



Hazards forum



The Hazards Forum Newsletter

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Hazards Forum Newsletter

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Views expressed are those of the authors, not necessarily of the Hazards Forum

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March 2016

Hazards26

24–26 May 2016
Edinburgh, UK

In association with the Mary Kay O'Connor Process Safety Center

Hazards 26 will provide a platform to share best practice, lessons learned and new developments in process safety as we continue to build a safer industry. It takes place on 24–26 May in Edinburgh.

The event will offer an essential insight into best practice in process safety, with a packed programme of presentations examining the themes that are fundamental to managing and reducing risk more effectively.

With over 65 presentations to choose from, the programme will feature best practice guidance, latest research and lessons learned from leading industry practitioners, academics and regulators.

An international line-up of invited keynote speakers will provide their own strategic view of the process safety challenge, including:

Alan Chesterman, senior manager at Apache North Sea – who will provide an update on the Asset Integrity Steering Group's (AISG) work to prevent offshore major accident hazards in the UK Continental Shelf.

Cheryl Grounds, vice president, process safety at BP USA – who will reflect on a career spanning more than 30 years and her vision for the future.

Ken Rivers, chair of the COMAH (Control of Major Accident Hazards) Strategic Forum – who will discuss the crucial topic of leadership in process safety.

Other speakers will be announced shortly.

Optional pre-conference workshops are available on 24 May, providing the opportunity to examine the following topics in more depth: SIL and human involvement; consequence modelling; barrier performance; incident investigation; explosion science; and the future of process safety. There will also be plenty of opportunity for peer and industry networking.

Download the conference programme, see full event details and register at www.icheme.org/hazards26

The Relationship between the Regulated and Regulator – Between a Rock and a Hard Place?

Neil Carhart

On **Tuesday 1st December 2015** the Hazards Forum hosted an **evening event** at the Institution of Civil Engineers, One Great George Street, Westminster, London, SW1P 3AA.

This Hazards Forum evening event explored how the relationship between regulators and the regulated impacts success in managing hazard and risk. Speakers from the legal profession, industry and regulators came together to discuss the importance of this key interface. Using real life examples from industry the speakers highlighted where experience has shown this interface has worked well to improve risk management,

where interaction has not worked so well, and lessons that can be taken into future interactions to ensure that the best outcome for stakeholders can be achieved. As our understanding of Risk and Hazard continues to evolve this key interface becomes increasingly important – whilst ambitions can often be aligned, disconnects at the point of regulation can cause unforeseen consequences. Better communication amongst stakeholders can lead to greatly improved management of hazards and risk.

The event began with a few brief words from **Hazards Forum Chairman** Rear Admiral (retd) **Paul Thomas CB**. He welcomed all

those in attendance and thanked the Institution of Civil Engineers, Institution of Engineering and Technology, and the Health and Safety Executive for co-sponsoring the event. He then introduced the chair for the evening's event, Prof **Andrew Curran**, Chief Scientific Advisor and Director of Research at the Health and Safety Executive.

The first talk of the evening was given by **Phil Hallington** Head of Policy at Sellafield Ltd. who presented an industrial perspective on the roles of the regulator and regulated in establishing a regulatory framework. He has over 40 years of experience in the Nuclear Industry. During this time he has constructed, commissioned, and operated fuel storage, reprocessing and waste management facilities.

Steffan Groch, Partner and Head of Regulatory at DWF LLP, and Chair of the Health and Safety Lawyers' Association (HSLA) then discussed the impact a regulator's commercial agenda can have on the relationship between regulators and the regulated. Based on extensive experience as a defence solicitor and research amongst HSLA members, he considered the implications for the effective management of health and safety risks.

The final talk was delivered by **Kevin Myers** CBE, Director General of Regulation for The Health and Safety Executive. Kevin joined HSE as a trainee factory inspector in 1976, rising through to become the Deputy Chief Executive in 2008 via a number of diverse roles across HSE. In his presentation, '*Delivering effective regulation for the workplace in the 21st Century: challenges and opportunities?*' he discussed the challenges for the regulator in establishing regulation fit for the 21st Century workplace.

Phil Hallington began his talk by providing some background on Sellafield Ltd.'s nuclear fuel reprocessing and decommissioning site. It covers an area of around 2 square miles in the north west of England, housing over 200 nuclear facilities. It has a significant inventory of radioactive material in many forms. It currently supports nuclear generation and will continue to do so at least until the end

of the Advanced Gas-cooled Reactor (AGR) power programme. On current plans, AGR fuels will then be stored at Sellafield until 2086 when it will be packaged for delivery to a deep geological disposal facility for high-level waste. This is planned to become available around 2075. The entire programme for Sellafield extends until 2120 to account for the time to load the repository and deal with the above ground structures that will need to be demolished.

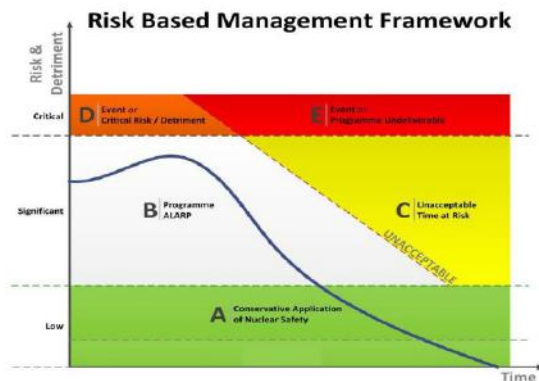
Sellafield is therefore a major national priority. This has always been the case. During the 1940s/50s it was without doubt a military and defence priority. During the 1960s/70s it was important to the development of the Magnox-based nuclear power programme. Its storage capacity was extended incrementally. During the 1980s it underwent major expansion, and also a significant improvement in the sites environmental performance. Peak alpha and gamma discharges occurred in the early 1970s and are in an order of 10,000 to 100,000 times smaller today as a result of investment and improvement in the 1980s.

It's not until the 1990s that the true commercialisation of reprocessing begins. Prior to this some activities had still been in support of military activities. During this period waste arising from nuclear processes was treated in 'real time'. Improvements in reprocessing have meant that the stocks of material at Sellafield are currently at the lowest they have been since the late 1960s. Sellafield Ltd. is on track to complete Magnox-related work by 2020. By the end of the Magnox programme around 65,000 tonnes of material will have been reprocessed. The Sellafield site accounts for around 64% of the entire worlds output of reprocessing.

Sellafield found itself with some facilities which could be considered to be within the intolerable risk regime. Phil referenced the ALARP principle for reducing risk and protecting people, the safety assessment principles and the many other foundations upon which good nuclear safety are built, to introduce a Risk Based Management Framework.

These all advocate a position within the region labelled A in the diagram below. The intolerable facilities sit within region B.

There are some facilities where time is not on the operator's side, and they will resolve themselves unsatisfactorily if swift action is not taken. Such situations are unacceptable, and the state of the facilities can be represented within region C. Ignoring things within regions B and C can result in a state within region E.



This framework is currently in use at Sellafield. Phil highlighted the lack of quantitative dimensions on the axis. It is used for comparative considerations, to guide priorities and help with decisions over where focus is or is not required. Within region A all obligations as a member of the World Association of Nuclear Operations (WANO) are being met. This is the region all members should be within. When in region B actions should be undertaken to try and get back to A as quickly as possible. When felt to be in region C, no time should be spent on anything that doesn't start to bring the facility back to an acceptable state through B and onwards to A.

This model works for a lot of stakeholders, not only the site license holder. It is in fact the backbone of the new regulatory approach within the industry.

In October 2013 the Office for Nuclear Regulation (ONR) Board decided on a regulatory strategy to deliver accelerated hazard and risk reduction at Sellafield. They started by looking at what was preventing effective progress. Some of the issues they found include: priorities, blockers and bureaucracy, unhelpful

commercial incentives and the fitness for purpose of solutions.

Sellafield absolutely must have robust, independent regulation. This applies wherever that regulation originates, be it the ONR, HSE, Environment Agency (EA) or any other relevant source. It is also necessary that the regulations are enforced. For example, Sellafield has in the recent past been fined £700,000 for the incorrect disposal of waste. While there was no harm or risk of harm, the regulations had been breached and the organisation had not lived up to the standards expected by society. There is no soft line.

Collaborative working is also required to deliver hazard and risk reduction. The enforcement needs to be combined with engagement and encouragement. A demanding and effective internal regulatory function within the company can be of great benefit, as has been found to be the case at Sellafield. The company also supports efficient delivery through and 'Engagement Week' model. This concentrates engagement into an intensive week which is then followed by provisioning. A regulatory interface meeting is held monthly. This is all subjected to transparency. Reports and decisions are published and made available on the ONR's website.

Phil then went on to discuss Sellafield's version of the G6. As with the groupings of industrialised nations, this is a group of six organisations who share a single common goal. The organisations are DECC, the Shareholder Executive (ShEx), the ONR, the EA, the Nuclear Decommissioning Authority (NDA) and Sellafield Ltd. These organisations meet quarterly and work together through this G6 grouping to promote and encourage effective collaborative working to achieve accelerated safe and secure hazard and risk reduction at Sellafield. The behaviours which accompany the achievement of this goal are very important.

The adoption of these new approaches has supported several outcomes.

The removal of fuel from the Pile Fuel Storage Pond and associated work during

the course of this year has resulted in a 70% reduction in the hazard potential of the facility. The facility is on track to have removed the rest of the significant fuel out of the pond by the end of the financial year, so that dewatering can be brought forward to 2019 from the current plan of 2041. Sludge retrieval from the First Generation Magnox Storage Pond has begun and there has been a major review of waste retrievals and management. Existing facilities are being re-used for legacy waste management and residue materials are being repackaged.

Phil concluded his talk by looking to the future at Sellafield. He underlined the importance of an unrelenting focus on maintaining nuclear safety and security. The transition to become a wholly owned subsidiary of the NDA needs to be managed to deliver success. Crucially, there is a need to drive successful fit for purpose solutions in areas such as the Pile Fuel Cladding Silo, the removal of ventilation stacks, the completion of Magnox reprocessing, and the start-up of a new HA Evaporator. The nuclear industry in the UK has not started-up a new facility for over 20 years. Many working in the sector will have no experience of the delivery and start-up significant new facilities. There is a considerable amount of important learning required within the industry in this area. People may have forgotten what is required, or may have never had the experience. A future mission is to grow a new carder of people suitably qualified for commissioning within the regulatory bodies and the site licence holder. There is a need to deliver lasting value through the effective and efficient spend of public money.

The second presentation was delivered by **Steffan Groch** who began by providing some background on research undertaken by the HSLA. Around 170 Barristers and Solicitors shared their opinions on a number of topics related to health and safety law. The respondents have extensive experience in both prosecution and defence. Many of the questions included in the survey look at the potential

for conflict between the visions of the regulator and the regulated.

The damage to the reputation of a regulated organisation when action is taken by the regulators is becoming an increasingly important driver. Often, discussions between the regulator and regulated framed around reputation can feel more collaborative. In the survey, just under 50% of respondents said that their clients' interactions with HSE inspectors had become less collaborative since the introduction of the 'Fee for Intervention' (FFI). Similarly 50% of respondents said their clients are less likely to ask HSE inspectors for advice during visits, compared to around 22% who thought they would now be more likely to ask for advice

About two-thirds of respondents disagreed with the statement that the businesses they represented trust the independence and robustness of the queries and disputes process. A further 30% neither agreed nor disagreed with the statement.

Steffan expressed surprise that just under half of respondents thought that duty holders were unclear over what constituted a material breach, while around the same number felt that duty holders had some understanding of material breach. In preparing the survey, it had been considered that questions over clients' understanding of material breach where not necessary, but its inclusion was clearly of value as it highlighted an important issue that went against some prior assumptions.

Over 80% of respondents indicated that businesses predominantly perceive FFI as a means to generate revenue for the HSE. If correct, this is an issue of some concern.

Turning to querying FFI invoices, around 40% of respondents to the survey advise clients to query between 50 and 100% of FFI invoices. This suggests the situation is currently quite varied from organisation to organisation, from lawyer to lawyer and from case to case. While there are some that are advising to query all invoices, in general there tend not to be too many queries and disputes. Only 5% were satisfied with the HSE's response to queries, around 60%

neither satisfied nor unsatisfied, and 36% unsatisfied. Around 20% of respondents had successful appeals.

Some of the results from the survey suggest concerns within the legal community of the position in which inspectors now find themselves with regards to claiming compensated for their time. They undertake an investigation in much the same they would have always done, within a period of time they may then be required to serve a Notice of Contravention, and seek to recover their time for the original investigation. This feeds through to the perception of some that the scheme is there to make money. Under the old scheme an organisation would not receive a Notice of Contravention, though they may receive an improvement notice or similar. There would be nothing within that explicitly stating any attempt to recover the costs. This somehow felt more objective and disassociated from the cost of the inspection.

Steffan then turned to look at the potential consequences of the FFI. While the legal profession is perhaps receiving more work as a result, this is objectively not a good thing in and of itself. The management and associated costs of dealing with Notices of Contravention can also be an issue. This may not be a good use of time and may impact on the relationships between the parties involved.

The sentencing guidelines are significant in a number of ways. They don't just financial impact on businesses, but they could, in the opinion of HSLA members, impact on the likelihood of custodial sentences for individuals. This essentially raises the stakes, and this puts a more stress and pressure on the relationship between the regulated and the regulator. In the context of getting things badly wrong, that tension is likely justified and will result in better performance. However, it will remain to be seen how this might actual work in practice over the longer term.

There is a difficult balance to be considered. Fines in the region of £10,000 - £100,000 may be accepted, whereas fines in the region of £10M or more may result in different scenarios.

Over three-quarters of HSLA members responding to the survey felt that more cases will now end up being sent to the Crown Court. About two-thirds believe more defendants will elect for trial or sentencing in the Crown Court. About three-quarters think higher fines will make organisations more likely to defend prosecution. Over 90% think the consequences will be more lengthy and complicated sentencing hearings. For larger fines, reputational issues begin to play a bigger role.

Opinion is divided as to whether there is adequate guidance on the extent to which the corporate structures can be examined to determine size of a fine. For organisations with a turnover in the region of £10M-£50M about 30% of respondents think there is adequate guidance; about 40% think there isn't, with the remainder unsure. When it comes to organisations with a turnover greater than £50M, only about 15% of respondents think there is sufficient practical guidance. Over 60% think there is not.

In summing up Steffan reported that over 60% of respondents think there will not be more guilty pleas as a result of the new approach, while about 70% believe that there will be more appeals against fines. This may be based on assumptions that fines will increase. Only 40% thought the result would be an increased focus on compliance with Health and Safety Law, and only 30% believe it will increase focus on proactive Health and Safety management. So there will likely be some positive impact through increased training and awareness, but perhaps the most interesting conclusion is that over 50% think that the approach could support improved Health and Safety performance if coupled with incentivised remedial measures.

The final presentation, on the challenges and opportunities of delivering effective regulation in the 21st Century was delivered by **Kevin Myers**. The Health and Safety regulatory system has been subject to quite a few reviews over the last few years. By and large it has come through that fairly well with stakeholders quite like the underpinning philosophy, design and its application. But

when discussing it with the stakeholders he sometimes felt that while they like it, they don't always understand it! With this in mind Kevin decided to begin by providing an overview of the fundamentals of the UK's approach.

The regulatory framework is largely goal-setting and risk based. The person who creates the risk is responsible for its management and control. This has to be done in consultation with those exposed to the risk, and the objective is to reduce the risk so far as is reasonably practicable. This is what Lord Robens called "self-regulation" back in his 1972 report from which the 1974 Health and Safety at Work Act emerged. This is not to be confused with the modern euphemism of self-regulation as meaning no regulation. As used in the 1974 Act it means that the people who manage the business should be responsible for assessing the risks and controlling them; they shouldn't be reliant on the regulator writing out a set of rules that they need to comply with. This is widely seen as strength of the UK system..

The UK system has evolved over the 41 years of the Act. The regulator has an important role as the prime mover and catalyst within the system. They establish, maintain and (where required) enforce the legislative framework. Kevin described how he saw inspectors (and other HSE staff) as change agents. Their job is to influence people to change their behaviours. There are a number of different ways in which that can be done. Some people change because they see the light others because they feel the heat. The former is a much more sustainable mode of change. However, society also demands that people who do not see the light are made to feel the heat. This is also part of the job of the regulator.

Kevin referred to the previous speaker's comments about prosecution. He described how nearly all of the prosecutions brought by the HSE are a result of someone being killed or seriously injured. If the HSE inspectors come across a significant issue but nobody has been harmed an enforcement notice is a much more efficient way of ensuring effective

control of risk. It is the role (and public expectation) of the regulator to take enforcement action where appropriate, but the best way to avoid any punishment under the new sentencing guidelines, which are in fact nothing to do with the HSE, is to avoid causing harm to people.

To put this into context, in 2014/15 HSE prosecuted 658 cases, including those for multiple offences. There were 614 convictions, meaning a conviction rate of 93%. There have only been 8 appeals to higher court over the last 5-6 years. 9556 enforcement notices were issued, of which 23 were appealed against.

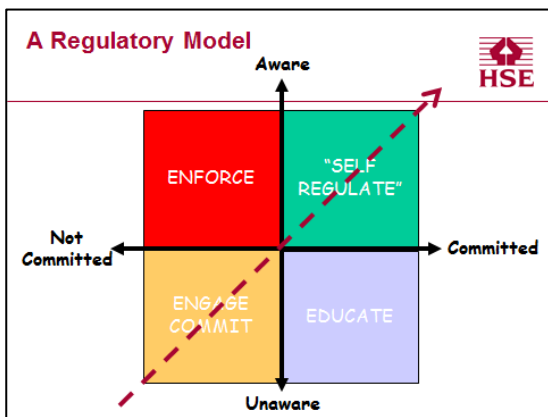
Since 1974 and the introduction of the Health and Safety at Work Act there has been a significant decrease in the number and rate of fatal injuries of workers. While about half of this reduction is a function of the changing nature of the risks presented to society (for example the decrease in mining and ship-building industries) the other half is attributed to a genuine improvement in standards of risk management and control.

The UK has the lowest standardised incidence rate of fatal injury at work in the EU. But this does not mean the job is done. There are still people killed at work, and people affected by ill health as a result of their work activities. For example, in 2015 there were 2,538 deaths from mesothelioma due to asbestos exposure in the course of work. There were 142 fatal injuries at work and 611,000 injuries. The economic cost of work-related ill health and injury is estimated at £14.3 billion in 2015. There is thus a strong economic case for improvement as well as a reputational and moral case.

One of the challenges of being a regulator is where to deploy limited resources to get the best results. There are essentially two broad parts to the HSE's business. There are the high-profile major hazard sites, about which there is lots of information, but there are a further 950,000+ smaller businesses also regulated by the HSE. This includes fixed work places and approximately 500,000 temporary or transient sites. Regulating all of these smaller enterprises with fewer than 2,500

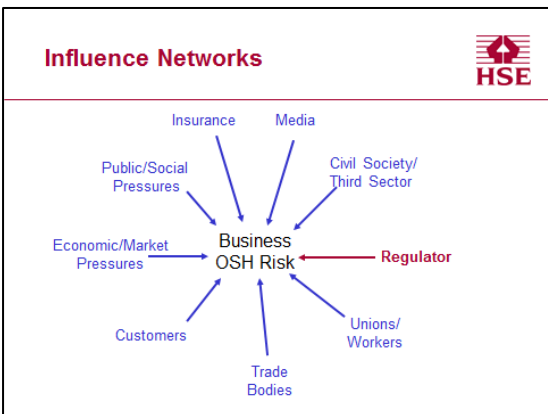
staff members is a challenge. Around 20,000 inspections were conducted last year, 8,566 investigations and 149 safety case assessments. With this in mind, Kevin then described some of the models and tools used by the HSE to help them manage this process.

The first is based on a traditional quadrant-model for segmenting client-types. The vertical axis concerns their awareness of their responsibilities, from 'unaware' to 'aware', while the horizontal axis concerns their commitment to getting things right, from 'not committed' to 'committed'. This creates the 2 by 2 matrix as shown below.



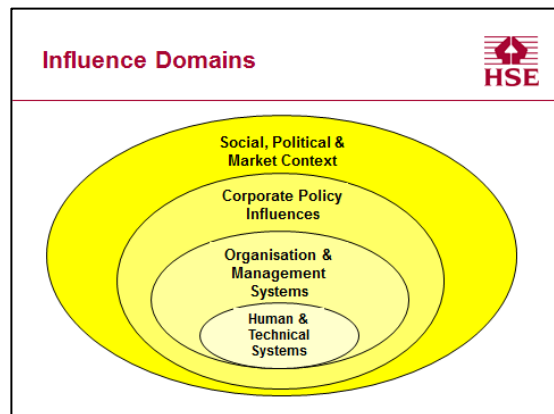
The approach of the regulator is different depending on which quadrant of the model the client falls within. The objective of the Health and Safety Act is to get everybody into the "self-regulate" quadrant of the top right-hand side.

The second approach is based on the recognition that there are many things that drive and influence behaviour. There isn't a one-to-one relationship between an organisation and the regulator. There are lots of influences that affect how people manage their risks. Some have a positive effect while others do not.



The regulator needs to recognise its place within that 'system' of influences and sometimes use the system to achieve gearing and influence with duty holders. Influence Networks can help to understand the landscape.

The third approach is referred to as 'Influence Domains'. People are exposed to risk at the particular place (e.g. an unsecured ladder). These are the locations at which hazards and risks exist. However, they do not exist in a vacuum. They exist within the operational and management systems that create or have allowed those situations to exist. Those management systems do not exist in a vacuum either. They are a function of corporate policy. The corporate policies in turn exist as influenced by a wider context of social, political and marketplace dynamics. In the nested model representing this depicted in the following diagram, influence tends to flow from the outside in, rather than from the inside out.



The HSE targets interventions in all the circles, but tries to ensure that it achieves greater gearing and more widespread impact by operating in the outer circles. For example, influencing the corporate policy of an industry or a large employer is more effective than intervening at lower levels, such as at each of the employers' individual locations. Much of the HSE's approach is more than the classical idea of an inspector turning up at an individual workplace – although that is also an important role.

There are many other tools available in the regulatory toolkit including working with trade associations to agree standards within a particular industry, knowing that they can communicate this to all of their

members. A lot of the HSE's work involves these sector-wide initiatives and working through entire supply chains. Some approaches may look to identify issues at the design stage, not just of machinery but also of systems and processes. This type of approach was undertaken successfully for the London 2012 Olympics. A lot of effort was put into early intervention during the design of the work, including activities to ensure the best culture was in place across the project, ultimately meaning fewer inspections were necessary.

The 'Fee For Intervention' (FFI), discussed by Steffan, is the Health and Safety equivalent of 'polluter pays'. If the HSE conducts an inspection at a workplace and finds that risks are being appropriately managed then they will want to move on to another workplace in order assist those which do need to improve. This isn't about generating money, it is about efficiency and ensuring the focus is on those areas where it is needed most. If the organisation is not managing its risks appropriately then it will receive a 'Fee For Intervention' bill for the costs incurred by the HSE in getting it into a state where the risks are being managed properly. Once again to provide some perspective and insight, since it was introduced in 2012 there have been 47,830 FFI invoices, with an average cost of £547. Of these, only 3.2% have been queried (1,338). 472 queries were upheld, only 0.1% of the total number of invoices issued. A further 67 were disputed, the next stage of the grievance process, of which 12 were upheld. The HSE is currently looking at the query and dispute mechanism to see if it can be improved based on our experience of the nature and volume of challenge.

Kevin's final points related to the commercial work of the HSE, and whether this impacts on the relationship between the regulator and the regulated. As resources are squeezed it becomes more difficult for HSE to justify the use of those resources to help businesses get from good to great. While they might like to help such organisations, public resources must be focused on helping those performing below satisfactory levels.

Many firms approach the HSE for advice in improving from good to great, and the recent Triennial Review concluded that businesses would be happy to pay for this advice. This is something they are happy to consider, but much of the commercial work at the moment is actually undertaken abroad, helping other governments develop their own health and safety regimes.

One example of domestic commercial work involves a major supermarket chain. They worked with HSL (HSE's research laboratory who looked at issues relating to working practices, health and wellbeing risks among warehouse staff. They were able to make a number of recommendations related to ergonomic factors and worker engagement. This led to increasing 'pick rates' by 15% whilst maintaining staff health and safety and the improvements in productivity led to improved pay and wellbeing – a win-win outcome. This commercialisation is utilising skills in new ways which do not threaten the fundamental public role of the HSE.

Looking forward to current and future challenges, Kevin observed that:

- as health and safety performance improves it can be increasingly difficult to drive further improvements. The remaining priority issues can be more difficult to address and we need to develop new approaches and 'system' responses.
- economic fragmentation can mean that more small or medium sized business are harder to reach as they may lack the kinds of trade associations which seek help and assist in driving sector-wide improvements.
- the Health and Safety at Work Act is based on a model of the employer-employee relationship that might be undermined by things such the fragmentation of supply chains and zero hours contracts.
- one of the consequences of the success of the UK's health and safety system is that there are some people that are arguably doing too much, creating overly-stringent rules and bureaucracy for other businesses in their supply chain. They may arise from a perceived need by the primary employer to cover themselves against all possibilities, but the increasing

complexity can actually result in perverse incentives. This is an area the HSE is looking to address moving forward

- one high-level objective is to get society to move beyond misleading newspaper headlines to a greater appreciation for the complex web of risks that need to be managed, and to an understanding that health and safety can also be an enabler of greater productivity and efficiency.

Andrew Curran thanked all of the speakers for their contributions before opening the floor to comments and questions from the audience. The first question related to Kevin Myer's final comments about the wider business benefits of a good approach to health and safety. The audience member emphasised the importance to health and safety of trust, collaboration, attitudes and behaviours within an organisation, and how these have much broader benefits to efficacy and performance. The panel were asked whether they agreed that this wider perspective was important, and if so, what more could be done in this area.

Kevin responded by encouraging businesses who have seen the benefits to help publicise them. While the message will have provenance coming from the HSE or similar institutions, it may have greater impact coming from other commercial organisations. Good case studies from these companies exist, with very clear data showing the wider benefits that health and safety can bring, but there is a need to communicate these messages publically. Steffan Groch warned that this would not be without some challenges as there are many other disciplines fighting to convince business leaders that they can help deliver economic benefits. The health and safety community needs to be sure it is in a position to make enough noise within that debate. Health and safety practices can also be shown to have a demonstrable impact on the reputation of organisations. This is another area where business leaders will listen, and one that the health and safety community is perhaps better placed to make an impact than directly in the realm of commercial performance. Phil Hallington felt this view was somewhat pessimistic, and that there should be no

doubt that good health and safety was good for business. He described an initiative at Sellafield, an award ceremony, where the good performance within the workforce and suppliers is recognised. It is not unusual for the company to experience around 7 million person-hours, many in very demanding radiological conditions, without a single lost-time accident. This is a cause for celebration and has many significant benefits, including the commercial performance of the company. Senior management need to recognise and reward this. Kevin added that the message was not necessarily in completion with others for the attention of senior business leaders, as the sorts of values and behaviours which underpin good health and safety also underpin the approaches and capabilities advocated by other diverse groups. Instead of competing, the health and safety community should be seeking to work with others to amplify their messages.

The second question asked how applicable the model shown by Phil Hallington was to health, as distinct from safety, and how successful they had been in incorporating health risks into the model. Phil asserted that it is a universal model. Of the industries that have seen the model, all are able to see something of relevance to them. Because Sellafield is a publically funded programme it has a responsibility to help the government priorities investment. The model is also helping to gauge the risk appetite of the government by enabling discussions between stakeholders. It can be very powerful in terms of where resources are directed, with internal regulation focus, and with the ONR's effective deployment of regulation. As a result of initiatives at Sellafield the cost of the ONR's activities relating to the site have been reduced significantly. He encouraged all those present to look at the model, interpret the model from their own perspectives and use it to help them in their risk management. Kevin added that he did not believe that the process of managing health risks was fundamentally dissimilar from the process of managing safety risks. One difference between the two being the length of time between the exposure to the hazard and the emergence of the

consequences. In this respect many of the models and approaches are very transferable.

The final statement from the audience highlighted concern with an earlier reference to targets of zero accidents, suggesting this demonstrated a serious misunderstanding. There is very robust data to show that the distribution of major accidents is different to those of minor accidents. The audience member strongly recommended stopping the pursuit of zero accidents. One of the good things about a regulatory framework the duty holders and the regulators working together, but when something goes seriously wrong the dynamic of the relationship changes. The regulator becomes the investigator and prosecutor and may even be embarrassed of their prior role. The audience member advocated for an independent regulator as seen in Office of Rail Regulation.

Kevin argued that the roles and relationship dynamics between the regulator and regulated does work. Should something go wrong there is an expectation of an investigation, and there is no perception of a conflict of interest in the HSE fulfilling that role. If they have had a close relationship with the duty-holder it does not become a question of

embarrassment, rather it is about whether there is any learning that could be gleaned from the situation in order to prevent it from happening again. Other models in other industries have also been seen to create their own problems.

Phil agreed with the audience member that a zero accident strategy was not sensible, however he emphasised the purpose in their approach was to reward the beliefs and behaviours of the people who work safely for themselves and their colleagues in complex environments, sometimes over decades without a lost-time accident. This is not the same as saying there are no accidents. He also went on to say that the dual role of the regulator as both a supporter and enforcer works very well in practice. The thought that a duty-holder would not ask the regulator for advice is concerning.

The chair of the event reflected on the fascinating views discussed during the evening, reflecting those of both the regulator and the regulated. He thanked the speakers once again and the audience for their contribution. The Hazards Forum Chairman Paul Thomas closed the event by thanking the events sponsors, before inviting all those in attendance to continue their discussions over refreshments.

Helping Britain Work Well – A new health and safety system strategy

On the 29th of February the Health and Safety Executive published a new system strategy for Great Britain. 'Helping Great Britain Work Well', aims to build on Great Britain's much envied health and safety record by introducing six priority themes. It emphasises the role everyone has to play in improving workplace health and safety, supported by a network of organisations and individuals. The six strategic themes are:

Acting together	Promoting broader ownership of health and safety in Great Britain
Tackling ill health	Highlighting and tackling the costs of work-related ill health
Managing risk well	Simplifying risk management and helping business to grow
Supporting small employers	Giving SMEs simple advice so they know what they have to do
Keeping pace with change	Anticipating and tackling new health and safety challenges
Sharing our success	Promoting the benefits of Great Britain's world-class health and safety system

Writing in the forward to the new safety system strategy, **Dame Judith Hackitt DBE**, HSE Chair said: "If we can all come together to help achieve these things, maintain the gains made in safety, and seize the opportunity to give health the same priority, it will help improve productivity, keep business costs down, help keep workers safe and well, and protect members of the public."

More information can be found on the HSE's website: <http://www.hse.gov.uk/strategy>

From the Secretary...

Members are reminded that the 2016 AGM is scheduled for Tuesday 22nd March and to attend if possible when they will be made most welcome. The AGM is to begin at 16.30 and to be held at the usual venue of One Great George Street, Westminster, London, as per the formal notice sent to members earlier this 2016. An evening event will follow as usual. As advance notice, the next Evening Event after 22nd March is being planned for 14th June.

Brian Neale

Calendar of Events

Please check the Events section of the Hazards Forum website for more information at www.hazardsforum.org.uk and to see any updates in the calendar. These may include additional events or perhaps amendments to the Events shown below.

Date	Event	Venue	Contact/further information
March			
15 th	SaRS Event: ISO55000	Atkins, Aldershot GU11 1PZ	http://www.sars.org.uk/branches/solent-branch/
16 th	IET Event: Critical Infrastructure Security	Bearsted Road, Maidstone, ME145AA	http://www.theiet.org/events/local/228994.cfm?nextId=226727
22 nd	Hf Event: Annual General Meeting	Institution of Civil Engineers, One Great George Street, Westminster, London, SW1P 3AA	
22 nd	Hf Event: Developing Resilient Infrastructure: The role of collaboration and interdependency	Institution of Civil Engineers, One Great George Street, Westminster, London, SW1P 3AA	admin@hazardsforum.org.uk
April			
5 th	IChemE Event: HAZOP Awareness	Rugby, UK	http://www.icheme.org/hazopawareness
13 th	ICE Event: ICE Procurement and the Supply Chain 2016	ICE, One Great George Street, Westminster, London, SW1P 3AA	http://www.ice-conferences.com/ice-procurement-2016/about/
13 th	IET Event: Hugh Boyes: Managing the cyber tsunami – protecting ports and vessels	University of Plymouth, Drake Circus, Plymouth, Devon, PL4 8AA	http://www.theiet.org/events/local/226711.cfm?nextId=229038
19 th -21 st	IChemE Event: HAZOP Study, Leadership and Management	London, UK	http://www.icheme.org/hazopstudy
25 th – 26 th	IChemE Event: Establishing and Maintaining a Safety Culture	IChemE, One Portland Place, London, UK	http://www.icheme.org/emsc
May			
10 th -11 th	IChemE Event: Asset Integrity Management in the Process Industries	London, UK	http://www.icheme.org/assetintegrity
24 th - 25 th	IChemE Event, Hf Supported: Hazards 26	Edinburgh, UK	http://www.icheme.org/hazards26
June			
1 st – 3 rd	IChemE Event: HAZOP Study, Leadership and Management	London, UK	http://www.icheme.org/hazopstudy
7 th	IChemE Event: HAZOP study of the Offshore Oil and Gas Industry	Aberdeen, UK	http://www.icheme.org/hazopoil
14 th	Hf Event: Procedural compliance; What works and why? (Provisional Title)	Institution of Civil Engineers, One Great George Street, Westminster, London, SW1P 3AA	admin@hazardsforum.org.uk
15 th – 17 th	IChemE Event: Applied Hazards and Operability Study	London, UK	http://www.icheme.org/appliedhazard
30 th	ICE Event: ICE Flooding and Water Management 2016	London, UK	http://www.ice-conferences.com/ice-flooding-and-water-management-2016/about/

The Hazards Forum's Mission is to contribute to government, industry, science, universities, NGOs and Individuals to find practical ways of approaching and resolving hazard and risk issues, in the interests of mutual understanding, public confidence and safety.

The forum was established in 1989 by four of the principal engineering institutions because of concern about the major disasters which had occurred about that time.

The Hazards Forum holds regular events on a wide range of subjects relating to hazards and safety, produces publications on such topics, and provides opportunities for interdisciplinary contacts and discussions.

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