



Hazards forum



The Hazards Forum Newsletter

Issue No. 72
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Web version

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Edited by James Kearns

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

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September 2011

New Members of the Executive Committee - 2011

We are pleased to introduce the two new members of the Hazards Forum's Executive Committee mentioned in the previous Newsletter (No. 71), seen below with Forum chairman Paul Thomas after their first Executive Committee meeting on 14th June 2011.



Dave Fargie

Luise Vassie

Chairman, Paul Thomas

As reported in Newsletter 71, both members were welcomed to the Committee at the AGM on 22nd March. They are already known to many members of the Forum.

Dave Fargie BEng CEng FIChemE

Dave Fargie is a Chemical Engineer with 23 years experience in the petrochemicals, refining and oil & gas sectors.

He graduated from Exeter University in 1987 with a BEng in Chemical Engineering. Since then he has held a variety of process and process safety engineering roles within BP and Mobil.

Dave initially worked in BP Chemicals with periods at the Hull Salt End manufacturing site and the central engineering team in London. He then moved to Mobil Oil spending several years based at Coryton Refinery performing operations and project support activities. Dave then spent several years as a senior chemical engineer in the BP Chemicals Polyolefins Licensing group. For the last 9 years he has specialised in process safety engineering in the

BP upstream area and currently holds the position of Process Safety Discipline Lead for the BP Exploration and Production upstream engineering team.

Dave is a Chartered Engineer and Fellow of the Institution of Chemical Engineers, he sits on the EEMUA Pressure Relief Committee and is a committee member of the IChemE Safety and Loss Prevention Subject Group.

Dr Luise Vassie BSc PhD MInstP CFIOSH

Luise is Executive Director, Policy, at IOSH. She joined IOSH in 2005 as Research and Technical Services Manager, before becoming Head of Research and Technical Services in 2008. She has been a member for more than 10 years. Luise leads the Policy division, including public affairs, research, technical and communications activities. She is responsible for leading the strategic development and communication of IOSH policy, research, technical advice and guidance. This includes lobbying to raise IOSH's profile, influence and position as a health and safety thought leader.

Prior to joining IOSH, Luise spent 14 years working in academia carrying out research and consultancy and delivering postgraduate teaching and training in health and safety management. She has a PhD in laser physics and is a Chartered Fellow of the Institution.

A full and current list of all Executive Committee members can be seen at http://www.hazardsforum.org.uk/content/index.asp?CONTENT_ID=7

Keeping the Country Running: Government's Approach to Infrastructure Resilience

James Kearns

On **Tuesday 14th June 2011** the Hazards Forum hosted an **evening event**. The event was sponsored by the Institution of Civil Engineers and was held at their premises in Westminster, London.

This event was concerned with the vulnerability of national infrastructure to hazards and threats, and how building resilience into our infrastructure can reduce this vulnerability. This can be achieved by, for example: improving protection; encouraging ability in organisations and their infrastructure networks and systems to absorb shocks and recover; and enabling an effective local and national response to emergencies.

The intention of this evening event was to provide an insight into how Government is tackling these issues, from the identification of the risks, through to the policy initiatives to reduce those risks and also to look at a new document (near to publication) giving recommendations.

The event began with a few brief words from **Hazards Forum Chairman Rear Admiral (retd) Paul Thomas CB**, who welcomed the audience and thanked the Institution of Civil Engineers for sponsoring the event. He then welcomed **chair for the evening Mike Granatt CB**. Mr. Granatt, who set up the Civil Contingencies Secretariat at the Cabinet Office, thanked the Hazards Forum for holding this timely event, and reaffirmed the importance of reducing the

vulnerability of critical infrastructure, as any such failure could have very serious consequences.

There were three speakers at this event. The first speaker was **John Tesh, Deputy Director of the Civil Contingencies Secretariat** at the **Cabinet Office**, who gave a talk titled "*National Risk Assessment*". In this talk, Mr. Tesh explained how Government assesses and mitigates the most significant risks to the UK. He also explained the background to this important work and demonstrated the way in which it has been developed, and also where the work is heading. Following this was a presentation by **Dr. Mat Barber**, also of the **Civil Contingencies Secretariat** at the **Cabinet Office**, whose talk was titled: "*Keeping the Country Running: National Hazards and Infrastructure*". This talk presented the latest policy thinking on approaches to building resilience in the UK's national infrastructure, particularly in respect of natural hazards. Dr. Barber also discussed the guide on infrastructure resilience, including the approach to risk assessment of natural hazards, resilience standards and information sharing, which had undergone public consultation earlier in the year (in the Spring) and was due to be published later in the year. The final talk of the evening was given by a **senior representative** of the **Centre for the Protection of National Infrastructure**. This talk explained how an integrated protective security approach aims to reduce the vulnerability of the UK's critical national infrastructure to national security threats. Also discussed was how Government, infrastructure owners/operators and the CPNI work together to achieve common objectives.

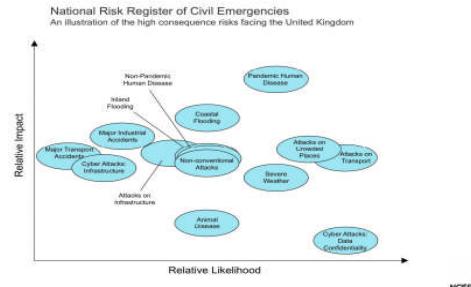
Mr. John Tesh began the first of the evening's talks by explaining the Government's approach to assessing UK security risks. Ensuring resilience to such threats is now an objective of the Civil Contingencies Secretariat, who aims to achieve this by protecting the UK's people, economy, infrastructure, territory and way of life from all direct major risks.

Resilience in the National Security Strategy

- 1 To ensure a **secure and resilient United Kingdom** - by protecting our people, economy, **infrastructure**, territory and way of life from **all major risks** that can affect us directly
- 2 To **shape a stable world**, by acting to reduce the likelihood of risks affecting the UK or British interests overseas, and applying our instruments of power and influence to shape the global environment

The approach to security risk assessment taken by the Civil Contingencies Secretariat is to prioritise such risks according to their impact and likelihood. The highest priorities are classed as "Tier 1" risks. These include hostile attacks upon UK cyber space and large scale cyber crime, international terrorism affecting the UK, including chemical, biological, radiological or nuclear attack by terrorists, an international military crisis drawing in the UK, and a major accident or natural hazard requiring a national response, such as flooding or influenza pandemic.

National Risk Assessment and Register - the five year risk profile for the UK



Mr. Tesh then discussed some of the future challenges to the UK's domestic resilience strategy. The UK's risk profile was not considered likely to change much. The profile is diverse, with no single risk dominating, as well as being complex and unpredictable, with links randomly and suddenly emerging between events. The risk profile, however, was affected by factors such as climate change, global instability, societal change, and unforeseeable risks of cascading failures. Management of this risk profile requires generic emergency response capabilities,

specific plans for catastrophic emergencies, improved socio-economic resilience, and also a need for a constant awareness of the risks and how they may be changing.

Some more detail regarding how the likelihoods and impacts of the specific risks were assessed. Risks are classified as either “threats” or “hazards”. For hazards, likelihood is assessed from historical evidence, predictable events, such as weather forecasts, and expert advice. For threats, plausibility, rather than likelihood, is assessed. Plausibility is determined from intelligence about capability, intent and vulnerability. Impacts are calculated from a ranking of the number of fatalities, casualties, economic damage, psychological damage, and social disruption.

Mr. Tesh then discussed some of the reasons for a National Risk Assessment. Such risk assessments provide policymakers with information to steer mitigation investments toward their greatest economic and societal benefit. Without a tool such as the National Risk Assessment, it may be difficult for top level policymakers to make informed decisions on the relative benefits reducing risks to public health, safety or security. The efforts of the UK have also been internationally recognised, along with the Netherlands, as standing out as the best practices in this regard, for producing tools to help high level policy makers compare multiple risks.

Why National Risk Register?

Many countries face budget constraints that prohibit the investment necessary to finance effective prevention, protection and recovery measures... pressure will mount on policymakers to reinforce the resilience of communities and individuals and to reapportion their share of the burden.

The benefits of investing in protective measures are often not seized upon by property owners due to their misperception of risks, their short-term outlook and the upfront costs of implementation.

Governments should continue to strengthen public resilience by encouraging property owners to adopt mitigation methods through education of risks. The United Kingdom's National Risk Register should be considered an innovative best practice in risk communication with the public.

OECD : INNOVATION IN COUNTRY RISK MANAGEMENT

Dr. Mat Barber continued the theme of infrastructure resilience by discussing how to keep the country running in the event of a natural hazard occurring.



The need to improve infrastructure resilience was highlighted in the Pitt Review of the 2007 floods¹. When developing policy to address the resilience of infrastructure, three key themes were identified:

- What are the hazards?
- How to improve resilience?
- How to improve understanding?

The Cabinet Office had recently published a document² addressing these issues, as well as offering guidance on other features of infrastructure resilience, which was titled “Natural Hazards and Infrastructure”.

What are the hazards?

Source	Initial Consequences	Knock-on consequences
Storms and Gales	Strong winds (Gales) Tidal surge Snow Lightning Heavy Rainfall Tornadoes Hail	River and coastal flooding Surface water flooding Land instability Wildfire
Prolonged period of hot weather	Heat	Thunderstorms Drought Dust/Smog/Haze Land instability Wildfire
Prolonged period of dry weather	Reduced Rainfall	Dust/Smog/Haze/fog Reduced ground water flow Water quality Land instability Drought
Excessive cold with snow	Cold Snow	Ice Ice accretion Wind chill Fog Surface water and river flooding (snow melt)



The first of these three issues – “what are the hazards?” is addressed in the document by presenting the reasonable worst case scenarios for natural hazards, as determined in the National Risk Assessment. The document also looks at

the linkages between the initial consequences of a hazard and the knock-on consequences. For example, the initial consequence of a prolonged period of hot weather is heat, while the knock-on consequences are thunderstorms, drought, dust/smog or haze, land instability and wildfire.



The second issue – “how to improve resilience?” is dealt with by analysing four components of resilience – resistance, redundancy, reliability and response & recovery – and understanding that infrastructure resilience is achieved by applying different approaches proportionally to networks and systems. For example, the most critical assets might be physically defended from a risk (resistance) whereas less critical assets may rely on a simple business continuity strategy (response and recovery).

The third issue – “how to improve understanding” – is tackled by considerations of governance and organisational resilience, which aims to enable infrastructure owners secure continuous improvement in their resilience to natural hazards by embedding organisational resilience in day to day operations and strategic decision making.



The final talk of the evening was given by a senior representative of the Centre for the Protection of National Infrastructure (CPNI), who discussed further the Government's approach to infrastructure protection. CPNI is the UK government authority that provides protective security advice to the national infrastructure. It helps to minimise risk to the national infrastructure by delivering authoritative advice to reduce the vulnerability of such infrastructure to terrorism and other threats. CPNI has an advisory role, and is not a regulatory body. It takes a holistic approach that is impact driven, vulnerability focused and threat informed. It works in a tripartite relationship with owners and operators and sponsoring Government departments, as well as conducting a wide-ranging research and technology programme.



The role of CPNI

The Centre for the Protection of National Infrastructure is the recognised UK government authority for protective security advice to the national infrastructure.

It protects national security through:

Minimising risk to the national infrastructure; by

Delivering authoritative advice; to

Reduce the vulnerability of the national infrastructure to terrorist and other threats.



CPNI provides integrated advice regarding physical security, electronic security and personnel security & behavioural assessment in order to reduce vulnerability in the national infrastructure. National infrastructure is divided into nine sectors, such as communications,

emergency services and energy. Each sector is different, although not all infrastructure is critical.



National infrastructure sectors

Delivering essential services to the citizen

- Communications
- Emergency Services
- Energy
- Finance
- Food
- Government
- Health
- Transport
- Water



CPNI has introduced a system for categorising infrastructure according to its value, or “criticality”, determined on the basis of the impact of its loss. The categorisation is done using the Government “Criticality Scale”, which assigns categories for different degrees of severity of impact. Category 5 indicates infrastructure the loss of which would have the most severe impact, whilst category 0 indicates infrastructure whose loss would be minimal when considered in the national context.



Protecting the CNI: our approach

Our holistic approach to security is:

- Impact driven
- Vulnerability focused
- Threat informed



Our work is underpinned by:

- Tripartite Relationship
- International angle
- Research and Technology Programme



Some of the more recent developments in critical infrastructure risks which many industries are seeking advice on are cyber security risks. It was explained that an important facet of this risk is the “insider threat”, such as employees using their authorised access for unauthorised purposes. These risks are difficult to protect against and can lead to infrastructure becoming severely

compromised. One way in which these risks can be mitigated is by identifying suspicious behaviour.

Mike Granatt then thanked the speakers for their presentations and remarked that the issues posed by critical infrastructure were very complex and that a lot of good work was being done in ensuring resilience. He then opened the floor for questions.

Opening the discussion, Professor **Jim Norton**, currently **president** of the **British Computer Society** gave a short talk about his experience in helping to put together a disaster recovery plan following a major accident affecting critical infrastructure. He then asked about what could be done to manage interdependencies and stop cascading failures in an emergency, and also how to get the right balance between electronic and physical threats, as companies have recently been spending too much on cyber threats and neglecting physical issues. In response to the first question, John Tesh mentioned that such interdependencies and cascading failures are often unforeseeable and cannot be prevented. He also mentioned that there will be more interconnectivity in the future. Mat Barber mentioned that the USA and Australia had tried to model such interdependencies, but had been unsuccessful.

Another question was how to ensure that it was possible to get enough people on the ground to help during an emergency and whether there are enough skills available, to which it was replied that there was a problem with information sharing, and a need to try and get more communications in such a situation. Other questions included whether the Cabinet Office accounted for societal risks, such as by including a dread factor, and whether there is too much communication following big events, where, for example, media interest may hinder the response and recovery process.

John Tesh then summed up with concluding remarks in a short talk. He commented that risks are always

changing, and that there is a need to take a long term view. The Civil Contingencies Secretariat and the CPNI are working together to ensure resilience of truly critical infrastructure. This work needs joined up thinking between Government departments and also needs to understand and communicate the risks better. In addition, there is also a need for an effective tripartite relationship between the Government, regulators and industry.

Paul Thomas then thanked the sponsors for the event, the speakers for their talks, those who had contributed to the discussion and Mike Granatt for chairing. He then invited all attendees to network and continue their discussions over the light refreshments which followed.

Further Contact Details Provided by Contributors:

- John Tesh can be contacted at:
John.Tesh@cabinet-office.x.gsi.gov.uk

- CPNI's website is:
www.cpni.gov.uk
- Jim Norton can be contacted at:
Jim.Norton@hq.bcs.org.uk

[Ed. note:]¹ The Pitt Review – titled “Learning Lessons from the 2007 Floods” is available for download at:
http://webarchive.nationalarchives.gov.uk/20100807034701/http://archive.cabinetoffice.gov.uk/pittreview/thepittreview/final_report.html

² The Cabinet Office’s document on natural hazards and infrastructure is available for download at:
<http://www.cabinetoffice.gov.uk/resource-library/consultation-keeping-country-running-natural-hazards-and-infrastructure>

³ The Cabinet Office’s infrastructure resilience guidance document is available for download at:
<http://www.cabinetoffice.gov.uk/infrastructure-resilience>

SIESO

Derek Heathcote
SIESO Council Member



What is SIESO? Originally established in 1953 as the Society of Industrial Civil Defence Officers (SICDO), it became the Society of Industrial Emergency Service Officers in 1972. Now known simply as SIESO, it is the professional association for individuals whose interests lie in the prevention of industrial or commercial accidents, and in the planning for and response to them. Its aim is **Sharing Information and Experience for Safer Operations** which it achieves through:

- Identifying good practice through liaison with industry, commerce, the emergency services, central and local government and the regulatory bodies.

- Providing opportunities for discussion on the avoidance and mitigation of the effects of major incidents amongst those involved in the planning and management of a response to an incident.

SIESO is represented on national bodies such as The National Steering Group on Warning and Informing the Public, The Chemicals and Pipelines Emergency Planning Liaison Group and is a longstanding member of the Hazards Forum. Throughout the United Kingdom it enjoys a sound working relationship with the regulatory bodies associated with regulations and guidance and works closely with professional associations and institutions in sponsoring events of mutual interest. These include a joint SIESO/Hazards Forum conference on Communicating Risk that was held at the Home Office Emergency Planning College. It also continually seeks to broaden its links with industry, commerce and appropriate trade associations. The National Council comprising its officers and other elected members manages SIESO. Notably, it is a not for profit organisation and ensures its independence by never seeking sponsorship for its events.

Publications. In 1956 SICDO produced "The Industrial Defence Planning Manual" with a revised second edition appearing in 1961 when membership stood at around 1000. With the demise of the Civil Defence organisation in 1968, no further editions were produced but in 1985, the National Council established a working group to prepare guidelines for industrialists and others to achieve a high standard of preparedness for the protection of persons and their environment in the event of a major emergency. The resulting "Guide to Emergency Planning" was enthusiastically endorsed by the HSE which itself set up a working group, 50% of which were SIESO members, to produce its own formal guidance to responding to a major incident. To complement "The Guide to Emergency Planning", in 1993 SIESO published the "Guide to Help in a Major

Emergency" which outlined the roles of the emergency services and other organisations that could be involved in the response to a major emergency. Throughout its existence SIESO has provided its members with a variety of magazines, newsletters, pamphlets and today electronic media are used to keep in touch.



Membership. Acting as the honest broker between industry, commerce and the regulatory authorities, SIESO welcomes as members all those whose duties or interests include safety and the prevention of, or response to, industrial and commercial emergencies. Our members embrace all aspects of business continuity, emergency planning, communications and EU legislation and come from many areas: industry, commerce, the emergency services, the regulatory bodies, central and local government, the health authorities, voluntary agencies and the media, amongst others. While most members work within the United Kingdom, an increasing number are based overseas. Members are invited to attend workshops, seminars, study periods and visits, all of which are noted for their professionalism and the competence and authority of the speakers. Free membership is available to undergraduate students registered on any full-time degree course in engineering, management or the environment. Other courses may be honoured if recognised by the SIESO National Council.

SEVESO and CIMAH/COMAH Regulations. Since the early 1980s, SIESO has been proactive in bringing

together industry and the regulators in developing the both the CIMAH and COMAH Regulations aimed at ensuring UK's compliance with the EU SEVESO 1 and 2 Directives. SIESO has hosted a number of workshops providing opportunities for discussing the practicalities of the proposed draft COMAH Regulations before they were implemented in 1999. In ongoing workshops, topics have included the vexed question of the content of Safety Reports, testing and exercising emergency plans, competency, land use planning, site security, corporate responsibility, plume dispersion and risk assessment among many other key issues. As SEVESO 3 approaches, on 16 May 2011 SIESO hosted its 17th COMAH Workshop at the Manchester Conference

Centre. Over 100 attendees were able to question the competent authority's latest operational strategy, the European Union's proposals for SEVESO 3 and how central government is implementing procedures for warning and informing the public about civil protection.

The Future. Employing the combined knowledge and expertise of its membership and continuing its close relationships with like-minded professional institutions and associations, SIESO will continue its efforts to improve the safety of operations particularly within the high hazard industries.

Further information about SIESO can be found at www.sieso.org.uk

From the Secretary ...

The **evening event on 20th September** will take an **innovative form** for the Forum, with more speakers than usual - all within the same time slot, however. The discussion period will be with an expanded panel where comments and ideas, as well as questions, will be actively encouraged from those present to further stimulate the discussion period. This event can be regarded as a follow-on from the Forum's evening event in June and takes the **topic of infrastructure resilience** further. More information is available on the Forum's website. (The write-up of the June 2011 event can be seen at page 3 of this Newsletter.)

Members will be delighted to know that the **Forum's community** is growing - from new Individual members to Corporate Associate members now joining.

If members know of organisations that may wish to take advantage of the **opportunities to sponsor** events, please encourage them to contact the Secretariat for more information.

Advance notice of a date for your diary: AGM 2012 is being planned for 20th March.

Brian Neale

Parliamentary and Scientific Committee

The latest issues of "Science in Parliament", the journal of the Parliamentary and Scientific Committee of which the Hazards Forum is a member, has among its contents the following articles. Any member who would like any further information on any of the articles below should visit the PSC website www.ScienceInParliament.org.uk

STRATEGIC METALS Addresses to the P&SC

Andrew Bloodworth, Dr Hazel Prichard and Tony Hartwell

REACH AND THE METALS INDUSTRY	David Weight
25 YEARS OF TRANSCRANIAL MAGNETIC STIMULATION	Dr Mark Stokes
THE GLOBAL EXPERIMENT	
SCIENCE AND EMERGENCIES IN JAPAN	Chris Pook
EXTREME TECHNOLOGY EXPLORES	
THE WORLD'S HOT-SPOTS	Professor Nick Wright and Dr Alton Horsfall
BEYOND THE CLASSROOM	Annette Smith
UK SPACE AGENCY CHALLENGES	
STUDENTS TO TRAIN AS ASTRONAUTS	Heather MacRae
SPACE – HOW CAN WE USE IT?	National Science and Engineering Week Seminar
held jointly with BIS; addresses to the P&SC by Rt Hon David Willetts MP, Professor John Zarnecki, Professor Paul Monks, Michael Lawrence, Philip Davies and Dr Bill Simpson	Professor Wendy Barclay, Dr Sarah Gilbert and Professor Maria Zambon
INFLUENZA Addresses to the P&SC	
WHY SUPPORTING AND PROMOTING ENGINEERS IS VITAL FOR THE WORLD'S FUTURE	Stephen Tetlow
FIXING PHYSICS TEACHING	Professor Peter Main
THE LEONARDO CENTRE'S INDUSTRIAL SAVINGS	Professor Rob Dwyer-Joyce and Professor Alan Matthews
SCIENCE AS A PUBLIC ENTERPRISE	Professor Geoffrey Boulton OBE FRS
RESEARCH IN UNIVERSITIES: INVESTING IN EXCELLENCE	David Sweeney
COUNCILS ARE UNDERMINING SCIENCE AND THE NATIONAL INTEREST	Professor James Ladyman
INCREASING THE SIZE OF THE POOL	Professor Athene Donald DBE FRS

HSE eNews

++ Site Licence Application for Hinkley Point C Received ++

The Office for Nuclear Regulation (ONR) has received an application from NNB Generation Company for a nuclear site licence, relating to its proposed development of a new nuclear power station in Hinkley Point, Somerset.

It is anticipated that ONR will spend around 18 months assessing NNB Generation Company's suitability, capability and competence to install, operate and decommission a nuclear facility. If licensed, the company will be subject to statutory obligations and regulation by ONR.

Colin Patchett, Deputy Chief Inspector, said: "ONR reviews the adequacy of the licensee's arrangements and their implementation. After a licence is granted there is a continuing, robust, permissioning process that a licensee has to go through in order to install, operate and decommission a nuclear power plant."

<http://www.hse.gov.uk/nuclear/hinkley-point-c/index.htm>

++ RR878 – Levels of Respirable Dust and Respirable Crystalline Silica at Construction Sites ++

The purpose of this pilot study was to assess the potential for inadvertent exposure of the public to respirable crystalline silica (RCS) from construction activities.

The study assessed the respirable dust (RD) from, demolition, block cutting, road building, general construction activities and city centre air from 13 visits to 7 sites. In total, 48 samples from the construction activities and 11 city centre air samples, for comparison, were collected.

The results obtained for RD and RCS were generally very low. Only 10 % of results (from two sites) for RCS were above 0.01 mg.m⁻³, which is 10 % of the current Workplace

Exposure Limit (WEL) for RCS. The majority of visits showed evidence of some transport of RCS across the site and potentially into public areas. The main crystalline components of the city centre air sample were generally the same as the components of the samples taken at the construction sites.

<http://www.hse.gov.uk/research/rrhtm/rr878.htm>

++ 5th Annual HSW & IIRSM Conference 2011 – Thursday 3rd November 2011, The ICC, Birmingham ++

Health and safety is once again high on the agenda with the Government announcing a review of health and safety legislation and the press continuing to label the health and safety profession spoil sports. However, the fact remains that health and safety management is about protecting lives. The profession is needed to protect workers and the public from serious harm and it is lobbying for the balance not to be tipped in the opposite direction leaving many at risk of injury.

This important one-day conference will give you a chance to hear about the most topical health and safety issues from the leading industry experts as well as offering you a chance to network with your fellow professionals.

<http://www.hse.gov.uk/events/hswiirsmconf.htm#?eban=rss-events>

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.

Please note that attendance at Forum events is by invitation.

Date	Event	Venue	Contact/further information
SEPTEMBER			
15	SaRS Event, HF Supported: <i>Safety Acceptance Criteria – is ALARP enough?</i>	One Central Park, Manchester, M40 5BP	http://www.sars.org.uk/events/safety-acceptance-criteria/
20	HF Event: <i>Keeping the Country Running: Implementing Government's Initiatives for Infrastructure Resilience</i>	IMechE, 1 Birdcage Walk, London, SW1H 9JJ	Tim at hazards.forum@ice.org. uk
OCTOBER			
25	IMechE Event, HF Supported: <i>Process Safety: Avoiding Major Disasters</i>	IMechE, 1 Birdcage Walk, London, SW1H 9JJ	http://events.imeche.org/ EventView.aspx?code=S 1616
26	IMechE Event, HF Supported: <i>Delivering Reliability through Life</i>	One Central Park, Northampton Road, Manchester, M40 5BP	http://www.imeche.org/e vents/s1612
26	RoSPA and Royal Mail Group: <i>Engineering A Safer Future.</i> (Guest speaker, Rear Admiral (ret'd) Paul Thomas)	Coton House Conferencing Centre, Rugby, Warwickshire, CV23 0AA	http://www.royalmailgrou p.com/portal/rmg/content 1?catId=23200539&med iald=80800768
NOVEMBER			
15	IMechE Event, HF Supported: <i>ALARP – Costs, Safety & Risk; How Low is Reasonable?</i>	IMechE, 1 Birdcage Walk, London, SW1H 9JJ	http://events.imeche.org/ EventView.aspx?code=S 1607
29	HF Event: <i>Engineering a Low Carbon Future – Rewards and Risks (provisional)</i>	Institution of Engineering and Technology, Savoy Place, London	Tim at hazards.forum@ice.org. uk

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 meetings 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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