologies.

The IETF is managed by the Department of Business, Energy and Industrial Strategy (BEIS) for England, Wales and Northern Ireland with £289 million to invest over consecutive application windows split into 2 phases.

Phase 1 - Spring 2021 opened to applications on 8 March 2021 and runs to 14 July 2021. This competition aims to support the commercial roll out and permanent installation of technologies at industrial sites. This is the second round of the IETF Phase 1 competition which closed in October 2020.

Businesses in England, Wales and Northern Ireland will have the opportunity to bid for up to £40 million in grant funding split between two strands.

The minimum grant support available per project is £100,000. The maximum grant funding that an individual project can claim is £14 million.

Phase 2 will launch in 2021 and will expand the scope of the Fund to include deployment of decarbonisation technologies.

If your site is based in Scotland, you can apply for the Scottish Industrial Energy Transformation Fund (SIETF). The SIETF has a budget of £34 million over 5 years, £26 million of which is funded by the IETF.

For more information on the IETF, visit www.gov.uk/government/collections/industrial-energy-transformation-fund

For more information on the Scottish Industrial Energy Transformation Fund (SIETF), visit www.gov.scot/policies/energy-efficiency/scottish-industrial-energy-transformation-fund/

MARTYN LYONS - A CAREER IN TANK STORAGE

Martyn Lyons talks to the Tank Storage Association about his long and interesting career in the tank storage industry.

Martyn Lyons

Martyn Lyons stepped down as Chairman and CEO of Inter Terminals in December 2018, following the sale of the business to the CLH Group.

Martyn's career with Inter Terminals spanned an amazing 33 years and TSA asked Martyn what has maintained his interest and enthusiasm over the decades.

A vibrant and dynamic sector

I have always said that there is never a dull day in the bulk liquid storage industry. The sector is vibrant and dynamic with constant change in markets, customers and their bulk liquid storage requirements as well as in legislation governing the major hazard industry.

For the past 15 years with the support of Canadian shareholders, Inter Pipeline, I was able to grow and expand Inter Terminals to be the largest in the UK and Scandinavia and one of the largest Tank Storage businesses in Europe. Prior to the sale to the CLH Group, Inter Terminals had 23 terminals, totalling 6 million cubic metres present in 6 European Countries. This was achieved by the acquisition of terminals in the UK, Germany, Denmark, Sweden and the Netherlands.

Inter Terminals' strategy was always to maintain a diversified portfolio of terminals, markets, customers and products. By doing this the Business was resilient to changes in market conditions in any one sector. The key to success or should I say keys to success are finding the right terminals in the right geographical locations. However, equally important are the assets within the business and those that come with new acquisitions. Assets are not simply high quality tanks, pipelines and associated infrastructure. The most important assets of all are the people.

I took huge pride in building and maintaining what I regarded as the best team of people in the business. As a strong and cohesive team we grew the business, successfully

I took huge pride in building and maintaining what I regarded as the best team of people in the business.

integrated new acquisitions into the fold and maintained a high level of personal and process safety performance and strong profitability and cash flow. None of this would have been possible without my team. We all wore the business on our respective sleeves and, to us, it was our business to nurture and maintain.

A career spanning 33 years

In my 33 years, I was lucky enough to have contributed to many different roles within the business, including operations, engineering, commercial and business development as well as senior corporate roles and the position of CEO for the past six years. This allowed me to gain an incredibly detailed knowledge and understanding of exactly how bulk liquid storage terminals operate and, what I know for sure, is that personal and process safety is of paramount importance.

The success of the business would not have been possible without an ongoing, united drive to maintain and improve SHE performance. There are always issues that arise in running a business of this size and of key importance is to maintain that healthy unease in respect of SHE performance. Incidents and accidents can and do happen and a key reason why they do relates to familiarity, 'taking the foot off the pedal', and allowing standards to slip. In addition, when an incident occurs, investigate it thoroughly, take the learnings and above all implement corrective actions. There are rarely any new incidents, more often it's the same ones perhaps manifesting themselves in different ways, but the underlying reasons are more often than not the same.

How do you prevent incidents and accidents? The answer in theory is simple: employ and train the best people. Implement fit for purpose policies,practices and procedures. And then regularly audit the operations to ensure the effectiveness of those policies, practices and procedures and compliance of them across the terminals. The practice is always more tricky though and complacency is and probably always will be a key route to downfall. Keeping the subject of high standards of personal and process safety performance requires highly qualified and competent and enthusiastic professionals who are and remain committed and enthusiastic.

The Buncefield terminal fire and explosion in December 2005 was a game changer for the sector, but one that led to a great opportunity to implement fit for purpose guidance for the safe operation of bulk liquid storage terminals. This was a significant incident that caused the biggest explosion since the 1974 Flixborough disaster, but incredibly fortunately did not result in loss of life.

Representing the Tank Storage Association (TSA) and the bulk liquid storage sector, I was fortunate to be asked to become part of the joint industry and Regulatory initiative to firstly assess the incident and then come up with initial solutions / quick wins. This was via the Buncefield Standards Task Group (BSTG). After this initial work was completed the BSTG evolved into the Process Safety Leadership Group (PSLG) and I continued to be a key member and contributor to this group which resulted in comprehensive guidance being produced and published in December 2009 for the benefit of the entire sector.

In addition, the PSLG Principles of Process Safety Leadership

were published. These were and still are wholly fit for purpose as the essential pillars of success in enshrining the fact that high standards of leadership are essential to ensure effective control of major hazard risks. These have been widely circulated and indeed the COMAH Competent Authority use both the PSLG final report and guidance and the PSLG Principles of Process Safety when carrying out audits of the UK's terminals.

The PSLG guidance and the Principles of Process Safety have long been a major part of the success of Inter Terminals and are an integral part of the annual strategic plan that was compiled by the Inter Terminals management team and then approved by the Board and implemented for use each year.

For me, being part of the BSTG and then the PSLG was a tremendous experience. I had the opportunity to work alongside some incredibly talented people in the industry and the Regulatory Authorities. I was able to embrace and implement the work from these groups into Inter Terminals and see with my own eyes that what we achieved does actually work very well in practice. There is no doubt in my mind that the first of the PSLG Principles of Process Safety Leadership which is that *'Clear and positive process safety leadership is at the core of managing a major hazard business and is vital to ensure that risks are effectively managed'* is incredibly important, not just for the safe and reliable operation of the business but also the consequent success and profitability of the business.

To achieve this in Inter Terminals, I was a firm believer that leadership comes from the top and clear, concise and strong leadership are the keys to success. Absolutely integral to this is a strong and cohesive leadership team and that is why I was so proud to be the CEO of in Inter Terminals.

Author

Martyn Lyons was CEO of Inter Terminals for six years, stepping down in December 2020 after a 33 year career with one of the most successful tank storage businesses in Europe. Martyn was also Chairman of the Tank Storage Association for over a decade and closely involved with the Association for over 15 years. He is currently taking a break before considering his next opportunity.

None of this would have been possible without my team. We all wore the business on our respective sleeves and, to us, it was our business to nurture and maintain.

I was a firm believer that leadership comes from the top and clear, concise and strong leadership are the keys to success and, to us, it was our business to nurture and maintain.

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CHALLENGES IN STORE: HOW EXISTING FUEL STORAGE AND TRANSPORT INFRASTRUCTURE IS CRUCIAL TO ACHIEVING NET-ZERO

Patrick Walters explains the fundamental role this existing infrastructure can play in creating a Sustainable Energy Hub of the future.

Patrick Walters
Chief Executive Officer
Stanlow Terminals Limited

Stanlow Manufacturing Complex has been producing fuels for the United Kingdom for the last 60 years. Patrick Walters explains the fundamental role this existing infrastructure can play in creating a Sustainable Energy Hub of the future.

The UK Government has set out its Ten Point Plan for a Green Industrial Revolution which will keep the UK leading worldwide innovation in establishing a net-zero future. I believe the Tank Storage Industry will play a key part in the country achieving these goals.

Increasing reliance on Biofuels

As the UK transitions to Zero-Emission Vehicles there will undoubtedly be changes in the fuel we use. Taking into account the practical issues for HGV's, aviation and the maritime sector, liquid fuel sources will remain in place as part of the net-zero solutions of the future. We can already see a shift towards electrification of vehicles, and while technology advancement is making greater numbers of electric cars available, it will be many years until the private and commercial ICE fleets are fully transitioned.

As part of bridging this gap the UK Government recently announced an increase to 10% Ethanol in petrol to come into force this year. This change is the equivalent of taking 350,000 cars off the road having an immediate effect on emissions hugely welcomed by the industry.

From a storage and logistics perspective, this has resulted in increased demand for Ethanol storage to ensure supply can keep up with consumer demand. These tanks require specialist linings to avoid corrosion and to manage HSSE requirements.

Stanlow Terminals has been working with coatings specialists to develop a suite of linings now being deployed, for multiple biofuel components to re-life existing infrastructure for these new greener fuels. This allows the repurposing of currently unused infrastructure originally built to handle products like fuel

oil, a fuel supply in decline.

The fact that existing unused infrastructure can be repurposed has enabled us to provide a faster more economical solution to increasing capacity requirements for this new growing market.

Greener Aviation

As previously mentioned the aviation industry has fundamental challenges in moving away from a traditional liquid fuel particularly with long haul flights and low temperatures at altitude. Therefore it is commonly agreed that a more traditional fuel will continue to be required in this sector. Innovation has therefore been focused on technology to produce a synthetic alternative fuel from a sustainable feedstock.

Sustainable Aviation Fuels (SAF) of the future will have similar chemical properties to existing Jet fuels therefore not bring with them the challenges of other new fuels in their storage and transportation requirements, meaning existing infrastructure can be used.

Existing infrastructure links was a major factor in Fulcrum BioEnergy selecting Stanlow for the location of their planned SAF Bio-Refinery. Fulcrum, a pioneer in making low-carbon fuels from non-recyclable household waste is due to

As the UK transitions to Zero-Emission Vehicles there will undoubtedly be changes in the fuel we use.

Stanlow TERMINALS

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

complete construction of their US plant this year.

The fact that Stanlow has storage tank capacity, development land and links to the existing Manchester Jet Line, the underground pipeline linking Stanlow Terminals to Manchester Airport, made it the primary choice for the development.

Re-tooling for Hydrogen & Carbon Capture

The fuel that is earmarked to play the most important part in the UK achieving net-zero is hydrogen, this is reflected by the prominence the government gave the fuel in its latest energy white paper.

The HyNet project already at an advanced stage of development provides one blueprint for the future. Under its proposals, blue hydrogen – produced from natural gas whilst capturing all CO_2 generated from the process – will be produced at Stanlow providing a net-zero fuel to decarbonise industry and heat UK homes. This fundamental change in how we fuel the country will bring significant new requirements for storage and transportation.

One of the uses of hydrogen set out is a net-zero replacement for diesel to fuel HGV's of the future.

The fuel that is earmarked to play the most important part in the UK achieving net-zero is hydrogen, this is reflected by the prominence the government gave the fuel in its latest energy white paper.

The bulk liquid storage industry will play a major role in achieving net-zero targets by supporting and developing the Sustainable Energy Hubs of the future.

Stanlow TERMINALS

In order for a seamless transition to this new fuel a network of fuelling stations will need to be established and ongoing supply methods established. Following this change through the supply chain to source, there will need to be developments in suitable storage, pipelines, road, rail and marine infrastructure. An exciting but substantial change to the industry.

In order to ensure a secure supply of natural gas to feed the blue hydrogen plant it is also likely investment will be required in new regional LNG (Liquefied Natural Gas) import terminals accompanied by LNG storage tanks fed directly into the plant. Once the hydrogen is produced there will be a requirement to capture and store all carbon produced from the process and this is where Stanlow Terminals can provide a unique solution utilising existing currently unused infrastructure.

Depleted gas reservoirs under the seabed in Liverpool Bay which were once used to supply natural gas to the UK now form vast empty caverns and are proposed as the location for CO2 storage. Offshore and onshore gas extraction assets with direct pipeline links to the Stanlow site will be repurposed to move CO2 to Liverpool Bay ensuring no carbon is released into the atmosphere during hydrogen production.

This opens up further opportunity for Stanlow Terminals to potentially establish wider access to these storage caverns and enable industry to capture CO2 produced at manufacturing and processing sites around the UK and deliver by road, rail or ship into Stanlow Terminals to ensure safe storage of CO2.

The Green Industrial Revolution

This is why I know that the bulk liquid storage industry will play a major role in achieving net-zero targets by supporting and developing the Sustainable Energy Hubs of the future. The storage and distribution of future fuels, energy sources and CO2 to meet consumer demand while protecting the environment will be a fundamental pillar of UK society and a supply chain ensuring minimal disruption to consumers and industry while maintaining key environmental requirements will be vital in maintaining day to day life as we know it. We should all be very proud of the role we are taking in the UK's Green Industrial Revolution.

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Author

Patrick Walters is Chief Executive Officer at Stanlow Terminals Limited.

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

DELIVERING ON TRAINING REQUIREMENTS IN A VIRTUAL SETTING

It has been a firm standpoint of the COMAH Competent Authority that regulatory activities must continue despite the pandemic.

Last year we spoke about managing major accident hazards at high hazard establishments in the face of COVID-19, but at the time we couldn't have predicted that the "temporary" measures associated with the pandemic would still be in place almost a year on. It has been a firm standpoint of the COMAH Competent Authority that regulatory activities must continue despite the pandemic, with many sites having to carefully think about how to demonstrate that they can maintain safe operations while adapting to reduced manning and other COVID measures.

Overall, it feels like our industry has risen to the challenge and adapted well, even where we thought that some process safety activities would be impossible to achieve. From our perspective, this in particular means HAZOP and other hazard identification studies, ALARP sessions and information gathering for assessments and reports. It was once unthinkable that any of these processes should be carried out remotely, but where needs-must, we have adapted well and managed to maintain the necessary high standards of work. That's not to say that all work going forward should be carried out remotely; we still recommend that studies are consolidated by an onsite review once things return to normal. On the whole, though, industry has learnt a lot about maintaining the highest standards of major accident hazards in a more virtual world.

The same goes for training. It has been great to see our clients embracing online training in favour of delaying face-to-face sessions until more 'normal' times. By adopting the most suitable video conferencing platforms, we have been able to adapt our workshop style of training facilitation and feedback has remained positive. There have been some lessons learnt along the way that we look forward to implementing as we widen our training capacity in 2021.

Industry has learnt a lot about maintaining the highest standards of major accident hazards in a more virtual world.

Limiting delegate numbers to smaller groups helps greatly in keeping up the energy needed for a productive training session. Facilitation is largely about engaging with delegates to make the most of their experience and make sure that the key messages stay relevant to them. This is easy when speaking face to face with delegates, when you can use body language to gauge feelings and change direction. Technology can become a barrier to communication but working with smaller groups can create a more comfortable atmosphere with more open discussion which ultimately helps delegates get the most from their course.

Shorter sessions have also been of great benefit. When the time and expense associated with travel is limited, there is more flexibility in session start and end times, which has worked to the delegates' advantage. Staying focussed on a video conference all day is tough on anyone, not to mention operators and technicians who would normally spend a lot of their time in the field. By limiting online training sessions to multiple shorter sessions, engagement has been positive and more consistent.

Successful training relies on a balance of delivery techniques that address the different learning styles of the delegates. Online video conferencing platforms no longer limit trainers to Powerpoint presentations and a lecture style of delivery. Using break-out rooms for small groups of delegates helps to engage those with more active learning styles by allowing them to participate in activities and apply what they are learning to practical situations from the outset. For those with more visual and aural learning styles, shared screens, whiteboards and chat functions all help to ensure that information is delivered in a way that benefits the individual, and make it easier for trainers to quickly adapt to the needs of the delegates.

Overall, it can be tempting to shy away from online training delivery in favour of delaying courses until they can be delivered in person. However, online methods of delivery can be quickly adapted to suit the organisation and the individual, which can result in positive training outcomes. We will be continuing to implement what we have learnt as we deliver online training to our clients through 2021. By bearing these lessons in mind, we can confidently deliver our bespoke courses in all aspects of process safety, as well as our new offerings of the Cogent Process Safety Management for Operators (PSMO) and Bowtie use and application, ultimately allowing operators to continue to demonstrate that they can maintain safe and efficient operations in this 'new normal'.

Authors
Jenny Hill & Carolyn Nicholls

For more information, write to enquiries@ras.ltd.uk

RAS Ltd is an independent firm of risk specialists established in 1993. To know more, visit www.ras.ltd.uk

RISK & HAZARD MANAGEMENT

John Bell Pipeline is the market leading supplier of Linepipe, Pipe-fittings, Valves & Steel requirements. For more information, visit https://www.jbpipeline.co.uk/

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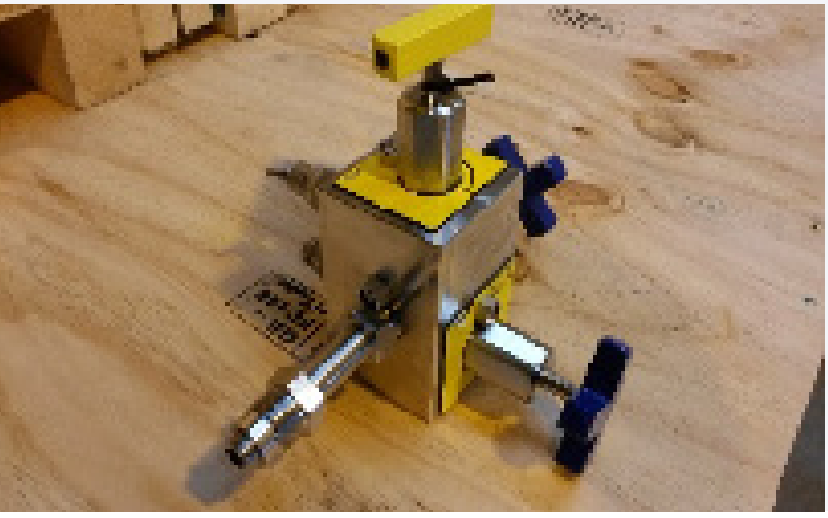


TSA's Associate Member JBP have a long history of supplying manual and actuated valves to a broad range of industries.

JBP's valve specialists have a deep understanding of the products and often work with their clients to develop solutions for the specific application. One recent project, for a North Sea operator, called for multi-port DB&B manifold valves, with a wide range of connections, X, Y, and T handles, in F55 Super Duplex material, with a variety of special tests, and qualification by DNV and Lloyds.

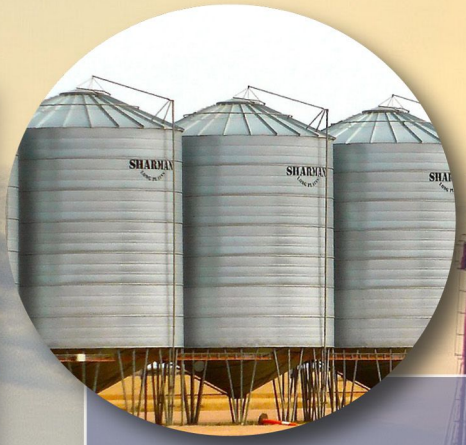
JBP worked closely with a UK OEM to identify a suitable design specification, and managed the various tests and inspections required. These 5000 psi valves were delivered on time, and to the agreed client specification. JBP hold large stocks of Manual and Actuated valves, and have teams of specialists based at both our Inverurie and Grangemouth sites.

Contact: sales@jbpipeline.co.uk or call JBP on 01224 714514

European Bulk Liquid Storage Summit

29th - 30th September 2021// CARTAGENA, SPAIN

Increasing Ports' Competitiveness in the context of Energy Transition



KEY TOPICS

- Outlook on European Tank Storage Markets
- Addressing Transportation Processes and Challenges
- Strategic Investments in Infrastructure to Improve Competitiveness
- Digitalisation in Ports and Terminals
- A Deep Look Into Non-European Chemical Industries and Their Impact Upon the European Storage Market
- EU Green Deal and its Effect Upon the European Storage Market
- The Untapped Potential of Liquid Natural Gas
- Circular Economy and Bioeconomy in the Energy and Chemicals Storage Sector

SITE VISIT PARTNER

PORT OF CARTAGENA

Puerto de Cartagena
Autoridad Portuaria de Cartagena

On the afternoon of Tuesday 28th September conference attendees will have the opportunity to visit the Port of Cartagena

CO-HOST PARTNER

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Port Tarragona

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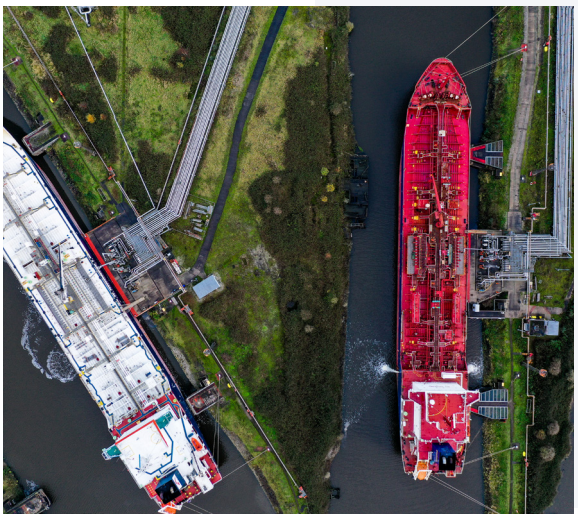
ACI
Active Communications International

FRUITFUL COLLABORATION ON THE WATERFRONT

Briggs Marine is a leading provider of marine and environmental services, specialising in port and marine operations, subsea and environmental support and vessel charter.

Photo credit: Stanlow Terminals



Located on the south side of the Mersey Estuary near Liverpool and Manchester, Stanlow Terminals has direct connection into the UKOP pipeline and Manchester Jet Line which supplies Aviation Fuel directly to the airport. Stanlow Terminals is strategically located for road and future rail distribution and connected to a large hinterland via the extensive UK road and rail networks, making all parts of the mainland accessible. Between the deep-water terminal at Tranmere and short sea terminals at Stanlow there are 8 operational jetties for the import and export of bulk liquids linked to tank storage capacity of 3 million cubic metres.

With this complex network of assets, selecting the right marine partner to run a comprehensive waterfront support programme is critical.

Briggs Marine is a leading provider of marine and environmental services, specialising in port and marine operations, subsea and environmental support and vessel charter. The company has over 45 years' experience in offering clients comprehensive solutions that minimise risk exposure and enhance competitive edge. By leveraging its successful track record across the full spectrum of marine operations, Briggs Marine enables its customers to focus on and achieve their own strategic goals.

Mark Thompson, Stanlow Terminal's Marine Manager, outlines the process and rationale behind their selection of Briggs Marine as a single-source supplier for everything from mooring through to berth management and emergency response.

Stanlow Terminals was established in January 2020 by Essar Oil UK with a remit to utilise the site's expansive infrastructure to grow third party business. Since 2005, Essar Oil/Stanlow Terminals has outsourced its waterfront operations to a third-party contractor. The last tender for

this work, which includes berth manning, mooring operation, minor marine maintenance and oil spill response and recovery, was in 2015.

We looked for a single-source reliable partner, with robust systems in place for the management of training and competency, while offering the full range of waterfront operations required.

Leading the field

Briggs Marine was known to our management team, all of which are either ex-mariners or have extensive experience in the maritime sector. During the tender process Briggs Marine representatives demonstrated in-depth industry knowledge and a strong team ethic.

We were also impressed with the size of their workforce network and internal systems.

For example, they were able to pull up current training data and certification on any personnel across the UK instantly during discussion. Furthermore, if the right skills were not currently available locally, Briggs Marine had the infrastructure and network to draft in the right person for the job from elsewhere.

As the tender process proceeded, cost reduction requirements also had to be addressed. A successful bid was dependent on a unanimous decision from not only myself and my operations colleagues, but also the procurement team.

Photo credit: Stanlow Terminals

Briggs Marine were able to make fast decisions on how they could accommodate these without compromising on service.

Once the contract had been awarded, Briggs Marine got started by putting a leadership structure in place that was underpinned by a mutual drive for safety and operational success through team competency, assigning a dedicated manager to the project for me to work with directly.

The company developed a comprehensive 6-week timeline to get the waterfront operation fully up and running, hitting each milestone on time and keeping communication lines open with our management team throughout the process. The whole operation went live on 1 June 2015, as planned from the start.

Safe pair of hands

Since then, Briggs Marine has worked closely with the team here at Stanlow Terminals on delivering consistently high results. We worked together to align shift patterns to cover all tasks and have put in place a clear escalation process that maximises efficiency. Open communication from Briggs Marine on any potential

waterfront issues that could affect our business is highly valued by our marine superintendents, who see the company as their 'eyes and ears' on the waterfront. A good example of this would be the speedy communication of information relating to the compliance of berthing ships. This level of vigilance also supports the wider shipping industry, as good reports for ships from the terminals they berth at have a positive impact on that ship's future trade prospects.

Briggs Marine is also a key player in Stanlow Terminals' continuous improvement drive, consistently ensuring that the right people are available at the right time to get every job done to a high standard. This pays dividends in optimising productivity and I am happy to share that Briggs Marine maintains its zero demurrage record – meaning that no ships have been delayed due to their operations since the contract started.

For more information about Briggs Marine, visit https://www.briggsmarine.com/

"Partnering with Briggs Marine has proven invaluable to the STL business in our first year of trading. The level of maritime and operational berth experience within the Briggs team accompanied by excellent implementation skills made for a very smooth transition from our previous service provider. A year on into our partnership and I am very happy with the highest levels of safety and service we have consistently received."
Mark Thompson, Marine Manager – Stanlow Terminals

Mark Thompson
Marine Manager
Stanlow Terminals Limited

Events

Europe's First Free to Attend Exhibition and Conference for the Lubricant Industry Launches in 2021

Lubricant Expo is Europe's first free-to-attend exhibition and conference to bring together the entire lubricant supply chain, its stakeholders and end-user industries. This unique event is taking place on the 7th & 8th September 2021 at the leading exhibition venue Messe Essen in Germany. The location and unique format of the event means it is poised to provide a commercial platform connecting each part of the lubricant supply chain with key customers and decision-makers.

Formulators, blenders and technology providers exhibiting at the event will meet the full range of end-user buyers, with an expected 2,000+ attendees from industries including Marine, Automotive, Aerospace, Shipping, Transportation, Energy, Medical, Industrial to name a few. In addition, lubricant supply chain companies including chemical providers, machinery and equipment manufacturers will gain direct access to lubricant development professionals and engineers concerned with the production of lubricants themselves. A free conference running alongside the exhibition will feature 50+ expert speakers covering sustainability, manufacturing and material developments, market opportunities and trends, industry-specific case studies, evolving customer requirements, big data, advanced monitoring, optimal testing and analysis, lubricant selection, formulating for demanding applications and automated lubrication systems to name a few.

Lubricant Expo conference provides a unique opportunity to gain access, on a complimentary basis, to an industry-leading programme that is not to be missed. To know more, visit https://lubricantexpo.com/

MEETING THE FUTURE OF TANK CLEANING

WSG understand the necessity to offer clients efficient and effective solutions, whilst also limiting exposure when working in confined spaces. We believe this balance is achieved by combining extensive experience, the latest technologies and proven conventional cleaning methodology.

The world of product storage is ever changing with the introduction of new fuels and technology, yet the methodology to clean a tank has stayed relatively unchanged for many years, i.e., transfer of products, de-sludge and process, jet cleaning and surface preparation followed by final inspection.

As an industry, we are leaning more and more towards the use of reduced or non-man entry systems and the role for robotics is becoming seen as a credible alternative to conventional cleaning as it reduces personnel interfacing with the workscope; this is classified as high risk within confined spaces containing various hazardous products. Within the tank storage sector, the necessary balance is a combination of technology with proven conventional cleaning methods, which when carried out by skilled, highly trained and competent personnel does allow onsite adaptation to ever-changing and evolving work faces and the unexpected situations presented when entering the tank environment.

Conventional vs New Technology

Conventional

Sam Snaith, Operations Director at WSG Industrial Services, believes conventional cleaning of tanks, delivered safely by an experienced contractor, such as WSG Industrial Services, can in certain circumstances have benefits over non-man entry systems. *"Whilst non-man entry technology is a major step forward, very often at some point the tank will need to be physically entered by a trained and skilled operator. Our specially trained and skilled personnel are able to continuously assess the working environment and offer flexibility to adapt in the ever-changing tank environment, ensuring the product and tank fouling are tackled effectively."*

Product levels and tank shell and roof fouling can be physically assessed for large capital tanks and component dozers can be used to significantly speed up these cleans. He adds, with personnel working inside the tank, the hard-to-reach areas,

i.e. coils, tanks legs, external floating roofs are managed with efficiency and experience. Safety measures are installed such as cribbing stacks and Ex-lighting. The use of cutting agents can be introduced to target areas within the tank, in addition jetting waters can be managed accordingly to limit the volumes of washings.

New Technology

In more recent years the industry has also seen the introduction of semi-automated robotics and mechanical equipment to the Petrochemical industry. The wide variety of technology available is developing constantly and is becoming the first consideration when planning a tank outage. The advantages of these systems are that they limit the need for personnel to enter potentially hazardous environments, reduce fatigue, and can increase productivity. They also have the capability for the process to be visually recorded for future evaluation.

For tanks, entering confined spaces is only considered if mechanical means are deemed to be impracticable, this could be due to the tank configuration and or available tooling; however, robotic technology can and should play a part in the future development in the way tanks are cleaned.

So how do you get the two methodologies to work in harmony?

Tank farms and storage facilities can differ in many ways, from tank design, maintenance schedules and products, inclusive of light end product tanks to more heavily fouled crude and bulk tanks.

Having the ability and understanding of all the available technologies, enables the WSG project team to assess and plan to ensure the safest and most effective methods are adopted during each planned works phase.

We can advise and deliver a customer driven and customised combination of services that can include conventional or 100% non-man entry robotic tank cleaning. Other associated services that may be required include heating and recirculation of product, cannon sweeps, vacuum tankers, UHP cleaning and surface preparation. WSG Industrial Services can also offer hydro abrasive cutting of the tank shell for improved vehicular or personnel access for maintenance and inspection tasks.

With multiple WSG locations and WSG Industrial Services based in Immingham and Teesside, we are well placed to deliver services to all our customers. Our access to the best technology, combined with years of conventional cleaning experience, enables WSG to offer a full lifecycle support service for a wide variety of tanks across the UK.

For more information on our tank, industrial and environmental waste services, contact a member of the WSG Industrial Team on 01469 574888 or 01642 494257 or uksales@wellservices-group.com

For more information on WSG, visit wellservices-group.com

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Well Services Group

PORT MARINE SAFETY CODE – WHAT IS IT?

The Port Marine Safety Code (PMSC) was developed in 2000 on the recommendations of the inquiry into the Sea Empress grounding off Milford Haven in 1996.

The Port Marine Safety Code (PMSC) was developed in 2000 on the recommendations of the inquiry into the Sea Empress grounding off Milford Haven in 1996. It set out how ports should be managed to ensure the same high standards of safety were maintained throughout the UK. Although not a legal requirement to follow the Code, failure not to would reflect badly on a port in the aftermath of an incident.

The Code consists of an overarching document (https://www.gov.uk/government/publications/port-marine-safety-code) which sets out the requirements and principles of the Code, supporting the Code is a Guide to Good Practice (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/854521/MCGA-Port_Marine_Guide_to_Good_Practice_NEW-links.pdf) which provides examples, advice and guidance on how to comply with the Code. The PMSC is published by the Department of Transport and on a day-to-day basis is overseen by the Maritime and Coastguard Agency (MCA). The MCA chair a steering group who review and update the contents of Code and the Guide to Good Practice, the steering group consists of numerous interested bodies including port trade associations, harbour authorities, harbour masters, unions, etc.

Following a number of incidents out with the jurisdiction of harbour authorities the requirements of the Code have been extended out to terminals, berths and jetty operators as well as marinas regardless of whether these facilities were within harbour authority jurisdiction or not. This required these bodies to follow the elements of the Code that were applicable to their operations accepting that some elements of the Code did not apply to terminal operators for example the provision of pilotage or a vessel traffic service.

So, what do terminals, berth and jetty operators need to do? Firstly, they have to understand how their

It is of vital importance that all terminal, berth and jetty operators read the PMSC and the Guide to Good Practice, assess which elements of it apply to their facility and take appropriate action to ensure the highest levels of safety are maintained.

organisation is structured and ensure that the Duty Holders are identified this would normally be the board of directors who are jointly and individually responsible for ensuring that their operation is compliant with the code. They need to appoint a Designated Person who has direct access to the Duty Holders and can provide assurance that the Code is being followed.

On a more practical front, they most ensure that their facility provides a safe operation and in particular the interface between the vessel and the shoreside. All activities must be risk assessed, procedures published, policies implemented, basically a safety management system for marine operations. The PMSC can be viewed as the marine equivalent of the shoreside H&S at Work Act and operators should satisfy themselves that they comply with the PMSC, the MCA do conduct visits to ports and terminals every year to verify compliance.

James Hannon MCA Port Policy Manager: *"The Government, other regulatory authorities and the industry associations have a very strong expectation that all statutory harbour authorities will comply with the Code and other organisations are encouraged to do. The MCA Ports Policy Team undertake PMSC Health Check visits on Ports and Marine Facilities (referred in the Code to as organisations)."*

"A Health Check visit is intelligence led and may be triggered for a variety of reasons ranging from reports which suggests a failure in the Organisation's or Port's Marine Safety Management System (MSMS). The main objective of a Health Check is to measure compliance with the Code and, where appropriate, identify ways in which compliance can be enhanced. It will also aim to identify and share any best practice. Non-statutory Ports and organisations are increasingly being visited by the MCA Port Policy Team following intelligence of non-compliance and/or observed or reported unsafe practices, this has included concerns relating to mooring operations and related deficiencies within the MSMS."

Examples of what this may require operators to consider are:

- mooring operations
- training and qualification of employees/contractors
- safe access to and from the vessel
- maintenance and construction of the facility, fenders, mooring bollards/ hooks
- depths of water, tidal range, safe under keel clearance and emergency preparedness

The safe access issue is a particular issue on the Thames with the combination of the size of vessels, design of jetties and the tidal range making it difficult if not impossible for the ship to rig a safe and legally compliant gangway. I have heard many terminal staff members say it is the masters responsibility, which is partially true, but it is also the responsibility of the facility operator to ensure a safe and compliant means of access is provided throughout the time the vessel is alongside. Such safe access is not just for the ships' crew or terminal personnel but also for the numerous potential visitors - agents, surveyors, pilots, mission to seafarers etc.

Think also what would happen if there was an accident on board and emergency medical services could not attend the vessels due to the lack of appropriate access? Although

mainly on tugs, workboats and fishing vessels there have been a number of serious incidents recently some tragically resulting in fatalities where the common theme was safe and appropriate access. Such incidents and reports of non-compliance are now being focussed on by both the MCA and the Marine Accident Investigation Branch.

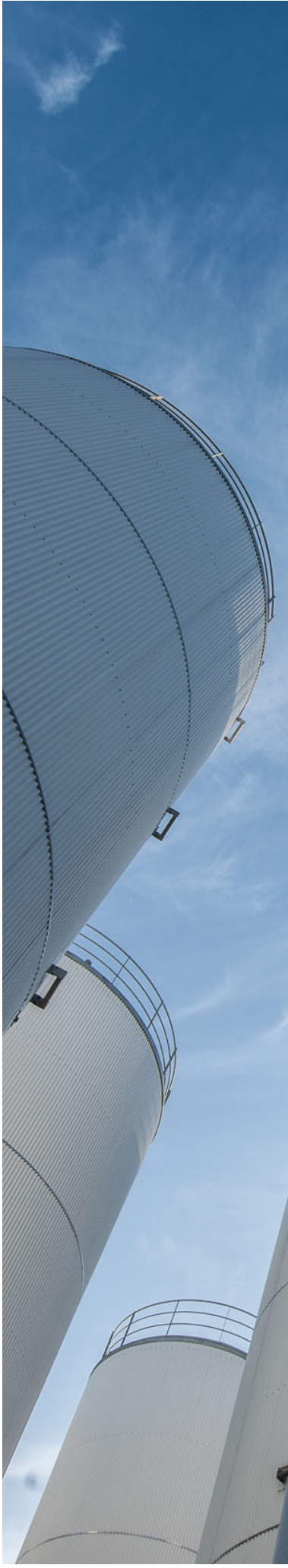
It is of vital importance that all terminal, berth and jetty operators read the PMSC and the Guide to Good Practice, assess which elements of it apply to their facility and take appropriate action to ensure the highest levels of safety are maintained.

Author
Bob Baker, Chief Harbour Master, Port of London Authority

For more information on the Port Marine Safety code, visit https://www.gov.uk/government/publications/port-marine-safety-code

To download the Guide to Good Practice on Port Marine Operations, visit https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/854521/MCGA-Port_Marine_Guide_to_Good_Practice_NEW-links.pdf

To know more about the Port of London Authority, visit http://www.pla.co.uk/



E10 petrol launches in September 2021

On 25th February 2021, the UK Government announced the introduction of E10 petrol from September 2021.

The introduction of E10 fuel, which is a mixture of petrol and ethanol made from materials including low-grade grains, sugars and waste wood, will boost the government's ambitions to reach net zero by 2050. Its introduction on UK roads could cut transport carbon dioxide (CO2) emissions by 750,000 tonnes a year – the equivalent of taking 350,000 cars off the road, or all the cars in North Yorkshire.

Commenting on the announcement, Peter Davidson, Executive Director of the Tank Storage Association, said: *"The Tank Storage Association supports the introduction of E10 petrol, a positive step towards meeting the UK's ambitious targets to reduce greenhouse gas (GHG) emissions to net zero by 2050. "*

"The TSA has been clear that the bulk liquid storage sector will have a key role to play in the energy transition and in creating the necessary infrastructure flexibility to manage change in support of the UK's net-zero goals. As essential partners in the transition, we will continue working collaboratively with the Government, Zemo Partnership and all industry partners to lead on the innovations needed to succeed.

For more information on the announcement, visit https://www.gov.uk/government/news/fuelling-a-greener-future-e10-petrol-set-for-september-2021-launch

For an electronic copy of the TSA report *"Enabling the energy transition: the role of the bulk liquid storage sector"*, visit https://tankstorage.org.uk/assets/Enabling-the-energy-transition-the-role-of-the-bulk-liquid-storage-sector.pdf

R&D TAX RELIEF: FUNDING THE ENERGY TRANSITION FOR TSA MEMBERS

With a ban on new combustion engine vehicles by 2030 and full decarbonisation due by 2050, now is a critical time for Tank Storage Association members to propel their innovation forward. R&D tax relief can help you offset your project investment.

Adam Kotas,
Chartered Tax Adviser

Around 65% of what is stored by TSA members is jet fuel, diesel and gas. Looking ahead, this will undoubtedly change. Over time, demand for traditional fuel storage will wane while low carbon and bio-fuels demand increases.

TSA members will be investing heavily in new assets, tank farms and new technologies which can facilitate this energy transition. These costs are substantial – but there is help available.

Funding the transition with R&D tax relief

Research and development (R&D) tax relief is a government incentive designed to reward UK-based companies for investing in innovation.

The latest HMRC research suggests that for every £1 awarded to an innovative company via R&D tax relief, up to £1.28 is stimulated in additional R&D expenditure for SMEs, and £2.70 for large companies. This happens because businesses often spend the benefit they receive on funding the next big push in their R&D work, e.g. hiring new skilled staff, expanding premises, or investing in new machinery.

The incentive is split into two parts: The SME R&D tax credit and the large company Research and Development Expenditure Credit (RDEC). The SME credit is worth up to 33p for every £1 spent on qualifying innovation.
If your business is investing £500,000 in R&D each year, you could receive up to £166,750. For many of our clients, it can be much more.

R&D in the world of tank storage

Innovation in the tank storage industry is intense and quite diverse as the industry adjusts to the UK's environmental targets. Safety concerns as well – especially around facets like tank cleaning – can drive innovation, with automation removing workers from danger.

R&D explained

Understanding what qualifies as R&D can be tricky. At ForrestBrown, we find that the following two questions help:

- Are you creating a new product, process or service?

- Are you changing or modifying an existing product, process or service?

If you're not sure if your project is possible, or you don't know how to achieve it in practice, you could be carrying out qualifying R&D. And if you've taken a risk because your outcome was uncertain, this could be R&D too.

Your R&D is likely to relate to either adapting to regulatory change, new infrastructure investments and improvements, or safety innovations.

Examples of qualifying innovation in the tank storage sector include:

- Improving existing storage processes.
- Developing new or improved machinery and equipment.
- Adapting existing infrastructure to meet renewable energy requirements.
- Developing quality assurance processes to meet safety regulations.
- Investing in automation to help with tank maintenance.

Three ways to sense check your existing claim

For many businesses in the Tank Storage Association, R&D tax relief is an established, tried and tested source of funding. But the incentive comes with nuances and you may not be using it to its full potential.

Every business is different, of course, but in our experience there's three pillars to a good experience:

- Value: Are you getting every penny you deserve? Qualifying costs could be overlooked, leading you to miss out.
- Time: Is your claim too time-consuming? Many advisers will push key tasks back to you, like capturing all qualifying costs and defining project boundaries.
- Risk: Is your business fully protected from risk? The risk of HMRC enquiry cannot be totally eliminated, but it can be mitigated. And in case it happens, not every adviser offers enquiry support as standard.

It's here where a specialist consultancy can make a difference. You do not need to hand over your full end-to-end claim process. If you're happy claiming in-house or with your accountant, you can work on a flexible, consultative basis with a specialist adviser.

Now is the perfect time to carefully reassess your approach to R&D tax relief. As your sector heads into an exciting, transformative future, the rewards could be significant.

ForrestBrown are the UK's #1 specialist R&D tax credit consultancy. To discuss how we might be able to help your business, get in touch on 0117 926 9022 or via email at hello@forrestbrown.co.uk and mention you are a TSA member.

Author

Adam Kotas, Chartered Tax Adviser. R&D tax credits expert Adam Kotas is a director with ForrestBrown. A chartered tax adviser, Adam's career began at Deloitte and today he advises businesses large and small throughout the energy sector.

THE RACE TO NET ZERO – GREEN FUELS FOR AVIATION

The future of bulk liquid storage will reflect a broad mix of solutions, sustainable aviation fuels will form part of the future fuel mix.

Continuing the theme of our last insight article *'Putting the TSA at the heart of the Energy Transition'* we explore how the government is positioning the UK to push forward low carbon travel. Here we focus on aviation and the move to sustainable fuels. The UK Government will be supporting innovation to develop sustainable aviation fuels to allow us all the continued opportunity for global travel whilst safeguarding the planet. All documents referenced in the article are included at the end of the report.

For TSA members, supporting industry an collaborating with government to achieve the UK's decarbonisation targets is very much in the spotlight.

The future of bulk liquid storage will reflect a broad mix of solutions, sustainable aviation fuels will form part of the future fuel mix.

Oils from renewable sources

On the transition to net zero, Stopford are working with our clients to develop low carbon fuels, which provide a 'drop-in' replacement for fossil fuel-derived kerosene (jet fuel). We are pleased to have the opportunity to share with TSA Insight readers the development of an SAF in progress.

Project reference

Stopford are partners with Clean Planet Energy (CPE). CPE are a UK company that delivers proprietary ecoPlants designed to convert non-recyclable waste plastic into ultra-clean fuel. CPE & Stopford have recently presented at DAVOS Energy week and are also involved in COP26.

CPE's ecoPlants use a process called ThermoCatalytic Pyrolysis which, in addition to their commercially tested and patent-pending hydroprocessing upgrading process, achieve the shift from low-value pyrolysis oil properties into premium-grade, ultra-clean and negligible-Sulphur fuel.

Unlike today's mechanical recycling processes which are restricted to a limited set of plastics, CPE's ecoPlants can accept almost any type of plastic, including single-use plastic and plastic which is wet

Stopford
Energy & Environment

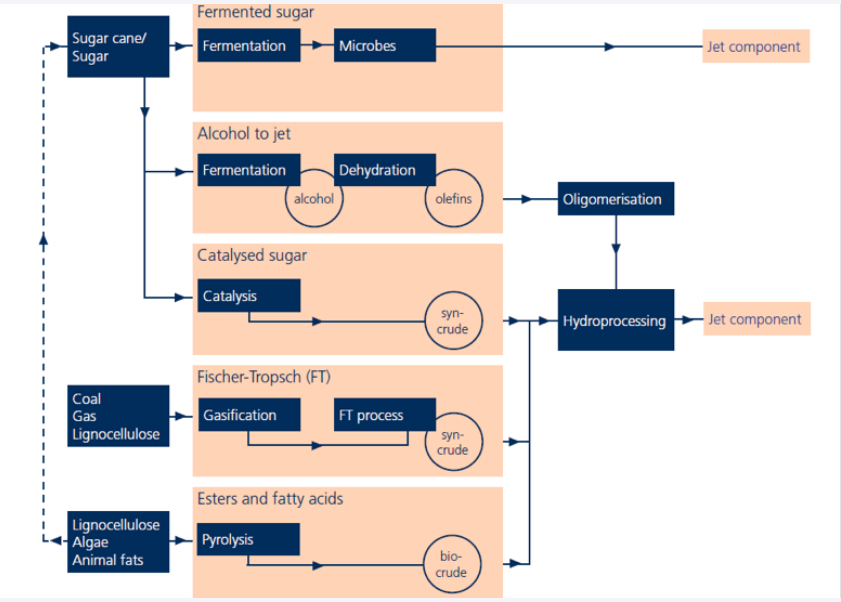
and dirty, tolerating ~10% of contamination (e.g., food waste); this means most of the plastic which is harming our environment can now be recycled. Each Clean Planet ecoPlant can process 20,000 tonnes of plastic a year, and their unique and sustainable design aims to make a significant positive impact on the communities wherever they are built.

Currently, CPE have 2 ecoPlants in construction Phase in Teesside and Suffolk, and 4 others under development phase across England. We aim to build strong and long-term partnerships with local authorities and the private companies to enable us to grow quickly and sustainably and reach our goal of processing 1 million tonnes by 2027.

Stopford on behalf of CPE have carried out a Green House Gas (GHG) Emission study the findings demonstrate the CPE manufacturing process will result in a 47% reduction of GHG's for all liquid hydrocarbon products compared to that of conventional fuels. The study also identified Well-to-Tank potential GHG savings of 330% (416 kgCO2e/barrel) and for Well-to-Wheel GHG savings of up to 78%.

Sustainable Aviation Fuel (SAF)

Low carbon fuels are defined as 'fuels that provide high greenhouse gas lifecycle savings (>60%) when compared with their fossil equivalents'. SAF are chemically identical to fossil-derived kerosene but are produced from different raw materials and processes.



EI JIG Standard Example routes to synthetic jet fuel components

As of September 2020, around 270,000 flights have been made using 'Sustainable Aviation Fuel'. Existing safety standards require low-carbon aviation fuels to be blended with at least 50% jet fuel. Estimates suggest that they could mitigate between 5% and 30% of carbon dioxide (CO2) emissions from UK aviation by 2050.

CPE have launched Clean Planet Air, for their SAF. The fuel derived from synthetic components CPE are currently in the process of obtaining the necessary approvals to meet the JIG ASTM D7566 for the manufacture of synthetic fuel blends.

Handling of synthetic fuel blends

Drop in fuels are completely equivalent to conventional jet fuels in terms of aircraft operations. Storage and ground handling procedures are also identical to those for conventional jet fuel. However, in the introductory period synthetic fuel blends will likely be handled in dedicated distribution facilities.

In summary

The government currently supports the development of SAF's through its Renewable

Transport Fuel Obligation (RTFO). Stopford have significant experience working with our clients on their blending facilities, over the last four decades we have grown our aviation fuel consultancy to support a global portfolio of private and blue-chip clients. Projects range from aviation and biofuels to multiproduct large scale oil terminals. Our significant experience in Jet A1 fuel installations and sustainable fuels provide us with the platform to lead the way in our provision to the aviation fuel sector.

We are looking forward to working with the TSA members to meet the challenges & the opportunities on the transition to net zero.

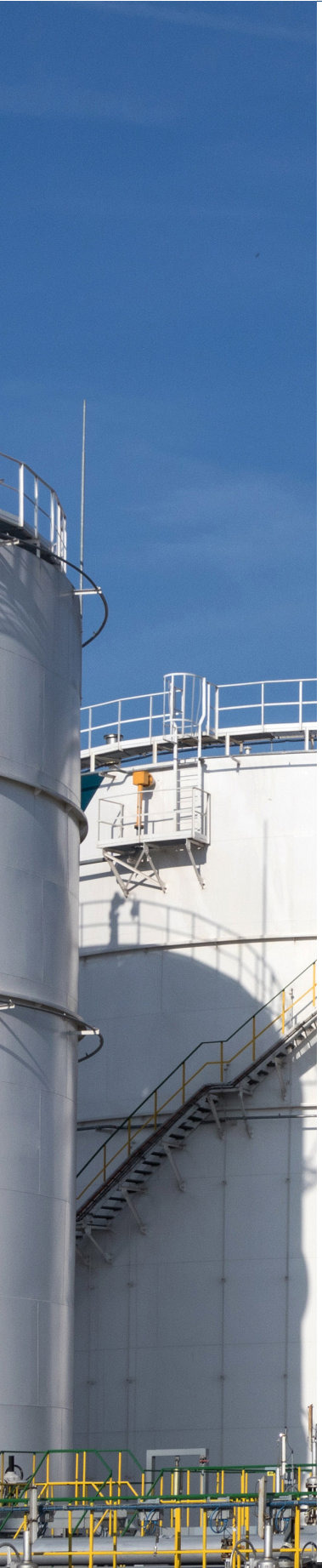
To find out more about CPE, visit https://www.cleanplanetenergy.com

To find out more about CPA, visit https://www.cleanplanetenergy.com/clean-planet-air

To find out more about Stopford, https://www.stopford.co.uk

References

- The Ten Point Plan for a Green Industrial Revolution
- House of Commons – Briefing Paper Number 8826 12th February 2021
- TSA Annual Review 2020
- The Renewable Transport Fuel Obligations Order – Cm 9494 September 2017
- EI-JIG Standard – 1530 -1 2013



Tank Storage Association launches new Environmental, Social and Governance (ESG) Charter

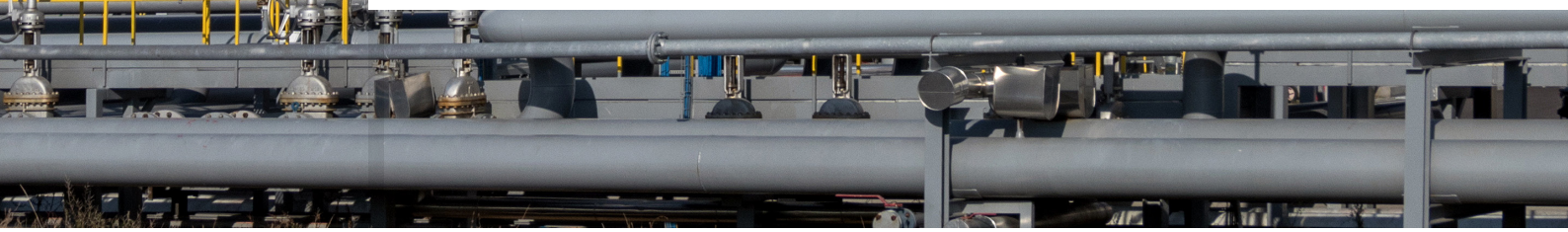
The Tank Storage Association (TSA) has formally launched a new Environmental, Social and Governance (ESG) Charter affirming the sector's shared commitment to environmental, social and governance principles.

The ESG Charter has been developed in conjunction with member organisations and is accompanied by a framework to assist TSA members in developing clear and common policies. The commitment builds on TSA's recently launched Safety Leadership Charter and Significant Indicators programme, demonstrating the sector's dedication to continuous improvement.

Peter Davidson, Executive Director of the Tank Storage Association, said:
"*TSA's members play a vital role in the UK's economy by providing the critical infrastructure necessary for the transportation of bulk liquids, creating jobs and fostering innovation.*"

"*Through adherence to the Charter, our members affirm their shared commitment to environmental, social and governance principles. Our association continues leading from the front and this, together with our Safety Leadership Charter and Significant Indicators programme, demonstrates our commitment to strive for continuous improvement.*"

For a copy of the Tank Storage Association's Environmental, Social, and Governance Charter, visit https://tankstorage.org.uk/assets/Unorganized/TSA-ESG-COMMITMENT.pdf



REYNOLDS TRAINING SERVICES AND THE NCPM - THE FUTURE OF OUR INDUSTRY

We know that well-trained apprentices are making a fundamental difference to Britain's industries. Simply put, apprenticeships are our future!

In the last issue of 'TSA Insight' we, at Reynolds Training Services, were proud to exclusively announce our role as co-creators of NCPM - the great new National Centre for Process and Manufacturing.

This state-of-the-art facility offers 'real world' experience to learners, giving us the ability to train and develop technical skills in Control Room, Process, Maintenance and Field Operations in a fully-emulated Process Operations Environment. Our cutting-edge equipment and controls align directly with industries within the UK and internationally.

Since the last issue, we have launched the NCPM's official website, which offers much more information about our partnership with CATCH.
So, if you want to know what Reynolds Training, CATCH and the new National Centre for Process and Manufacturing can do for your business and your employees, you're welcome to visit our website here: www.ncpm.uk.

You can also download our profusely illustrated brochure, which explains in exquisite detail what we do here, as well as shining the spotlight on the wide range of cutting-edge technologies we've installed, to make us a unique and world-leading training facility.

We can offer real world, hands-on experience for all roles involved in transferring, processing and storing bulk liquids, whether that be onsite operators or monitoring the Control Room.

Once onsite at the NCPM, materials can be metered, filtered and stored in the Tank Farm, then transferred into the Process Building for refining or, once refined, exported to a waiting vehicle. True to a

Since the last issue, we have launched the NCPM's official website, which offers much more information about our partnership with CATCH.

real life operational site, learners must follow full site operational procedures including PPE, ER and core process plant start up, steady-state running and shutdown, alongside the full range of transfer operations that can be found within a bulk liquid storage facility, all while working alongside other trades including maintenance and contractor personnel.

All of this is essential for learners to get real world hands-on experience of operating a plant. The more familiar they are with plant operations, the safer and more efficient they will be in the work environment.

This is just the latest - and most substantial - commitment we at Reynolds Training Services have made to creating a future of innovation, excellence and competence.

Our Commitment to Apprenticeships

Here at Reynolds Training, we have been particularly supportive of the TSA's recent focus on careers in general and apprenticeships in particular.

The TSA published two guides - one a Careers Guide and a second more specifically focussed on Apprenticeships in our sector. Something we, at Reynolds, hold dear to our hearts!

We are happy to support this acknowledgement of the importance of recruiting the next generation into our industry. We know that well-trained apprentices are making a fundamental difference to Britain's industries. Simply put, apprenticeships are our future!

This is why, back in 2019, we unveiled our Bulk Liquid Terminal Technician Specialism' apprenticeship.

We are proud to confirm that - even in the teeth of the pandemic - Cohort 1 of our apprentices is continuing to progress well! They are now at the stage where we're assessing their competence from an onsite basis, and are pushing on towards their endpoint assessment in September 2021. The learners of Cohort 2 have completed their understanding of the industry and are now focussing on understanding tank farms, underpinning this with site-based learning as appropriate.

We're planning to get both cohorts back onsite at the NCPM in the late spring, pandemic permitting, of course. These learners haven't let the lockdowns stop them learning and progressing and becoming more useful members of their teams at their respective sites.

Apprenticeships are our Future

Our programmes are all about building learners' knowledge, skills and experience in a structured environment, utilising the NCPM process plant replicated environment and then supporting that with site-based activities and assessment.

When onsite, learners get to work alongside more experienced personnel, this helps them absorb additional skills and knowledge which they can take back to their employers.

For us at Reynolds, it's all about helping our learners to build a career. It's not just about training them for the job they have right now, but rather to equip them with the competencies they need for lifelong learning and improving. We always tell our learners: *"Learn to learn continuously."*

Our apprenticeship will lay the groundwork for our learners to go on and apply for Engineering Technician status, through the support and recognition of the professional institution, iChemE.

With iChemE, our apprenticeship graduates can progress further up the professional pipeline, to become Chartered Engineers, scientists and beyond.

This long-term thinking is key to what we do, at Reynolds. We believe it's all about building long term career pathways.

With each new cohort of apprentices, we are given a chance to take our industry forward and prepare our learners to embrace the emergent technologies which will present new solutions and new challenges as we go forward to build a post-carbon future.

For more information, visit www.ncpm.uk

You can also find out more at www.reynoldstraining.com

John Reynolds
RTS Managing Director

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.tank-storage.org.uk/join-us

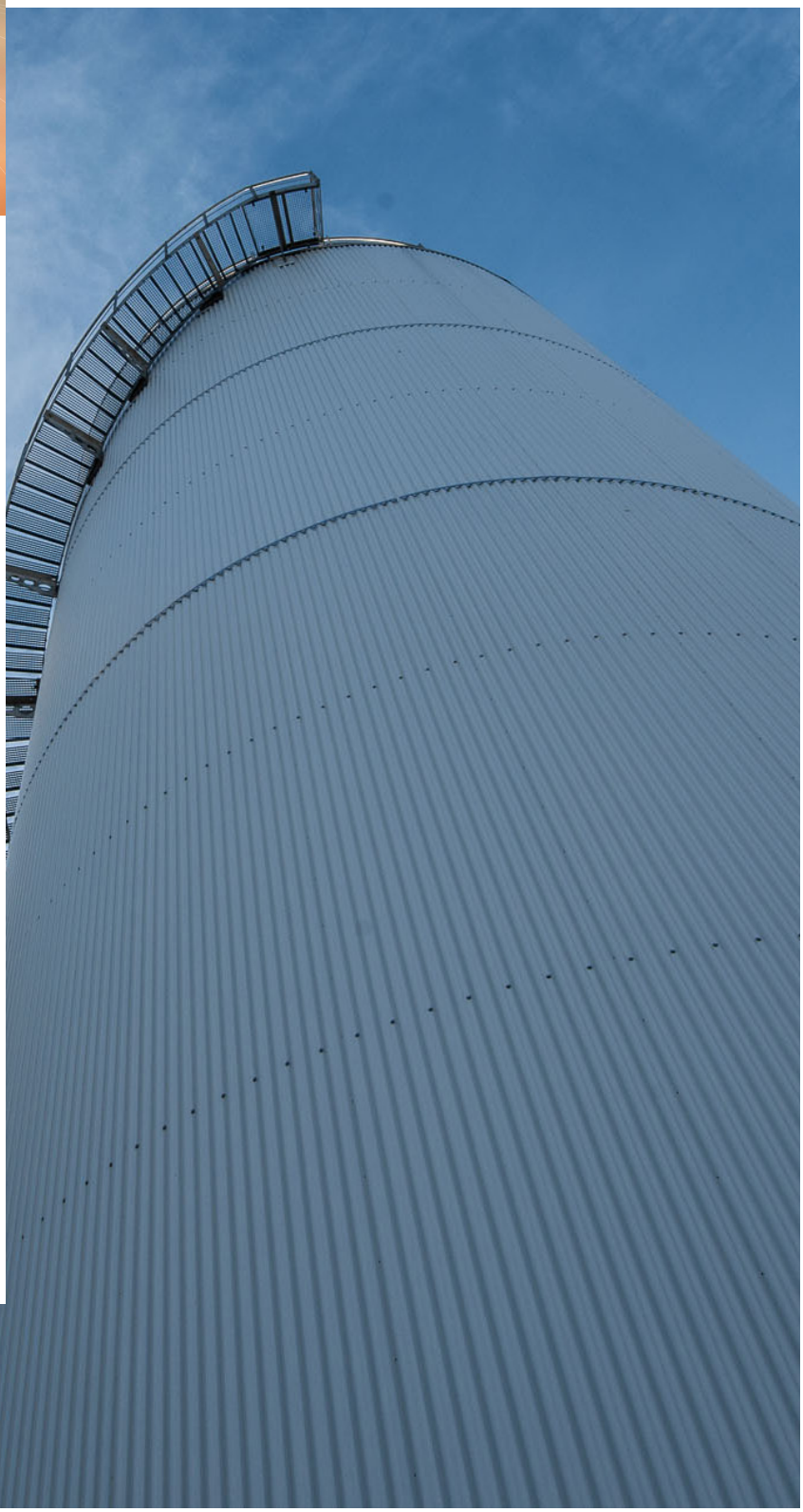
To find out more, write to info@tankstorage.org.uk

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 www.tankstorage.org.uk/join-us



The voice of the bulk liquid storage sector

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