

2019

TSA Conference & Exhibition

THE **ADVANCED 3D LASER SOLUTIONS**
GROUP ARE PROUD TO PRESENT:



3D scanning technology
mapping sites for analysis,
modelling & documentation.



A cloud based, easy to
use, Model Driven Asset
Management System.

Digitising your Industry Your EAM Smart Hub

A3D

- ▶ Specialists in the Oil & Gas industry
- ▶ Digitising process facilities
- ▶ Reduces your carbon foot print
- ▶ Advance from traditional P&ID's to Intelligent P&ID's
- ▶ Surveying is cost effective, faster, safer and accurate to +/- 1mm

lasersurveying.com

4D LIZARD

- ▶ Track assets using NFC technology.
- ▶ Actively monitor equipment and plan for future inspections or repairs using a 3D model interface.
- ▶ Enables Financial & Historical forecasting.
- ▶ Improve efficiency, reduce costs and revolutionise maintenance for the tank storage industry.

4dlizard.com

DESIGNED BY ENGINEERS FOR ENGINEERS.

We are Platinum Sponsors of this years TSA.
You will find us on stand 53.

To find out more about 4D Lizard see our article
in this issue, turn to pages 78-80.

Contact Colin Pittman for further information:
colin@4dlizard.com / +44 (0)7435 760153



Dear Delegates and Exhibitors



It's a great pleasure to welcome you to the nineteenth edition of the UK's leading event for the bulk liquid storage sector which is being held at the Ricoh Arena in Coventry. The event, which has a proven track record of successfully bringing together people who passionately care about safe and effective bulk liquid storage operations, has grown significantly since its inception. Your presence is a great indication of the value and popularity of the annual UK Tank Storage Association Conference & Exhibition.

I do hope that you have noticed that our membership has grown significantly in the past year through our Associates program, all of whom are invaluable in building our community of businesses that store liquids in bulk or provide equipment and services to the sector. I am pleased to say that many of our associates are also exhibiting today. Information about membership of the TSA can be found in the following pages.

This year we have sixty-two exhibitors who are keen to capitalise on the event's reputation to attract users of their knowledge, services and equipment. Please exploit this opportunity to look around and network with colleagues.

The conference programme has been carefully developed to reflect the key issues facing our sector today. We have six distinguished speakers from leaders in market analysis to the COMAH Competent Authority, industry leaders and specialists who will speak on topics ranging from the challenges facing the bulk liquid storage sector and future regulation to the energy transition. Please join me in the presentation area to make the most of these important insights.

There are many challenges ahead not least of which the impact of BREXIT and withdrawal from the Customs Union. However, BREXIT can also distract us from the more pressing issues that have the potential to significantly impact our sector such as IMO 2020 and the energy transition away from traditional hydrocarbon fuels, we will hear more about these two topics in our conference. Bulk liquid and gas storage have a major part to play in ensuring that the UK economy thrives in a decarbonised society – we need to ensure that we are ready for the challenges and opportunities ahead.

I do hope you enjoy this year's event.

Best Regards,

Paul Denmead
President – Tank Storage Association

MEMBERS & ASSOCIATE MEMBERS



The Tank Storage Association (TSA) is an industry based organisation whose members are dedicated to the professional provision of bulk liquid storage in the UK. Tank storage provides an essential interface between sea, inland barge, road, rail and pipeline logistics.

Our Associate Members play an essential role in Safety, Health and Environmental matters – sharing and learning operational experience, new products, innovation, services and contributing to the development of new guidance where appropriate.

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

Join us, and influence what matters to you.

FULL MEMBERS



ASSOCIATE MEMBERS (TERMINAL AND PORT OPERATORS)



ASSOCIATE MEMBERS (SUPPLIERS)



Contents

Welcome Message	1
Members & Associate Members	2
Conference Schedule	4
Exhibition Floorplan	7
Science and Manufacturing Technician Apprenticeship with Bulk Liquid Terminal Technician Specialism	8
Secondary Containment – Material & Installation Considerations	9
Exhibitor Profiles	11
International Ship and Port (Facility) Security Code (I.S.P.S. Code)	27
Process Modelling is not for the Tank Storage Sector ...or is it?	29
Speaker Profiles	30
DSEAR Compliance: Beyond Hazardous Area Classification	36
JBP – specialist valve supplier	37
Stopford supports TSA clients with fire precautions for bulk storage installations	39
Food & Drink	41
Media Partners	42
Advertiser Index	44

CONFERENCE SCHEDULE

08.30

Delegate registration

12.30 – 14.00

Exhibition & Buffet Lunch

08.30 – 10.00

Exhibition & Coffee

14.00 – 14.30

Future Fuels: The Implications of a Decarbonised Energy System
Dr Brian Worrall, Head of Group Sustainability, DCC

10.00 – 10.10

Introduction

Paul Denmead, President, Tank Storage Association

14.30 – 15.00

Individual versus societal risk
– so what?

Caron Maloney, Specialist Inspector – Risk Assessment, HSE

Morning Session

Introduction by Conference Chair
Peter Mackay (Editor-in-Chief, Hazardous Cargo Bulletin)

10.10 – 10.50

Keynote – IMO 2020 and the Outlook for Bulk Liquid Storage in Europe
Giacomo Boati, Executive Director, Oil Markets Midstream, Downstream, IHS Markit

15.00 – 15.30

Exhibition & Refreshments

10.50 – 11.30

Approaches to regulating high hazards industry in line with the governments industrial strategy
Dr Paul Logan, Director of Chemical, Explosives, Microbiological Hazards Division, HSE

15.30 – 16.15

Never Again – an incident case study
Allan P Greensmith, APG Consulting and Training

11.30 – 12.00

Exhibition & Refreshments

16.15 – 16.20

Closing Remarks
Paul Denmead; President, Tank Storage Association

12.00 – 12.30

Environmental regulation of industry: future challenges and opportunities
Dr Jo Nettleton, Deputy Director Radioactive Substances and Installations Regulation, Environment Agency

16.20

Close



Positive displacement foam mixing machine



Integrated water drive and foam concentrate pump



Uses firewater supply as power source



Turbinator

Foam Mixing Technology

SEE US AT
STAND

#61



Fixed



Mobile



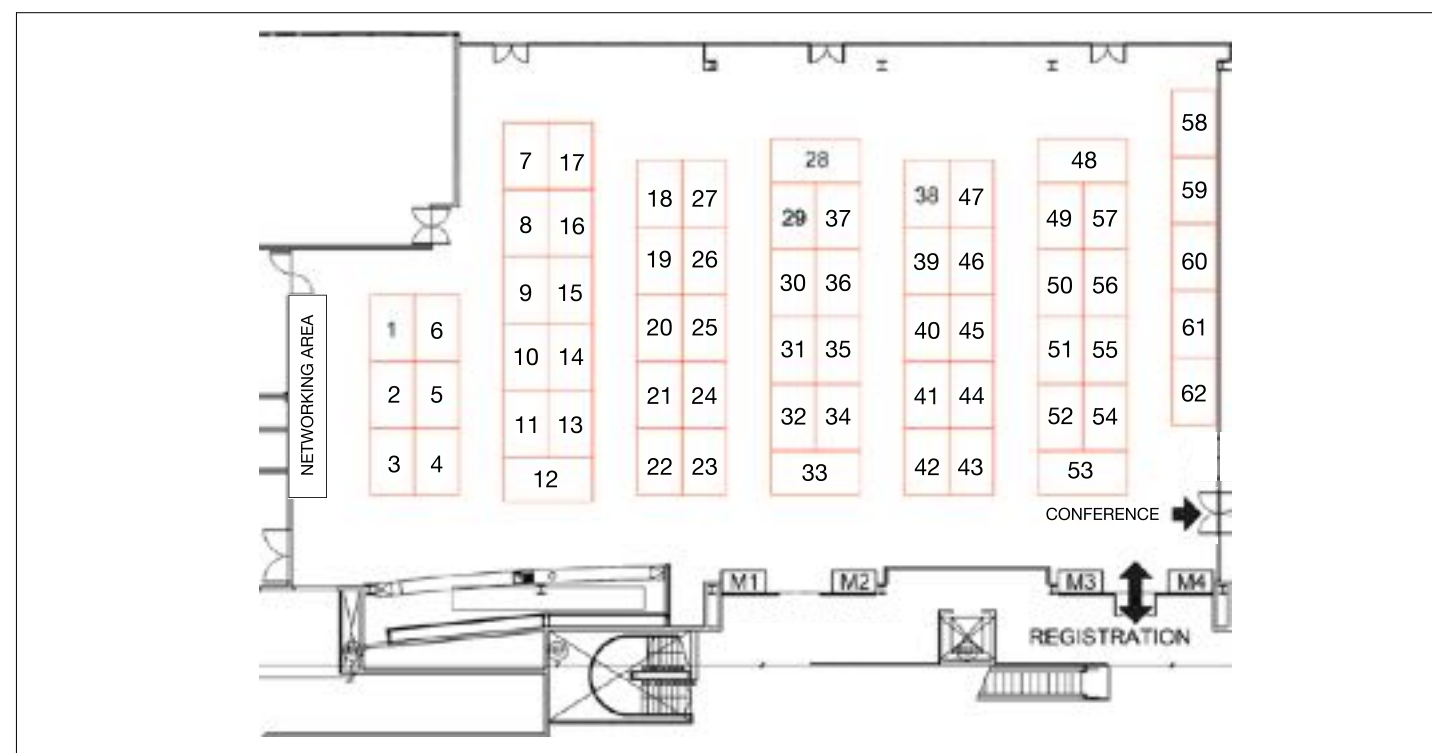
Truck



Discover more:

knowsleysk.com

EXHIBITION FLOORPLAN



3B Controls	39
ABFAD	32
AC Valve Alliance	19
Acumen Waste Services	24
Adler and Allan	52
ADROC Tech	8
Advanced 3D Laser Solutions	53
Allied Storage Tanks	54
Anton Paar	45
Aquilar	28
Assentech	23
Atexor	7
Bakercorp	37
Concrete Canvas	31
Cougar Automation	27
Dantec	43
Elaflex	41
Elmac Technologies	6
EWFM	55
Falck	1
Fenelon Storage Tanks	62

FlotechPS	58
Future Industrial Services Ltd	16
Hawkes Fire	22
HMT Rubbaglas	34
Honeywell	12
IFC Inflow	20
Intertek Caleb Brett	26
J Murphy and Sons – Pipeline	59
J Murphy and Sons – Tanks	60
Kanon Loading Equipment	29
KDC Contractors	49
Kinder-Janes	38
Knowsley SK	61
Mannetek	56
MHT Technology	35
MRC Transmark	2
NDT Global Services	3
Oceaneering	46
OSL Consulting Engineers	9
P & I Design	17
Pilz Automation	33

Protego UK	50
Radar Tank Gauging	57
RAS Ltd	44
Re-Gen Robotics	10
Reynolds Training Services	40
Rentajet Group Ltd	18
Rhyal Engineering	15
Rosen	30
Scully	47
SIS	25
SJG International Ltd	5
Stopford Energy & Environment	42
Testex	48
Veolia	21
Viking Inspection	14
Wefco (Gainsborough) Ltd	51
Wolf Safety	11
Wood	4
Yokogawa	13
Zerust Oil and Gas	36

Science and Manufacturing Technician Apprenticeship with Bulk Liquid Terminal Technician Specialism

Supported by the Level 3 Diploma for a Bulk Storage Operator Technician



At Reynolds Training, we're all-too aware that a skills gap is opening up in our sector. Your business might not be affected by it yet but you will be, and soon. Unless we do something about it now.

But we shouldn't see this as a problem, it's an opportunity to future-proof our industry!

Let me explain:

Firstly, we have ongoing improvements in technology, as we evolve from what you might call manual "handomatic" systems, to computer-controlled automatic systems.

Secondly, we have a rotation of staff, as the old hands are reaching retirement age, and being replaced by the next generation.

Where is that new generation to come from? Well, Apprenticeships are a time-honoured methodology for passing-on training from one generation to the next.

This is why, having worked with the TSA, Cogent and wider industry, we have introduced the Science and Manufacturing Technician Apprenticeship with Bulk Liquid Terminal Technician Specialism, supporting this with a brand new Qualification, the Level 3 Diploma for a Bulk Storage Operator.

Earning while Learning Works.

Here's how this new Apprenticeship will break down - ensuring that apprentices get the best and most useful vocational learning experience.

Months 1 to 4: Apprentices are based with Reynolds Training Services and HETA at the Technical Training Centre (TTC) CATCH, learning core process fundamentals.

Months 5 to 9: This period will focus on Tank Farm components - and will be divided into 4 one-month blocks, during which apprentices will spend three weeks at our TTC and one week at site gathering information and evidence.

Months 10 to 21: Apprentices will spend 12 months undertaking the new L3 Diploma for a Bulk Storage Operator Technician, with their time divided between their host site and our TTC, supported by the site with on the job mentoring and formal assessment by Reynolds.

Months 22 to 24: Consolidation and End Point Assessment.

This Apprenticeship will be delivered by Reynolds in collaboration with HETA - who have a long established history of Apprenticeship delivery within the engineering and process sector. HETA's invaluable experience underpins the technical knowledge and experience of Reynolds, ensuring the best Apprentice experience. Working in partnership like this, is in the interests of both the candidates and the industry.

Investing early enables us to embrace talented people, embedding the Knowledge, Skills and Experience needed to sustain and expand safe operations.

The youth of our industry are the trustees of safety

Safety is a Journey, not a Destination

As the founder of Reynolds Training, I care passionately about the future welfare of this sector. It's the lifeblood of Britain - our fuel and chemicals are in the veins of this country. We move millions of litres of products every day and, in essence, we do that safely, efficiently and profitably. We keep the country alive and thriving.

We don't congratulate ourselves nearly enough for that.

Safety and profit are the two names of the game, and I genuinely believe that this Apprenticeship pathway is an important step forward in ensuring that we can all develop tomorrow's safety future today and continue to evolve our service delivery, to make money - safely!

If you'd like to learn more about the Science and Manufacturing Technician Apprenticeship, with Bulk Liquid Terminal Specialism, or any of our training options:

Phone: 01469 552 846 | Mobile: 07851 216 771
Email: admin@reynoldstraining.com

Secondary containment – material & installation considerations

Internationally loose-lay geomembrane bund liners are becoming an increasingly popular option for tank farm secondary containment applications.

High quality membranes provide cost effective solutions on this type of application, performance, longevity, off-site prefabrication and minimal installation time being prime factors in their choice by engineers.

With a vast range of material available worldwide it is important to establish the performance requirement of the liner.

Is the application considered to need a material demonstrating extreme chemical resistance? If so the supplier should be able to provide technical assurance that the geomembrane is suitable.

Will the material be subject to UV exposure, possibly the completed liner being uncovered?

Does the project call for a material able to withstand high/low temperatures during its lifetime?

Is low thermal expansion and contraction required?

Other factors such as tensile strength, high puncture resistance and dynamic repeated flexing may be important.

Data sheets and test results should be made available to the specifier, preferably originating from the manufacturer or a recognised independent testing facility.

However the quality of the installation team should not be overlooked and is equally important as the material choice itself.

Any geomembrane solution, regardless of material, is only as good as the technicians installing it. Care must be taken with material handling during the process with teams working to an approved CQA programme throughout the project.

Technicians should be trained and fully familiar with complex detailing requirements around penetrations and upstands for instance.

Off-site prefabrication of material is a distinct advantage but a full working knowledge of incorporation into the overall liner is required. Installation staff should be aware of material movement issues on site and the need to protect the liner during its application phase.

Where the material requires joints, these should be welded and installers qualified to the CSWIP TWI Plastic Welding Standard.

Additionally, an NVQ Level 2 qualification in geomembrane installation is an assurance of the high level of expertise required in the handling of a loose-lay material.

With this in mind it is usually preferable to have the liner installed by the suppliers directly employed qualified technicians thus ensuring single line responsibility throughout the duration of the project.

It is debatable whether a sub-contractor trained installation team will have the necessary level of expertise required and will generally be working on a self-employed basis. A manufacturer's "tool-box talk" and a limited amount of welding practice is rarely sufficient to produce a suitable outcome.

Best practice points towards informed material choice coupled to qualified directly employed staff. Secure, safe and guaranteed.

Technicians should be trained and fully familiar with complex detailing requirements around penetrations and upstands for instance.

Off-site prefabrication of material is a distinct advantage but a full working knowledge of incorporation into the overall liner is required. Installation staff should be aware of material movement issues on site and the need to protect the liner during its application phase.

Where the material requires joints, these should be welded and installers qualified to the CSWIP TWI Plastic Welding Standard. Additionally, an NVQ Level 2 qualification in geomembrane installation is an assurance of the high level of expertise required in the handling of a loose-lay material.

With this in mind it is usually preferable to have the liner installed by the suppliers directly employed qualified technicians thus ensuring single line responsibility throughout the duration of the project.

It is debatable whether a sub-contractor trained installation team will have the necessary level of expertise required and will generally be working on a self-employed basis. A manufacturer's "tool-box talk" and a limited amount of welding practice is rarely sufficient to produce a suitable outcome.

Best practice points towards informed material choice coupled to qualified directly employed staff. Secure, safe and guaranteed.



Reynolds
Training Services LTD

Science and Manufacturing Technician Apprenticeship

with Bulk Liquid Terminal Technician Specialism

Supported by the Level 3 Diploma for a Bulk Storage Operator Technician

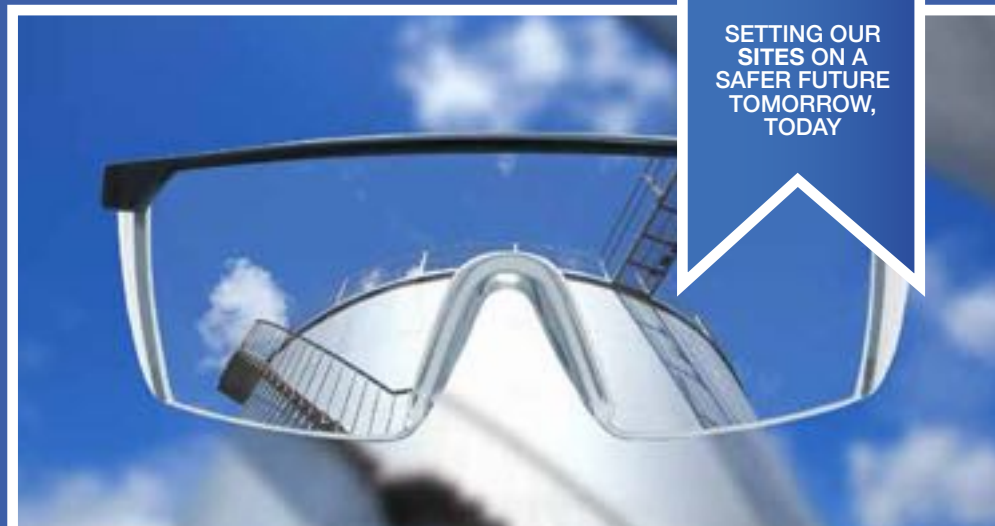
2 **YEAR**
APPRENTICESHIP

FOR MORE INFO
CONTACT KARON ON

01469 552 846
07851 216 771



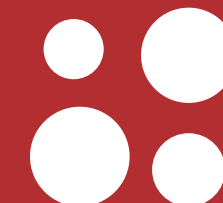
karon@reynoldstraining.com



SETTING OUR
SITES ON A
SAFER FUTURE
TOMORROW,
TODAY

MEET THE EXHIBITORS

Associate Members are Highlighted in Red



3B Controls Ltd

Stand 39

3B Controls Limited manufacture low pressure valves and vacuum relief valves, breather valves, gauge hatches, emergency vents, manways, gas blanketing valves, storage tank breathers, pilot operated valves, flame arresters.



ABFAD

Stand 32

Abfad Limited has been established since 1996, delivering innovative solutions to industry problems. Providing corrosion protection for storage tanks with solvent free single skin coatings and Fuelvac® double skin lining system with 24/7 vacuum leak detection monitoring. Fuelvac® can be installed in underground and above ground storage tanks of any size, is quick to install resulting in minimum tank downtime, uses solvent free epoxy coatings which provide greater long term protection from stored products, and is a double skin lining system which is fully proven and effective. Abfad have worked in combination with International Paints to offer a 15 year chemical resistance warranty on the solvent free coatings we apply, alongside Abfad's back to back application warranty, providing lasting peace of mind for our clients. We also offer a robust pipeline protection system. Pipevac® provides an inspection and maintenance free solution to corrosion prevention and monitoring on pipework, including corrosion under insulation.



AC Valve Alliance

Stand 19

AC Valve Alliance was formed in 1997 and supplies valves and actuators to the Petrochemical, Energy and general process industries. Our stock range is one of the largest and most comprehensive of its kind in Europe. Utilising this stock and our extensive knowledge base, it is our mission to ensure that all dealings with us are handled quickly, correctly and in the best engineered and cost effective way. Couple this to our technical facilities which comprise a dedicated valve and automation centre. Along with valve machining, modification and testing and a bespoke pipe skid build / design division it is clear to see that AC Valve Alliance offer a wide-ranging engineered package solution.



Acumen Waste Services

Stand 24

Acumen is a leading provider of Industrial Site Services and Waste Management Solutions. Established in 1994 and remaining privately owned, Acumen supplies innovative techniques to deliver technically robust, cost-effective results whilst upholding the highest levels of health and safety, integrity and customer service. Our Industrial Site Services business provides on-site solutions to facilitate industrial cleaning, decommissioning, shutdowns, on site waste treatment, contaminated land and associated works. Complemented by our Waste Management business, our highly trained and experienced workforce operate nationwide and form the core of our service provision. We provide 24/7 Emergency Response and as accredited spill responders we offer a highly trained

and experienced team to respond to all manner of spillages and environmental incidents.



Adler and Allan

Stand 52

Adler and Allan operate across the UK and overseas, providing a full range of oil and environmental services to a blue chip customer base. A&A have been contracted to undertake specialist tank installation, cleaning and maintenance work with a number of national companies across a range of industries: Distribution Network Operators, Major Oil Companies, Logistics and Distribution Groups, Major Supermarket Chains, Defence Infrastructure Organisation, London Gateway. We provide complete turnkey tank installation packages including site drainage, interceptors and all related civil works including bund lining. A&A has provided response coverage to pipeline operators across the UK for many years and is now increasingly moving into planned preventative maintenance, contaminated land management and environmental consultancy. Adler and Allan also offer a range of services covering Spill Response, Tank Installation, Pollution Prevention, Fuel Supply, Mechanical & Electrical Services, Waste Management and Tankering.



ADROC Tech

Stand 8

We manufacture innovative ESOT systems for safe oil tank cleaning. Our ESOT system consists from remotely operated ADEX rover (certified for ATEX Zone 0) and from TVC cabin (certified for ATEX Zone 2) where the rover is operated and controlled.



Advanced 3D Laser Solutions
Stand 53

Breaking News, ALS is rebranding to A3D and introducing our new cloud-based software 4D Lizard part of the Advanced 3D Laser Solutions Group. We will officially be launching 4D Lizard at this year's TSA, where we are delighted to be the Platinum Sponsors!! Please come and visit us on stand 53. "Built by Engineers for the benefit of Engineers" 4D Lizard, will improve efficiency, reduce cost and revolutionise maintenance for the tank storage industry. Actively monitor equipment and plan for future inspections or repairs using the 3D model as an interface, then by assigning values to assets this tool enables greater cost forecasting and analysis. 4D Lizard has the ability to slingshot petrochemical and storage tank maintenance management into the modern day. 4D LIZARD was created to help our customers: – locate assets quickly, access data freely, access data from different locations / sites, analyse data found across multiple systems.



Advanced 3D Laser Solutions
Stand 54

Our professional staff have 150 combined years of welding and tank fabrication experience. Our customers include a variety of global companies and are leaders in the chemical, fuel and water industries, amongst others. Our experienced and fully trained site team can help if your tank application is too large to be moved by road. Working with Allied means you can rest easy, knowing that all of the details are covered, your project will be made with the utmost focus on quality and will be delivered on time. We are happy to provide seamless engineering services to make the whole process as smooth and efficient as possible. Our design and manufacturing approach means we give you the ability

to select from a number of components and design alternatives that give the right equipment and vessels for your job and the most cost-effective choice for your application. We actively manage your custom tank projects from conception through to completion to ensure that it meets – or exceeds – your standards and is delivered on schedule. We work hard to keep you informed every step of the way.



Anton Paar
Stand 45

Anton Paar supply measuring solutions to petrochemical companies, refineries, storage and testing facilities across the world. Our customers also include manufacturers of biofuels, bitumen, food & beverages. With a reputation for innovation and quality, Anton Paar manufactures an extensive range of portable, laboratory and process instrumentation. All backed by an extensive distribution, support and service network across the world. Our comprehensive range now includes: Process density & viscosity transmitters for product type identification blending and quality control, Laboratory density & viscosity instrumentation compliant with D4052, D7042, ISO12185, Handheld density instruments for high quality density measurement in the field ATEX rated and compliant with IP559 & D7777, Flash point & distillation equipment to D86, D92, D93, ISO13736, Microwave sample preparation systems for ICP, AA & ICP-MS analysis.



Aquilar
Stand 28

Aquilar is able to offer a comprehensive range of hydrocarbon liquid leak and spill detection solutions for above ground fuel storage tanks, buried tanks, valves and pipes using the TraceTek brand. Aquilar

will also be demonstrating the TT-FFS fast fuel sensor, which has seen an increasing number of applications since its introduction 10 years ago with its ability to detect a hydrocarbon fuel leak within a few seconds of initial contact. TT-FFS and TTC-1 controller are rated as a SIL-2 system per IEC 61508. To locate fuel leaking into the soil beneath tank floors or from buried pipes or valves Aquilar offers the TraceTek TT5000 range of sensing cables which capable of detecting the presence of liquid hydrocarbon fuels. The sensing cable can be monitored by electronics that identify the location of the spill to +/- 1 meter accuracy.



Assentech
Stand 23

Established in 2009 by Ewart Cox, Managing Director, Assentech Sales Limited continues to grow in the specialist supply of top branded process safety, fluid transfer and tank storage equipment. Now holding certification by a UKAS accredited body to ISO 9001, ISO 14001 and OHSAS 18001 and nearing accreditation of the Fit for Nuclear programme, Assentech are very well respected within the industry. Our specialist knowledge of preventative maintenance practices and legislation has contributed to an increased demand for our services. We have a proven track record of improving site safety, reducing manufacturing costs and increasing reliability through our breather vent calibration service which operates under Assentech Rapid Response and Service Limited which is the maintenance side of the business.



Atexor
Stand 7

ATEXOR Ltd. is your hazardous area lighting partner. Our focus is on

improving work efficiency and safety of people working in hazardous areas. We design and manufacture SLAM® and MICA® lighting systems and products for Ex areas. All Atexor products are manufactured in Finland. In addition to ATEX and IECEx certified products, Atexor also offers products with GOST, DNV and other product relevant certifications. Atexor plays an active role on international committees developing standards for equipment used in potentially explosive atmospheres.



Bakercorp
Stand 37

BakerCorp, the industry leader in containment equipment rental solutions, provides cost-effective solutions for your temporary liquid containment needs. Specifically engineered for European industrial requirements Baker's rental tanks are available on a daily, weekly or monthly basis and are supported by Baker's 24/7 rapid response service. BakerCorp provides innovative solutions to an ever expanding number of markets that include: chemical, manufacturing, refining, construction, municipal, industrial services, environmental, remediation, power generation, aerospace, food processing, tank terminal/pipeline operations, transportation, pulp and paper, mining, electronics, wastewater, and many others.



Concrete Canvas
Stand 31

Concrete Canvas (CC) is a flexible cement impregnated geotextile that hardens on hydration to form a durable,

fibre reinforced, fire resistant and water proof concrete layer. Essentially concrete on a roll, it has rapidly gained market acceptance in a number of applications in and around refinery and terminal infrastructure. Primarily CC is used as a means of rapidly lining clay and earth secondary containment bunds. CC provides a hard armour surface protection preventing weathering erosion of the bund, negating the need of costly maintenance or remediation by securing the height and integrity of the structure. CC is fibre reinforced and has an abrasion resistance twice that of ordinary Portland cement. It can be installed at rates of up to 800sqm per day, minimising time and H&S permit requirements on site. It acts as an effective weed suppressant, reducing maintenance costs associated with grass cutting of top soils and negating the risk of fire from dried grasses.



Cougar Automation
Stand 27

Cougar Automation Ltd is a well-established, reliable and sought-after supplier of System Integration Services. s one of the largest independent Control System Integrators in the UK we have all of the business systems, accreditations and financial strength necessary to effectively service and exceed the expectations of our corporate clients. We have extensive experience of all the major SCADA and PLC platforms – as well as many specialist or more niche programmable devices – and this pool of knowledge can be leveraged by any individual engineer or project team. This unique combination means that we offer the capacity and professionalism of a large contractor whilst also excelling in delivering the highest quality service, flexibility and responsiveness of your favourite local independent.



Dantec
Stand 43

Dantec is a world leader in composite hose technology, applying 48 years of manufacturing and technical excellence to deliver solutions to a global distribution and support network spread across more than 50 countries. A Formula One trusted supplier for more than 15 years, Dantec is renowned for having the ultimate range of re safe and durable composite hose solutions. Our innovative products cover all types of bespoke Petrochemical, Marine and Industrial applications including fluid transfer of petroleum and chemicals, cryogenic hose for liquid gas transfer, fluoropolymer hose for the transfer of aggressive acids, biofuels, vapour hose for hydrocarbon products and special construction hose.



Elaflex
Stand 41

ELAFLEX Ltd is based in Hoddesdon, Herts. We specialise in technical advanced rubber flexible hoses, ERV expansion joints, Mann Tek Dry Disconnect Couplings, ZVA Nozzles, hose end fittings and flanges for use in safety critical / industrial applications and operations. Our advanced rubber hoses are lightweight and flexible and are of an extruded construction for enhanced safety and long service life. The assemblies are made using Spannfix and Spannloc safety clamp type couplings. The hoses are colour coded and to EN 12115 (el resistance) enhancing safety both in terms of media identification and electrical conductivity. We have also produced a

new generation of rubber hoses for the Pharma, Biotech and Food industry. Our products comply with all relevant standards and certifications. We work closely with our customers also providing technical input for engineering excellence. With ELAFLEX you simply make the right choice.



Elmac Technologies
Stand 6

With over 60 years of experience in manufacturing safety equipment, Elmac Technologies has grown to become one of the premier brands in the global market for plant protection and tank storage equipment. The products include in-line and end-of-line deflagration arresters, in-line detonation arresters, pressure/ vacuum relief valves, emergency relief vents, tank blanketing valves, vents, hatches, access man ways and bursting discs. Supplying to worldwide clients, operating in a wide range of industrial sectors, Elmac utilises state-of-the-art commercial, manufacturing and test facilities in the UK and overseas to ensure high-quality products and servicing. Elmac is accredited to ISO 9001, 14001, 18001 and PAS 99, GOST and RTN. All products are ATEX accredited.



EWFM
Stand 55

EWFM (EW Fuel Management Ltd) is a multi-disciplinary distributor based in Royston near Cambridge, England, supplying equipment for the safe transfer of liquids, gases and particulates. At the onset, aircraft refuelling and fuel tanker equipment have been and continue to be a specialty of EWFM in both the defence and civil markets. From supplying to the aviation and oil and gas industries, the company has now diversified into other hazardous markets such as pharmaceutical, chemical, food

and drink and power generation. EWFM's product expertise ensures that customers are recommended the most suitable equipment for their application. Having supplied many thousands of our products, our reputation as a reliable company is known both worldwide and in the UK. Procedures in place ensure that all projects are carried out with utmost professionalism, offering clients support at all stages. Accredited to ISO 9001-2008, we have never received either a major or minor non-conformance after 25 third party audits.



Falck
Stand 1

Falck has a long history of supporting offshore oil and gas, marine and wind-power sectors, including working with multinational companies in challenging locations such as West Africa and Papua New Guinea. Both onshore and offshore operations tend to be remote, dangerous, and subject to costly interruptions. Medical services must be offered on-site or close by. With Falck, you get a highly competent, dependable, long-term partner who understands your medical service needs in the offshore sector. We provide a customised service package for your facility to ensure safe and reliable medical services for the future.



Fenelon Storage Tanks
Stand 62

Fenelon Storage Tanks are the market leading storage tank design, construction

and refurbishment contractor operating in the United Kingdom and the Republic of Ireland. We have an experienced team working across a wide range of industry sectors and our services range from detailed design through to fabrication, site erection and term maintenance contracts. Whatever storage requirement you may have, Fenelon Storage Tanks can offer a comprehensive package of services including conceptual design, feasibility studies, detail design, fabrication, site construction and tank inspection. We are also a member of the Royal Society for the Prevention of Accidents and have been for a number of years now. Being a member of RoSPA enables us to apply our Health & Safety expertise to its full capability. This will not only ensure the safety of our own staff but it will also ensure the safety of a client's site and other contractors working alongside us.



FlotechPS
Stand 58

Flotech Performance Systems is a manufacturer and turnkey solutions provider to the Petrochemical, Process and Energy sectors, specialising in solutions for the storage, transfer and distribution of liquid and gas products. FlotechPS offers engineering services including design, manufacture, installation and site support from its facility in Fareham, Hampshire. The in-house design and manufacturing facility allows FlotechPS to react quickly and efficiently to the needs of any project from concept through to commissioning. FlotechPS is dedicated to providing quality products and services to all customers in the downstream industry and has recently worked for BP, Nustar, Valero, Vopak, Total, Inter terminals, ESSO, Oilserve, Walkers, Princes, Greenergy, Ineos Nitriles and Murco. FlotechPS listens carefully and works closely with customers to ensure solutions are fully aligned to the needs of the project.





Future Industrial Services Ltd
Stand 16

Future Industrial Services Limited has since 1999 offered a range of Waste Management and specialised Industrial Services to meet the requirement of Government Agencies, Local Authorities, Public Utilities, national and multi-national companies. All of who demand the highest standards and cost effective solutions to their waste management, industrial cleaning, emergency spillage response, decommissioning and decontamination requirements. The company operates a range of specialist equipment including a large fleet of articulated vacuum tankers able to carry a wide range of products including flammable and acidic materials, High Vacuum “DISAB” tipping tankers, High Pressure jetting units, Mobile Dewatering units, including a 15bar mobile membrane filter press, isolation equipment and mobile pollution abatement plant including mobile pollution prevention chambers operating under negative pressure with extraction to activated carbon and or caustic scrubbing units.



Hawkes Fire
Stand 22

Hawkes Fire has a unique place in the UK fire protection industry. That uniqueness is based on our proven capability to supply fixed and mobile solutions coupled with the expertise to provide emergency response should the worst occur. From a length of hose to a turnkey solution, we bring real incident know-how to the protection of high risk industries.



HMT Rubbaglas
Stand 34

HMT brings a distinct level of innovation and service to the tank industry through a unique approach of partnering with customers to optimise tank operations. Knowing that every customer’s need is different, we use our decades of experience to customise solutions that help tank operations become more efficient, more productive and more profitable. HMT was founded in 1978 with the objective of providing better technology to the aboveground storage tank market. HMT’s founders sought to create products which not only solved the emissions problems of the day but also eliminated the operational issues created by the existing floating roof and seal technologies. The result is better products, better technology and more comprehensive solutions. HMT’s full suite of products include: External & Internal Seal Systems, Drain & Floating Suction Systems, Geodesic Domes, Skin & Pontoon Floating Roofs, Full Contact Floating Roofs, and Emissions Reduction Devices.



Honeywell
Stand 12

Cyber secure digital transformation for the Tank Storage Industry. Please visit us on stand 12 and see how our cyber security solutions can protect your process and your enterprise from internal and external cyber security threats, and how our Connected Plant offerings can harness the true value of the data from your people, assets and operations to drive actionable insights that reduce your costs and increase your bottom line.



IFC Inflow
Stand 20

IFC Inflow is an international supplier of tanker loading equipment with over 25 years’ experience, providing loading and unloading solutions to customers in the road, rail and marine industries. We design and engineer solutions for all types of liquid loading, from petroleum to corrosive chemicals, using products from our range including; loading arms, bulk flow meters and tanker loading skids. IFC has experience in providing tanker loading solutions for the Chemical, Food and Petroleum industries and has a project team comprising of fluid handling specialists, instrument, electrical and design engineers competent to handle virtually all Loading Platform applications. Fast track projects, using our modular design concept are handled economically and efficiently with minimal client investment in the design function. We benefit from our own fabrication shop dedicated to loading platform and associated production. Our dedicated design team are on hand to discuss your requirements.



Intertek Caleb Brett
Stand 26

Intertek is a leading Total Quality Assurance provider to industries worldwide. Our network of more than 1,000 laboratories and offices and over 44,000 people in more than 100 countries, delivers innovative and bespoke Assurance, Testing, Inspection and Certification solutions for our customers’ operations and supply chains. Tank Calibration Services: Intertek Caleb Brett provide accurate and detailed

measurement and calibration of large petroleum, fuel, and chemical cargo storage tanks. Tank calibration includes shore tanks and ship tanks used for holding crude oil, refined petroleum products, LPG, LNG, and other wet or dry bulk cargoes. Intertek’s bespoke ScanCal programme automates the tank calibration process whilst applying the recommended ISO 7507 methodology. ScanCal provides a Total Quality Assurance solution to satisfy tank calibration requirements of clients in any industry covering tanks of various shapes and sizes. Benefits of ScanCal Tank Calibration: Increased accuracy, Increased procedural safety, Automated data acquisition and post-processing of data, Reduced turnaround time.



J Murphy and Sons
Stands 59 & 60

J Murphy & Sons Ltd is a long established company with an extensive track record in construction & refurbishment of storage tanks and associated accessories, following the purchase of Land & Marine in 2013.Engineering forms a major part of the business, allowing us to offer comprehensive tank construction and repair capabilities. Working across a wide variety of industry sectors, Murphy’s has the experience and know-how to handle a range of storage tank related projects, including fixed and floating roof configurations and utilising the latest BSEN and API design codes. In addition to its tank construction capabilities, J Murphy & Sons is a leading manufacturer of floating roof tank seal equipment, internal floating covers, dome roofs and associated products. Offering a range of equipment, manufactured from quality materials, we continue to service the UK and Overseas market with conventional and lightweight Mechanical Primary Seals, Compression Plate Secondary and Double Seals.



Kanon Loading Equipment
Stand 29

Kanon Loading Equipment B.V., founded in 1979, is a Netherlands based company supplying Marine, Road and Rail liquid transfer systems to an international market. The range of equipment currently comprises of Marine Loading Arms, Top and Bottom Loading Arms, Folding Stair/ Safety Cage combinations, Loading Platforms and Swivel Joints. Kanon operates worldwide via a network of carefully selected agents and associate companies. Kanon Liquid Handling Ltd is a sister company of Kanon B.V. promoting Kanon products in the UK and Ireland. Based in the Midlands, we also offer a comprehensive service and repair facility. Kanon UK also design and manufacture a wide range of Drum and IBC Filling Systems. From fully automated robotic systems to simple manual filling, these can be on a supply only, or full turnkey basis to include additional equipment including conveyors, pumps, weigh scales, cleanroom facilities and fume extraction, all designed to specifically suit your requirements.



KDC Contractors
Stand 49

As a leading specialist in decommissioning, decontamination, tank dismantling, demolition and remediation. KDC provide competitive services to the fuel storage, refining and petrochemical sectors across the UK; with offices located in Manchester and Grangemouth. Our operatives are trained and highly competent at working in diverse environments on COMAH sites within high hazard, live facilities. KDC

is a trusted specialist contractor for clients including: British Petroleum, Phillips 66, Chevron and Exxon Mobil, to name a few. We continue to work with many of our clients as part of long term frameworks. Our clients value our high standards with regard to project planning and delivery. Our focus is on exemplary safety, health, environmental and quality performance across all areas of our integrated management system; as such we are certified to ISO9001, ISO14001 and OHSAS18001. To ensure our clients have complete confidence we are regularly audited by external companies, including Achilles FPAL.



Kinder-Janes
Stand 38

We are the UK representative and distributor for a number of world leading pump, compressor, turbo-expander, heat exchanger, vacuum equipment and packaged equipment manufacturers. We supply high quality process equipment to all the major offshore and onshore oil and gas, petrochemical, chemical and pharmaceutical companies as well as to many leading power, biotech, food and general industrial sites. Our customers include end users, contractors and OEM’s operating in these sectors, and we have particular expertise in the supply of API compliant equipment for the offshore and onshore oil and gas industry. Kinder-Janes have a diverse, well established product range and an experienced team of engineers enabling us to provide our customers with excellent support throughout the operating life of the equipment. From the initial selection, though quotation, supply, commissioning and a complete after-sales service, you are assured of dedicated, professional and personal support from Kinder-Janes.



Knowsley SK
Stand 61

Knowsley SK is renowned for the design and manufacture of innovative firefighting systems for the protection of high value Oil, Gas & Petrochemical installations. The KSK brand is recognised worldwide with an extensive reference list and pre qualifications with the leading IOC's and their subsidiaries. Knowsley SK Ltd has an enviable reputation for finding the complete firefighting solution, incorporating highly reliable systems & equipment for use in all manner of harsh environments. We manufacture and supply products into the -50°C extremes of mid-winter in the Caspian region and also to the +60°C summer heat of the Middle East. The product range includes hydrants, monitors, cabinets and ancillaries plus more sophisticated system packages including deluge skids, foam making equipment and remote operated monitor systems. With a century of expertise, continuous product development, and the backing of a worldwide support network, Knowsley SK is the first choice for high-value asset protection.



Mann Tek®

Manntek
Stand 56

Mann-Tek AB of Sweden is the World's leading producers of Dry Disconnect and Safety Breakaway couplings. We manufacture in a wide range of special materials to suit almost any chemical transferred by Sea, Road or Rail today. Our couplings are made to the highest possible standard and are recognised around the globe as 'Best in Class'. Dry Disconnect couplings from Manntek not only prevent spillage they also save money and the environment. Manntek protects human life and the environment.



MHT Technology
Stand 35

MHT Technology Ltd is a leading global supplier of Tank and Terminal Management solutions to the oil, gas and petro-chemical industry. We specialise in terminal/depot management systems including truck loading automation, tank gauging and inventory management, stock accounting and reconciliation, overfill prevention, plus much more. Our terminal management solutions give our customers a safe, reliable and efficient way to manage their assets through the provision of comprehensive alarm management; planning, monitoring and recording product movements; leak detection; theft monitoring and stock reconciliation. We utilise open standards and specialise in integrating instruments from different vendors. All our software solutions are fully scalable and can be installed on virtual and/or redundant servers to provide a fault tolerant, high availability system. We offer a comprehensive service portfolio covering site surveys, equipment selection and procurement, routine and emergency maintenance, installation, commissioning, spares and repairs.

MRC Global

MRC Transmark
Stand 2

MRC Global is the largest distributor of pipe, valves and fittings (PVF) and related infrastructure products and services to the energy industry, based on sales. Through approximately 300 service locations worldwide, over 3,500 employees and with nearly 100 years of history, MRC Global provides innovative supply chain solutions and technical product expertise to customers globally across diversified end-markets including the upstream, midstream (including gas utilities) and downstream (including industrials). MRC Global manages a complex network of over 200,000 SKUs and 11,000 suppliers simplifying the supply chain for its over 15,000 customers. With a focus on technical products, value-added

services, a global network of valve and engineering centers and an unmatched quality assurance program, MRC Global is the trusted PVF expert. Find out more at www.mrcglobal.com.



NDT Global Services
Stand 3

NDT Global Services specialises in providing a spectrum of inspection and test equipment for inspection companies, process plant, manufacturing and service industries for UK and overseas. Specialising in Guided wave pipe inspection service. It allows long lengths of pipes in difficult to access areas to be quickly screened for corrosion or other defects. Operating on pipes from 2" diameter, the wavemaker system employs lightweight transducer rings to send guided-ultrasonic waves up to 100m in each direction along the pipe. The wavemaker system can use both torsional and longitudinal waves. This means that the inspection can be performed on both gas and liquid filled pipes. Where the system is commonly used: road crossings, wall penetrations, straight runs of pipe where 100% of the volume must be inspected, inspecting under many types of supports, elevated pipework, Inspecting for corrosion under insulation, cryogenic pipework, sphere legs, jetty lines and buried lines.



Oceaneering
Stand 46

We deliver integrated solutions across the life of field to provide greater value

and a lower total cost of ownership. Using integrated tools, services, innovative technology, and manpower, we increase oil and gas project quality and reliability while minimising risk on a global scale.



OSL Consulting Engineers
Stand 9

OSL is a multi-disciplined team of creative, forward thinking technical specialists, working collaboratively with the energy and related sectors to provide quality implemented solutions. Our speciality is front-end engineering and provision of innovative solutions for Gas and Oil Processing, Transport and Storage - both onshore, offshore and subsea. OSL has extensive experience in the energy sector, including environmentally friendly technologies such as carbon capture, bio-fuel and biogas. Our highly skilled team undertake a wide range of projects for a variety of major and independent energy companies and we pride ourselves on our smarter thinking, quality, timeliness and the cost effectiveness of our delivery. We are the leading authority in the design and optimisation of gas compression systems both on and offshore.



P&I Design
Stand 17

P & I Design Ltd are again pleased to support this TSA Conference. Established in 1978, we provide a Consultancy, Engineering Design and Support Service to the Process Industry. The expertise of our multi-disciplined team allows us to provide services to our clients, from project conception through to

detailed design, commissioning and operational support. We have for many years specialised in the Tank Storage Industry providing services including; Terminal Automation Systems – design and integration utilising PLC/SCADA-HMI, Safety Instrumented Systems in accordance with IEC 61511, Functional Safety Management, including the provision of Risk Assessments, Functional Safety Assessments and Audits, On-site support, commissioning, maintenance, ATEX inspections and SIS Proof Testing. We can also assist in the implementation of the recently introduced HSE OG 0086 – Cyber Security for Industrial Automation and Control Systems (IACS) and CDOIF guidance on the Management of Installed Safety Instrumented Systems.



Pilz Automation
Stand 33

Pilz is a leading supplier of components, systems and services for safe automation of plants and machinery worldwide. The Engineering Team is highly experienced in designing safety related control systems for tank farm installations; taking customer requirements, converting them to a functional design and ensuring compliance with the requirements of EN61508/EN61511. Services include development of Safety Requirement Specifications, Schematics and Software Design through to SIL Verification, Factory Acceptance, Site Acceptance Testing and Installation Services for control room works including panel build and on site termination of devices.



Protego UK
Stand 50

PROTEGO is the leading manufacturer of tank valves and flame arresters and

tank equipment. PROTEGO products are sold throughout the world and use innovative technology to achieve high levels of performance. PROTEGO will be demonstrating their sizing programme which allows the user to calculate the venting requirements for normal and emergency venting for atmospheric and low pressure storage tanks according to the new ISO 28300 / API 2000 7th edition. PROTEGO pressure / vacuum breather valves are available both with and without flame arresters. We also supply emergency relief valves, tank blanketing valves and special designs suitable for cold weather or polymerising vapour service. PROTEGO Tank equipment complements the flame arrester and valve range. We manufacture floating suction units and oil skimmers. Protego will be exhibiting the Lightning Master range of lightning and static protection solutions. The MAGS bypass conductor system provides a new and innovative solution to bonding floating roofs to the tank shell as required by API 545, IEC 62305 and EN14015.



Radar Tank Gauging
Stand 57

Radar Tank Gauging Ltd is the distributor for Rosemount 'Raptor' high accuracy tank gauging systems for any facility storing high value liquid products. The system is based upon radar tank gauges offering high accuracy required to meet HM Customs & Excise requirements. In addition to no moving parts and accuracy to 0.5mm these gauges can also be supplied with emulation output cards enabling them to emulate old servo type gauges. Raptor really takes tank gauging to another level, enabling any facility to be better equipped to handle the ever-increasing demands on efficiency, safety and accuracy. It is a complete and flexible tank gauging system, based on the open industry standard FOUNDATION™

fieldbus. Raptor can be used for refineries, tank terminals and in the petrochemical industry. The Rosemount Tank Gauging system also supports the Emerson's Smart Wireless solution, which is based on WirelessHART™, the emerging industry standard for wireless field networks.



RAS Ltd
Stand 44

RAS are risk specialists in the chemical, oil and gas, and pharmaceutical sectors. We understand the specific risk challenges faced by these industries because we are dedicated to them. Our experts don't just identify, assess, manage and communicate risk; we work alongside our clients as trusted partners – spotting issues before they become problems. The effective management of risk requires a holistic approach that considers the organisation as a whole. For this reason the specialists at RAS cover risk in three key areas: safety, environment and business. We work across all aspects of risk, from Quantitative Risk Assessments through to the 'softer' risks which may affect an organisation's reputation.



Re-Gen Robotics
Stand 10

Re-Gen Robotics is the first and only Zone 0 EX certified, remote controlled, 'No Man Entry' robotic tank cleaning company, in the UK and Ireland. We place a high premium on workplace safety and with our bespoke, state of the art equipment, our workers are not exposed to the dangers posed by operations carried out in hazardous confined space environments, including refineries, pharmaceutical plants, industrial and agricultural sectors. Hazardous

petrochemicals, heat stress and falls are the main risks faced by workers who manually clean oil tanks. Re-Gen Robotics completely removes all the risks to personnel safety and health associated with working in confined spaces.



Reynolds Training Services Ltd
Stand 40

Reynolds Training Services Ltd is the leading provider for training solutions within Bulk Liquid Operations, providing industrial strength health and safety training. We achieve this via a set of safety tools which include competency assessment, management systems, apprenticeship programmes and tailored courses across process safety, operations and maintenance training – at our custom-built Technical Training Centre: CATCH. The team designs and delivers bespoke learning packages from Level 2 to 5 and beyond, including IOSH, NEBOSH, PAAVQ-SET and Quallsafe accredited courses. These qualifications enable sites to demonstrate that from board level through to operations & maintenance, personnel are actually applying process safety, and technical competence, rather than simply demonstrating knowledge. Don't want to go off site? We can come to you and deliver competency and safety learning in your workplace. Come and talk to us about how we can help you future-proof your site. Set your sites on safety – with Reynolds Training Services.



Rentajet Group Ltd
Stand 18

Since its foundation in 1984, RGL has evolved to become the UK's leading provider of water jetting services for a wide range of industries. We pride ourselves on our continuing investment and development in our growing business. Our industry leadership has been achieved by anticipating and responding to our client's new and

existing requirements with pioneering technical innovations to provide quicker, cheaper, safer and environmentally considered solutions. Our services are delivered through a cost-effective national network of expert crews located throughout the UK. These are managed by our head office in Hampshire and our regional office based in Manchester. We have also provided our services throughout Europe.



Rhyal Engineering
Stand 15

Formed in 1998 by managing director Bob Thomson, Rhyal Engineering has rapidly grown to become one of the UK's leading site built storage tank contractors, dealing with design and build of new tanks, and the refurbishment of existing tanks. Specialist LNG tank fabrication and erection has recently been added to Rhyal Engineering's capability, along with construction of spheres, and special projects, such as moving of spheres and tanks. The company are currently undertaking a turnkey Biofuels project on 4 Terminals for a major oil company . The company also has pipework, mechanical installation, fabrication and shop built tanks and vessels divisions, and can therefore undertake a very wide range of projects and term contracts. The company serves the Oil, Biofuels Petrochemical, Aviation, Power, Water, Waste and Dock industries, and has undertaken a considerable amount of work for independent storage companies, as well as major companies in the above listed industries.



Rosen Europe
Stand 30

ROSEN is a leading privately owned company that was established as a one-man business in 1981. Over the

last 30 years, ROSEN has grown rapidly and is today a worldwide technology group that operates in more than 120 countries with over 2,700 employees. The key to our highly innovation driven approach is listening carefully to the specific needs and challenges of our customers. “Empowered by technology” is the promise that we at ROSEN systematically deliver by enhancing the operations of our customers and making them safe, cost-effective and more efficient. We are a worldwide provider of cutting-edge solutions in all areas of the integrity process chain suiting a wide range of industries: Oil & Gas, Energy, Process, Mining, Manufacturing, Telecommunications and Transportation for a wide range of assets, including pipeline, tanks and vessels as well as wind turbines, trains, telecommunication towers and many more.



Scully UK Ltd
Stand 47

Scully prides itself on reliability and precision worldwide, providing the safest dependable solutions, protecting people and the environment. Inspiring to create fluid detection and handling systems, continuing to innovate and engineer through its exceptional 80 years industry experience. Commitment to excellence and commended for quality and longevity, affirming its role as global leader in safe and efficient product transfer with dedicated customer service, sales and technical engineer support. Scully products are utilised in many industries, where bulk fluids are stored or transported by companies in the petroleum, chemical, process industries, aviation, brewing, food, military, pharmaceutical and rail loading sectors.



SIS
Stand 25

SIS is a leader in rental of mobile Vapor Combustion Units (VCU / Mobile Flares) and Zone – 0 Blowers. Our services and technologies play an essential role in enabling our clients to reduce their (VOC) emissions and ensure that they are in compliance with the most stringent environmental rules and legislations. SIS offers the largest and most versatile fleet of mobile emission control units available today, tailored to midstream and downstream operations. Cooperation with our clients and partners is fundamental to our business. By understanding our client’s operational and permitting challenges, we provide short- and long term solutions that guarantee continuity, full compliance and optimum operational performance. From our office in Amelinghausen, Germany, we serve the international Oil & Gas industry 24/7 around the globe.



SJG International Ltd
Stand 5

SJG International is a family run business that has grown from a gasket manufacturing company into a market leading manufacturer of rubber extrusions, gaskets and foam conversions. We have over 40 years’ experience producing foam conversions, rubber extrusions and gaskets. Based in a large manufacturing unit in Alcester, Warwickshire, our network of customers spans a broad range of industries and we use the latest technologies to provide an innovative and flexible service that meets the often complex needs of those customers. Continual investment into new manufacturing processes and extrusion methods, as well as ongoing training and development, means that we consistently produce high quality and cost-effective solutions that meet national and

international quality and safety standards. We’re flexible and innovative and we’ll work with you to produce a solution, whether you need screen-printed and shaped promotional items, an extruded seal for a clean room environment or robust effective seals for marine windows and doors.



Stopford Energy & Environment
Stand 42

Stopford Energy and Environment is an international engineering, energy and environmental consultancy providing innovative multi-disciplinary solutions to a global market. For over three decades we have been serving the requirements of both SME’s and multi-national clients from our team of industry leading experts. Our experience encompasses a breadth of sectors including Oil & Gas, Chemicals, Water and Waste to Energy. Stopford specialises in the provision of robust independent consultancy, analysis and advice. We strive to design environmental and safety risk out of our client’s projects whenever feasible and to mitigate risk to the lowest practical extent. Our comprehensive service solutions include Feasibility, FEED, Detailed Design, Regulation & Policy, Health & Safety, Planning & Permitting, Client Owner Engineer, Environmental Assessments and Training. With activities across Europe, USA, Middle East and Asia Pacific, Stopford is one of the leading energy and environmental consultancies in the UK.



TesTex NDT
Stand 48

TesTex NDT is an inspection company based in Lincolnshire, working throughout

the UK and abroad that uses specialised techniques to solve both unique and well understood inspection problems. As a company we have been established over 15 years’ and have extensive experience using different techniques for the inspection of Storage Tanks, Pipelines, Heat Exchangers, Condensers, Pressure Vessels, and Boilers. All of our staff receive extensive technical training and also bring many years of industry experience. All NDT Technicians are, as a minimum, Level II PCN in their respective fields, as well as having specialised EEMUA 159, API 653, API 570, and ASME, CSWIP, NACE Plant Inspection qualified staff. We provide a variety of site services including – all types of NDT, site surveys, written schemes, RBI, cleaning and repairs all supported with clear & concise reporting. Visit our stand to find out how we can help with your next inspection project.



Veolia
Stand 21

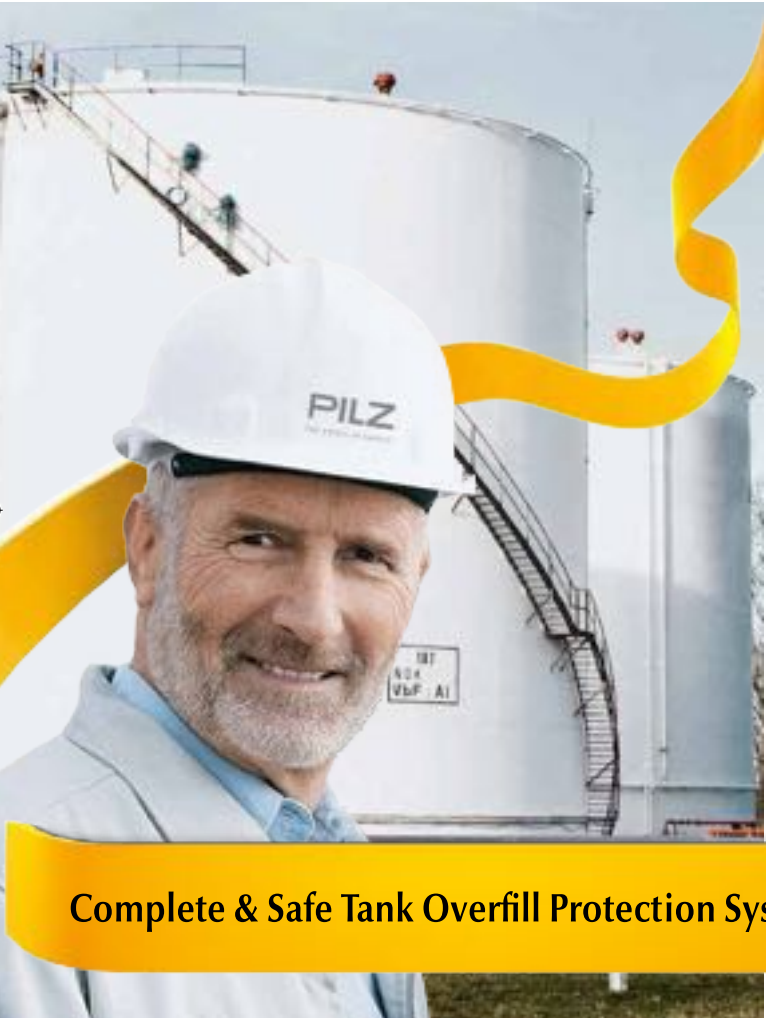
Our customers save time and money thanks to our cutting-edge industrial cleaning solutions which have extended the life of their assets, reducing downtime and ensuring safety comes first as they navigate a challenging environment. Finding efficiencies: We understand that the oil and gas sector needs long-term solutions that can reduce overheads and operating costs. Solutions with transparent reporting to demonstrate the

real value, in both financial and carbon terms, are an absolute must. Reducing operational costs, increasing cash flow and boosting health and safety: Many oil and gas companies have now adapted to operate at \$50 per barrel. We can help to provide a reliable supply of cost-effective utilities, managing waste and providing exceptional industrial services – while alleviating pressure on the bottom line.



Viking Inspection
Stand 14

Viking Inspection offers a range of NDT testing services to include storage tank



... we’ve got it covered!

The Pilz team of safety consultants and engineers have been assisting clients in the process industry for more than 15 years in the development of Tank Overfill Protection Systems across the whole system lifecycle – from initial assessment through to implementation and validation – to ensure that the installed system can be truly relied on to prevent overfill and avoid potentially catastrophic consequences. Our team can work independently or with your team to take care of the whole process or individual elements - your choice!

For further information or to discuss your requirements for this - or other process applications - contact us to speak with a Pilz expert today.

- Call us on 01536 460766
- Email us on services@pilz.co.uk



and pipeline inspections. Based in Grimsby, we have the capacity to carry out inspections across the entire UK and worldwide. The inspections can be conducted either in-service or out of service and can be from a simple ultrasonic thickness survey to a full EEMUA or API inspection, including corrosion/erosion rates, remaining life calculations and fitness for service statements. We provide a complete inspection service and our years of experience give our clients peace of mind that they are achieving industry standards. All of our technicians are Level II PCN, CSWIP, EEMUA and API qualified in relevant fields. Furthermore, our team and technicians are reputable for being highly conscientious and dependable and always thrive to provide the client with quality inspection results and reports.



Wefco (Gainsborough) Ltd Services
Stand 51

Wefco has been established for over 40 years and have built a solid reputation for quality and reliability. We are a market leading privately owned UK company with product lines including site erected and shop fabricated storage tanks, pressure vessels, underground fuel storage tanks, refinery equipment and general fabrications. We also provide comprehensive scope of tank repair and refurbishment from initial testing through to re-commissioning. We have fully equipped in-house services enabling us

to provide clients with effective design, quality engineering and efficient project management. Our aim is to achieve total client satisfaction on every project. Wefco offers a full design and construct service for tank repairs and refurbishment including tank jacking, floor repairs and replacement, shell repairs and reworks in accordance with API 653 and EEMUA 159 standards. Protective coatings, foundation repairs and pipework can also be provided if required.



Wolf Safety
Stand 11

Wolf Safety is the world's leading manufacturer of hazardous area portable

and temporary lighting, offering the widest range of ATEX and IECEx certified explosion protected lighting and power distribution systems for safe use in potentially explosive atmospheres worldwide. Our extensive range of safe, certified lighting products includes torches, headtorches, handlamps, inspection lamps, work and flood lights. Wolf lights are used extensively in the oil, gas and petrochemical industries, as well as by distilleries, the food industry, the marine and utilities sectors, as well as the emergency services and armed forces.



Wood
Stand 4

Wood is a global leader in the delivery of project, engineering and technical services to energy and industrial markets. We operate in more than 60 countries, employing around 60,000 people, with revenues of over \$10 billion. We provide performance-driven solutions throughout the asset life cycle, from concept to decommissioning across a broad range of industrial markets, including the upstream, midstream and downstream oil & gas, power & process, environment and infrastructure, clean energy, mining, nuclear, and general industrial sectors.



Yokogawa
Stand 13

Yokogawa is a leading provider of industrial automation and control (AI), test and measurement and advanced solutions for operational optimisation. Combining innovative cutting-edge technology with project management, engineering and services; Yokogawa delivers field-proven operational excellence, safety and reliability throughout the delivery and post-implementation maintenance lifecycle. Yokogawa offers a wide range of industrial instrumentation, liquid and gas analytical and data acquisition solutions that ensure outstanding performance, precision, and long-term stability. Founded in 1915, Yokogawa engages in broad-ranging activities in the areas of measurement, control, and information. The industrial automation business provides vital products, services, and solutions to a diverse range of process industries including oil, chemicals, natural gas, power, iron and steel.



Zerust Oil & Gas
Stand 36

Zerust® Oil & Gas is a division of Northern Technologies International Corporation (NASDAQ: NTIC) that provides corrosion mitigation solutions and services to clients in the Oil & Gas and process chemical industries. Some of our oil and gas clients include BP, Chevron, Enbridge, Reliance Industries (India), Petrobras (Brazil), Shell (Malaysia), ADMA-OPCO and FMC Technologies (USA). The team leverages NTIC's global network of trained corrosion management professionals and channel partners to deliver products, provide local support, conduct client training and participate in solution field trials. In addition, the R&D group works with companies like Chevron, Petrobras and Enbridge to develop specialized corrosion mitigation solutions and shared intellectual property (IP) technologies.



Understanding and facilitating the effective management of risk is our core business. Our expertise covers the full range of risk assessment and management services across:

"We cannot solve our problems with the same level of thinking that created them." Albert Einstein



Safety Risk



Business Risk



Environment Risk

Only when the risk facing an organisation is well understood can it be effectively managed. Key to the successful identification, assessment and management of risk is engagement with the right people, using the right processes at the right time. We believe we are different to many of our competitors and our approach is distinctive, we don't always walk the well-trodden path but look at each client's particular risk context and develop a tailored solution, working in partnership with our client.

+44 (0) 1244 674 612 • enquiries@ras.ltd.uk • www.ras.ltd.uk

FREE WIFI



Network: Ricoh Arena WiFi



International Ship and Port (Facility) Security Code (I.S.P.S. Code)

Compliance visits and changes to the code



As an Operator of a deep sea connected import or export facility; whether independently as a passenger (PAX), RoRo, or chemicals oil and gases (COG) terminal or indeed as a bulk cargo facility (OBC) under the auspices of your local Port Authority (OBC), you and your Port Facility Security Officer need to be aware that the Department for Transport have enforcement powers to ensure compliance with the International Ship and Port



(Facility) Security Code. These powers have now been enhanced with the implementation of the Port Security Regulations 2009 and the Port Security Regulations 2013. If you have not already received a compliance visit, the chances are you will at some point over the next twelve months.

The Compliance Inspection will be conducted by a Maritime Security & Resilience Division (MSRD), Transport Security Inspector (usually two). These officers have a check-sheet with 90 separate headings / sub-headings covering your ISPS Compliance in the operation of your port facility.

Although you are unlikely to be subjected to inspection on all of the 90 areas there is no way of knowing which areas the Inspectors will choose to examine. They will then assess whether you are 'In-Conformity' (IC); 'In-Conformity but improvement desirable' (ICI); in 'Non-Conformity' (NC) or Major Non-Conformity (MNC).

Failure to address the identified non conformity could result in MSRD embarking on their enforcement of compliance monitoring which is a 'stepped' approach.

The initial 'Compliance Report' will identify the failings and give a date by which the PFSO must respond on how they will address the failings. If this date is not met the PFSO is then running the risk of being served with a 'Deficiency Notice'. Failure to deal with the issues at this point will ultimately result in the issue of an 'Enforcement Notice' and in extreme cases prosecution.

It should not be forgotten that the loss of the 'Certificate of Compliance' which is issued by MSRD under the authority of The Department for Transport will effectively be a bar to any further international trade from your port facility!

There are also changes to the Code in the pipeline.

For example are you aware of the implications and new requirements of the replacement Port Facility Security Instructions (PFSI)? The new document will be known as the United Kingdom Maritime Security Measures (UKMSM). MSRD, originally known as TRANSEC have already published the UKMSM for passenger ports (PAX). The document is double the size of the old PFSI and contains a number of significant additional such as the requirement to develop 'Contingency Plans' and 'Evacuation Procedures', which will be incorporated into your Port Facility Security Plan (PFSP). It is understood the other facility categories will be rolled out over the coming months (Ro-Ro; COG and OBC).

Clearly implementing these changes this will require a re-write of your existing PFSP and refresher training for your operating teams and security responsible personnel.

For more information on services, courses, costs and availability please email chris.amos@teamwork-security.co.uk

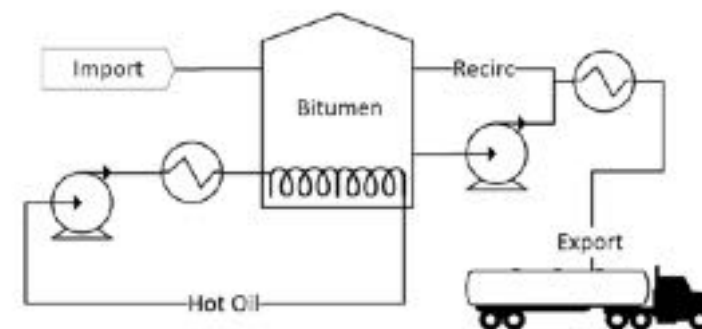




Process Modelling is not for the Tank Storage sector ...or is it?

Process modelling software is used extensively in the chemical manufacturing sector for process design, proof of concept work, optimisation and even demonstrating regulatory compliance for difficult to measure process variables. To date, use in the tank storage sector has been very limited. Here we present a case study and additional examples of how P&I Design Ltd have assisted our tank storage sector clients through the use of process modelling.

Case Study Bitumen Heating



Our client had a proposed bitumen storage contract requiring ship import, storage at elevated temperature and road export at controlled temperature.

Challenges

- Hard and soft bitumen storage thus wide range of viscosity and consequently achievable import flowrates
- Throughput requirements to be achieved with specified export temperature but varying import temperatures.

Design Criteria

- Predict achievable import flowrates
- Size the whole heating system, including hot oil heat exchanger for tank temperature rise / maintenance duties via internal tank coils
- Predict heat up rates
- Road export heat exchanger to provide product temperature rise of 20°C in a single pass, thus enabling storage at lower temperature and/or reducing operational delay post import
- Design and prove the control philosophy.

Output

We were able to produce a comprehensive design dossier to demonstrate the capabilities of the proposed system including import rates, heat up rates and major process equipment sizing. The control philosophy was established enabling detailed design to proceed. The system is now installed and operational.

Other Applications

We have successfully implemented process modelling for a number of other tank storage related applications, including:

- FAME storage tank heating using hot water circulation through internal coils with electrical heater (including all electrical power requirement design)
- Dynamic FAME blending into import pipeline systems to achieve B5 blend in storage tank
- Firemain modelling to justify the need for above ground water storage tank to replace dock fed sump system. Modelling demonstrated the inability of the existing system to achieve NFPA 15 cooling requirements. A solution was modelled and later validated through site testing
- Dynamic simulation of diurnal tank breathing to predict volatile component material loss.

P&I Design Ltd. Capabilities

P&I Design Ltd are the UK & Ireland agents for CHEMCAD process modelling software. We sell the product and support our clients including universities. We run training courses worldwide on dynamic simulation on behalf of the software developer Chemstations based in Houston, Texas.

P&I Design Ltd provide process, instrumentation consultancy & design services to process industries worldwide. We are a privately owned company established in 1978 and have worked with tank storage companies for over 25 years. Other capabilities relevant to the tank storage sector include:

• Functional Safety

We can provide services in all lifecycle phases from hazard & risk assessment through to commissioning.

• Cyber Security

Compliance assistance with HSE OG0086 from site survey through to risk assessment.

• Automation

Using PLC & SCADA technology we can automate your terminal to provide a safer and more efficient operational environment.

• EC&I Services

Full turnkey range of services.

Please come and see us on **Stand 17** for more information
www.pidesign.co.uk 01642 617444

Meet THE SPEAKERS

This year the TSA is pleased to welcome another fantastic group of industry speakers. These include professionals from various regulatory bodies, industry peers and government representatives, exploring a broad spectrum of topics including COMAH and analysis of past incidents.

All presentations will be available for download post-event from the website.



MEET THE SPEAKERS



Peter Mackay
Editor-in-Chief,
Hazardous Cargo Bulletin

Peter has been writing and editing HCB for 25 years and has been involved in the dangerous goods supply chain as an analyst and commentator for 35 years. In his role at HCB, Peter brings readers news and analysis of regulatory changes, market developments and safety issues in the transport, storage and handling of dangerous goods by all modes.

Peter is now a regular speaker and chair at industry events around the globe; he also provides occasional articles for Petroleum Review and other publications and undertakes ad hoc consultancy work. He is a past chair of the Dangerous Goods Trainers Association.



Giacomo Boati
Executive Director,
Oil Markets Midstream,
Downstream, IHS Markit

Giacomo Boati, specializes in project managing consulting activities in the Oil Markets, Midstream & Downstream

Consulting team at IHS Markit. In this role, he has performed a wide range of consulting assignments with an emphasis on the oil products storage, and refining sectors. He has extensive experience of mergers and acquisitions analysis, refinery project strategy and valuation, market analysis and price forecasting. Within IHS Markit, Giacomo has assumed responsibility for leading the European crude and oil products storage consulting activities.

Prior to joining IHS Markit, Giacomo was a manager consultant at YKems Beijafore, a strategy management consulting firm that specializes in the commodities and mining sector. In this role Giacomo participated in various projects for large corporations including market fundamentals analysis, analysis of investment growth / vertical integration opportunities, and assets evaluation. Before that Giacomo was at IHS CERA in the European gas and power team, focusing on long term forecasting modelling and market fundamentals research. Giacomo holds a B.A. in Economics from Bocconi University, Milan, and a M.A. in Energy Policy and International Economics, Johns Hopkins University SAIS, Washington D.C.



Dr Paul Logan
Director of Chemical,
Explosives, Microbiological
Hazards Division, HSE

Paul has extensive operational and policy experience in HSE, including managing teams negotiating and implementing the European Directives covering explosives, radiation, offshore

oil and gas extraction, and onshore major hazard industries. He is currently responsible for leading teams covering the onshore major hazards sectors, with a national network of field inspectors regulating GB onshore major hazards businesses in the chemicals, explosives and microbiology sectors. The team also covers cyber security at Critical National Infrastructure sites in GB.

Paul chairs the Control of Major Accident Hazards (COMAH) Competent Authorities Strategic Management Group, the Chemical and Downstream Oil Industries Forum (CDOIF) and represents HSE on the COMAH Strategic Forum, an Industry/regulator body established to drive up safety standards in the high hazard chemical and energy sectors.



Dr Jo Nettleton
Deputy Director Radioactive
Substances and Installations
Regulation, Environment
Agency

Following a career in medical physics and radiation research, Jo joined HSE as a radiation specialist inspector, regulating the use of ionising radiations across medicine, research, education and industry and working on related strategy and policy. Jo moved to join the Nuclear Installations Inspectorate, leading teams to regulate nuclear decommissioning (including environmental impact assessment), conventional health and safety and nuclear safeguards, before joining HSE's Hazardous Installations Inspectorate, leading regulation of

biological agents, explosives and chemical industries. She joined EA in 2015 and is now Deputy Director and Head of Radioactive Substances and Installations Regulation. Jo lives in Southport and is married with a stepson, daughter and two cats.



Dr Brian Worrall
Head of Group Sustainability,
DCC

Prior to joining DCC in 2019, Brian has worked for one of its subsidiaries, Certas Energy since January 2014, following the firm's rebrand from GB Oils in October 2013. Previously, Brian was the former independent chairman of the Downstream Oil Distribution Forum and he has also held positions at Chevron and Valero, building up an extensive knowledge of the commercial, road, aviation and retail forecourt sectors. He is also a former President of the United Kingdom Petroleum Industry Association, a current Council member of the Federation of Petroleum Suppliers and is President of UPEI, the European trade association for independent fuel suppliers.

Brian has an excellent understanding of the issues currently affecting the fuel industry and played a key role in the development of the Petroleum Driver Passport, the first industry-led driver training initiative and in the development of the Cold Weather Priority Initiative. He was educated in Manchester, holding a PhD in History from Manchester University.

Brian enjoys golf and supporting Manchester City.



Caron Maloney
Specialist Inspector,
Risk Assessment, HSE

Caron Maloney is a Specialist Inspector of Health and Safety specialising in major hazard risk assessment in HSE's Chemical, Explosives and Microbiological Hazards Division, a role she has held for 9 years. She has also worked for 5 years at HSE's research laboratory in Buxton where she was involved in undertaking COMAH Safety report assessment and related risk assessment work.

It was during her Chemical Engineering degree that Caron decided she wished to pursue a career as a safety professional, fuelled through personal observations of the impact permanent injury from industrial accidents had had on people she knew. Her experience as a safety profession now spans more than 20 years and has been gained across a wide range of industries including construction, rail and chemical manufacturing.



Allan P Greensmith
APG Consulting and Training

Allan has spent over 35 years working in the oil & gas industry. starting his career as an Electrical Engineer before moving into Refinery Operational and later Human Resource roles, where he held

responsibility for Shift team Supervision, Training, Competency (where he developed the organisations 'Competency Management' system) and Technical Recruitment.

Allan spent the final 10 years of his career as a 'Human Factor Leader' where he played key roles in the Refinery's accident/incident investigation processes and developed several key human factor policies including Competency, Fatigue and Learning (Just) Culture. Following retirement in 2017, Allan has delivered his presentation 'Never Again' (dangers of organisational complacency & inadequate safety cultures), to Directors, Managers and workforce of Major Oil & Gas businesses (upstream & downstream) across the UK & several in Europe.

PLEASE NOTE

All presentations will be available for download post-event from the website.

www.tankstorage.org.uk



Free Wi-Fi

Network:
Ricoh Arena WiFi





DSEAR Compliance: Beyond Hazardous Area Classification

RAS Ltd is a risk and hazard management consultancy based in the North West of England. Working with over 70 COMAH establishments and a number of other high hazard sites across the UK (and further afield) to enable operators to understand and manage their risks, managing flammable atmospheres is a key area of expertise within the company.

Operators are required to manage flammable atmospheres according to the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR). DSEAR should be a term familiar to most operators of high hazard sites, though it could be fair to say that generally only one aspect of the requirements springs to mind on first mention of the regulations; hazardous area classification. The requirements, however, go much further than this, requiring demonstration that there are suitable systems in place to manage the risks. Often, these less tangible, organisational, aspects are eclipsed by the technical requirements. The result of this is not only a weaker demonstration, but a misunderstanding of the risk and how to control it, leading to inefficient resource management.

Recently we have seen more and more operators asking for advice on how to demonstrate compliance to the regulator in all aspects of the requirements. This perhaps reflects the increasing knowledge

out there on the flammability of substances in a wider range of contexts as well as the sharpened focus on leadership and management systems within the industry.

A focussed management system must ensure that the right processes are in place to identify the risks. Once identified, the system must ensure that the correct control measures are implemented to manage the risk to a level that is As Low As Reasonably Practicable (ALARP). Therefore, without a robust management system, the basis of the risk assessment and the placement of resources to manage the risk is flawed. It is important to ensure that any demonstration of compliance with DSEAR creates the right balance between the technical and organisational aspects, giving due consideration to the SMS.

In the rest of Europe where the ATEX directive is in force, there is a requirement to write an Explosion Protection Document (EPD) which details all of the arrangements on site for compliance. In Great Britain under DSEAR, however, there is no requirement for such a document to duplicate information in existing written systems which already describe the aspects of compliance. It could be tempting for sites already under other regulations for managing dangerous substances, such as COMAH, to assume that a sufficient demonstration of DSEAR

compliance is already made in their Safety Report, eliminating the need for an additional documentation. However, it is important to consider that DSEAR requires that all dangerous substances are taken into consideration, unlike COMAH which is applicable to certain substances in specified quantities, and so the documentation at COMAH sites is not always sufficient. It can therefore be considered beneficial to have in place some sort of DSEAR compliance document to make the demonstration that a site fully understands and manages all of its risks. This document can act as a platform to demonstrate that risk management within an organisation goes well beyond the 'where' in the hazardous area schedule; it also has in place a well thought out safety management system which demonstrates the 'who', 'what', 'when', 'how' and 'why'. Without this, the demonstration cannot be made.



RISK & HAZARD MANAGEMENT

JBP – specialist valve supplier



TSA Associate member JBP has over 30 years' experience, in supplying Manual and Actuated valves to Fuel Storage facilities, Pipelines, Refuelling Depots, and Tanker loading facilities.



With extensive stocks and in-house expertise, we have supported Plant designers, Operators, and Contractors with their valve requirements across the UK and Ireland, and overseas in places such as Mauritius, Kenya, Ghana, The Caribbean, and Algeria.



We understand valves and our customer's requirements, and have extensive resources to manage Valve projects, including special painting, certification, modifications and special testing.

From a one-off isolating valve, to a complex package of ESDV's, we have the stocks, resources, sustainability, and expertise to be your valve supply partner.



Contact: Billy Gardner on 01324 630030
Email: bgardner@jbpipeline.co.uk

Stopford supports TSA clients with fire precautions for bulk storage installations

Stopford specialises in the provision of robust independent consultancy, analysis and advice, for over three decades we have been serving the requirements of our clients from our team of industry leading experts.

Our experience encompasses a breadth of sectors including Oil & Gas, Chemicals, Food, Water and Waste to Energy. We have extensive experience in the fuel storage and handling industry and strive to design environmental and safety risk out of our client's projects whenever feasible to mitigate risk to the lowest practical extent. With activities across Europe, USA, the Middle East and Asia Pacific, Stopford is a leading UK energy and environmental consultancy.

**Think Energy. Think Environment.
Think Engineering. Expect Excellence.**

Terminal Design

Multidisciplinary Design:

- Feasibility Studies
- FEED Studies
- Detailed Design
 - Flowsheet & P&IDs
 - Piping Design
 - 2D & 3D Modelling
 - BIM Modelling
 - PLC & Scada, URS & FDS Generation

Firewater Management & Control Measures

- Emergency Response
- Tertiary Containment Requirements
- Fire Risk Assessments – EI19
- Environmental Impact Assessments

Health & Safety Consultancy

- HAZOP, LOPA, Surge Analysis
- DSEAR Compliance, COMAH Safety Reports
- Functional Safety, IEC61508,61511, TUV Certified
 - Waste Management Plans
 - Regulation & Policy Compliance
 - Planning & Permitting
- Environmental Risk Assessments

Project Management

- CDM Duty Holder roles
 - Planning (Primavera)
- Cost Control & Monitoring
- Procurement (Expediting)
- Construction supervision

Training

- Process Safety packages accredited by Cogent



Certificate Number 5021
ISO 9001:2015

www.stopford.co.uk | 0151 357 7740

Stopford have carried out fire risk assessments for clients, including members of the TSA. The fire risk assessment forms the bedrock of the site's Emergency Plan. It considers credible fire scenarios and how to manage them effectively, including use of active and passive firefighting measures.

Approach

Our preferred approach is to apply the guidelines set out in Energy Institute's 19-Fire Precautions in Refineries and Bulk Storage Installations, as well as other relevant guides including British Standards and NFPA-National Fire Protection Association standards. Firstly, the assessment needs to identify all credible fire scenarios – such as storage tank rim fires and pool fires within bunds following a loss of containment. Our assessment then considers whether to implement a controlled burn strategy or whether to deploy active firefighting systems to control and extinguish the fire. The implications of both approaches must be carefully assessed.

Active firefighting or controlled burn?

Implementing a controlled burn strategy means accepting the consequences of thermal radiation from the fire. A major fire risks a domino effect as adjacent equipment is damaged resulting in further loss of containment spreading the fire. The assessment should model thermal radiation levels for all identified fire scenarios using specialist computer modelling software. These models can

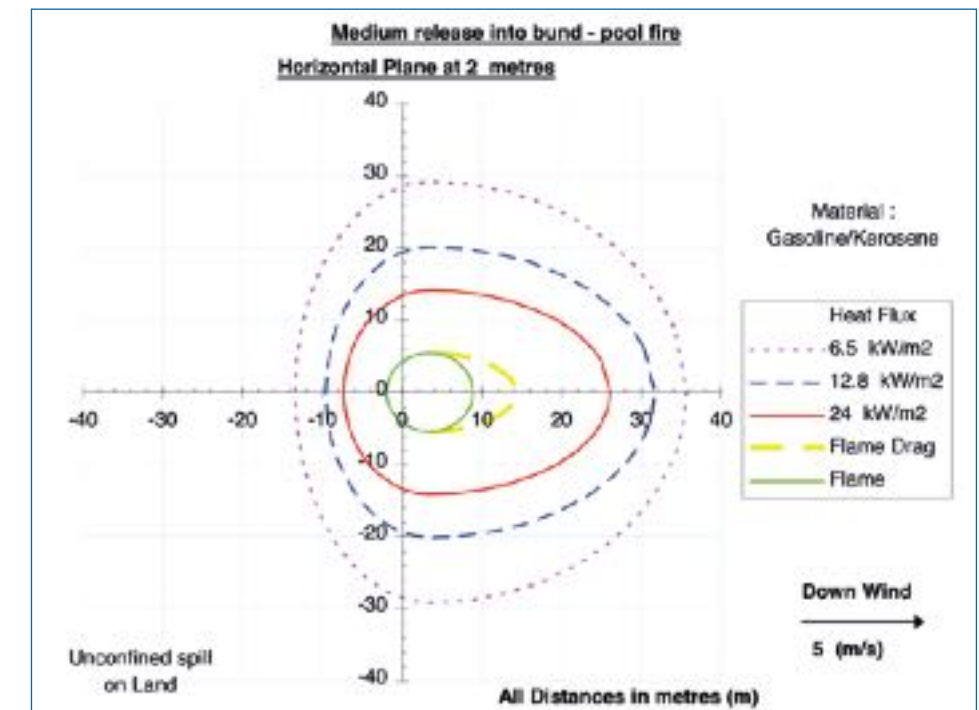


Figure 1: Fire modelling output – DNV Phast™

predict heat fluxes, thus identifying potentially vulnerable items of equipment and infrastructure. Assets can then be provided with protection – such as deluge cooling, intumescent paint and fire-resistant insulation.

The active fire fighting strategy presents a different set of considerations. The aim of this approach is to tackle and contain the fire before it can spread – the emphasis is on fire fighting rather than protection of vulnerable assets. The assessment must consider how the fire scenarios identified are to be tackled. Options include fixed fire systems such as foam pourers or the use of portable equipment.

In conclusion, there are a wide range of approaches to managing fires, depending on factors such as geographical location, the type of storage facility, as well as

insurance considerations. The final assessment must be site specific – one standard solution cannot be applied across the sector. Stopford's in-house database of potential options covers a range of sites within the TSA, as well as non-members.

To find out more about how our team can be your partner of choice contact Heather Guanaria via;
Web: www.stopford.co.uk
E-mail: enquiries@stopford.co.uk
Tel: 0151 357 7740

JOIN US

If you're a terminal operator or you supply equipment or services to the bulk liquid storage sector, contact us to find out about the benefits of becoming a member of the TSA.

info@tankstorage.org.uk



www.tankstorage.org.uk

FOOD AND DRINK sponsored by



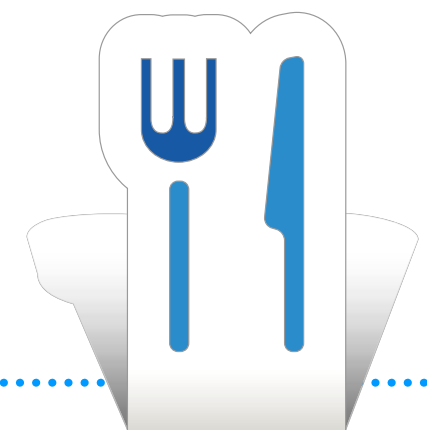
At this years' Tank Storage Conference & Exhibition, the excellent catering staff at the Ricoh Arena are providing attendees with an inclusive buffet lunch as well as refreshment breaks throughout the day.

On arrival you will be welcomed with a breakfast selection of tea, coffee and danish pastries, followed by a mid-morning refreshment break at 11.30am.

Lunch will be served between 12.30 and 2pm and will consist of sandwiches and hot and cold buffet items. Catering is sponsored by **Aquilar Leak Detection**.

Mineral water will be freely available throughout the day.

The Tank Storage Conference & Exhibition organisers would like to take this opportunity to thank the Ricoh Arena for their fantastic service and assistance at today's event.



MENU

Traditional Filled Sandwiches

Wooky Hole Cheddar and Red Onion Tart

Mini Greek Salad, accompanied by Tzatziki

Homemade scotch egg with Chorizo and smoked Pimento Aioli

Sweet potato wedges roasted in Harissa

Raspberry Bakewell with Clotted Cream

MEDIA PARTNERS

Fuel Oil News

Fuel Oil News

Fuel Oil News is the monthly magazine for professionals involved in the distribution, storage and marketing of fuel in the UK and Ireland. Established in 1977, Fuel Oil News has been reporting news from the world of fuel distribution every month for 38 years.



Hazardous Cargo Bulletin (HCB)

HCB was established in 1980 to help those involved in the transport and storage of dangerous goods to keep up to date with changing regulations. We continue to cover regulatory developments and to bring our readers news of products and services that aim to make their operations safer or more efficient. The magazine covers the transport of all kinds of dangerous goods, but particularly liquid chemicals, liquefied gases, explosives and radioactive materials. It covers transport by all modes: road, rail, maritime (bulk and packaged), inland waterway and air. Its coverage is also global in scope, covering not only North America and Western Europe but also the Far East, South-East Asia, Australasia, the Middle East, Africa and Latin America.

HYDROCARBON ENGINEERING

Hydrocarbon Engineering

Hydrocarbon Engineering magazine provides global coverage of the downstream oil and gas sector. As well as international oil and gas news, the publication provides regional reports, keynote articles from major oil and gas companies, technical institutes and industry commentators, and detailed technical articles about all aspects of the hydrocarbon processing sector.



Storage Terminals Magazine

Published four times a year, Storage Terminals Magazine is the premium business magazine for executives, technicians, engineers and all professionals working in the global bulk liquids storage industry. Each edition focuses on a specific geographical area: Europe, North and South America, Asia, etc. In addition each issue includes news, developments on the industry and companies in the market, information and details on terminal expansion projects, updates of safety and regulations and feature articles on terminals and industry equipment and service companies.

Tank Storage MAGAZINE

Tank Storage Magazine

Tank Storage Magazine is published by Easyfairs UK Ltd. It is the industry leading publication reporting exclusively on the bulk liquid tank storage and terminal sector. Easyfairs deliver the world's largest portfolio of tank storage events, which take place in key bulk liquid storage hubs around the globe. Tank Storage Magazine is the official publication for all events—StocExpo in Antwerp/Rotterdam, Tank World Expo in Dubai, Tank Storage Asia in Singapore, and Tank Storage Germany in Hamburg.

CRESCO MARKETING

GREAT MARKETING
NEEDS MORE
THAN
BRIGHT IDEAS



CRESCO Marketing is solely dedicated to the **Tank Storage Industry**, providing a wide range of marketing, consultancy and creative services to suit your needs.

Storage Industry Contacts

Years of hands-on industry experience

In-depth knowledge of industry publications and events

Providers of market intelligence

Contact Joseph Quinn
Email: joe@crescomarketing.com
Tel: +44 (0) 1702 471846
www.crescomarketing.com



ADVERTISER INDEX

Advanced 3d Laser Solutions	Inside front cover
Knowsley SK	6
Reynolds Training Services	10
PILZ	23
RAS Risk & Management	24
Stopford Energy & Environment	38
Cresco Marketing	43

SEE
You
NEXT YEAR

SAVE THE DATE

24th SEPTEMBER
2020



With thanks to our sponsors



www.tankstorage.org.uk

