OPPORTUNITY

Risk Engineering News

Quarterly Newsletter

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Risk Engineering Society

President's Update

Hello colleagues in RISK and welcome to the Third Qtr. 2018 edition of OPPORTUNITY. Thank you to the contributors to this edition of the Newsletter.

The REBOK Project and the RES CPD programs are rolling out. We have some great events planned too. Thank you to all for your support.

The content of the REBOK is developing steadily thank you to Praneet and our REBOK team. A special thank you to Tim Kannegieter for all his support, hard work and enthusiasm in getting the REBOK project established as a sustainably high standard proposition. We say farewell to Tim at this time as he moves onto other work contracts.

Last month we highlighted RES involvement in and support for **AusEngCon 2018** being held in Sydney, September 17 - 19. We are co- hosting a Sydney Opera House tour.

We now announce that we have a special discounted $900 - 3 day conference offer for our RES members who are also prepared to volunteer some of their time to promote RES at an RES & SESA Information booth at the AEC Exhibition space. This includes the 3 days of conference and a special student engagement day 4 shared with other RES volunteers, and all meals (excluding the conference dinner).

If you wish to join me and other volunteers, please contact res@engineersaustralia.org.au to make your expression of interest in this offer.

We look forward to continuing to receive news of interest from our wider membership for publication in future quarterly editions of OPPORTUNITY. Also, please visit or post discussions on the RES LinkedIn Group.

If you are not connected to the RES Group here is the link to the discussion: https://www.linkedin.com/groups/3751665

Regards,

Geoff Hurst (President)

QUARTERLY NEWSLETTER

The Risk Engineering Society is a Technical Society of Engineers Australia.

For Engineers Australia members, please remember to nominate your membership of RES when you renew your membership. NB: Non EA members can also join RES.

Risk Engineering Society

ENGINEERS AUSTRALIA

Failures of Structural Timber Appurtenant Assemblies

We have an international member expert interested in a local partner to prepare a paper for the RISK and PC Conference in May 2019 at the Sydney ICC on the area of interest related to: Failures of Structural Timber Appurtenant Assemblies.

If you are, or know of an engineering colleague who is knowledgeable in this area of Risk Engineering practice and would like to collaborate with our friend, please write your expression of interest to: Subject "Failures of Structural Timber Appurtenant Assemblies"

Victoria rethinking its digital support for state infrastructure boom

A new digital asset strategy will be rolled out across Victorian government agencies from next year, to support the $78.9 billion in state capital projects on the books

Led by the Office of Projects Victoria, a new Victorian Digital Asset Strategy (VDAS) is in development aimed at improving the way that projects are defined, delivered and maintained, according to a government statement released today.

"VDAS will support these government infrastructure projects, seamlessly integrating the many sources of information that create Victorian assets, including computer-aided designs, 3D visuals and project schedules, construction sequencing and 4D models, cost and operations, and maintenance performance."

The state's inaugural Chief Engineer Dr Collette Burke (pictured above), who is leading the development of the strategy, said it would contribute to cost savings, improved productivity, managing project risks, improved collaboration and better project and community outcomes.

"VDAS will enable data to be effectively and efficiently transferred through all stages of a project and into the asset's life."

Photo: Chief Engineer Dr Collette Burke

Treasurer Tim Pallas said the government was delivering the biggest infrastructure pipeline in Victoria's history — which notably included this week's announcement of the state's first ring rail project — "So it's vital that we employ a consistent Digital Engineering and Building Information Modelling approach," he said.

"It'll help build the infrastructure we need in a smarter, quicker and often cheaper way – which is great news for our economy, productivity and jobs."

Overeager ministerial media officials mistakenly claimed the strategy was being released today but the Office of Projects Victoria confirmed to The Mandarin the strategy is still in development.

AEC | AUSTRALIAN ENGINEERING CONFERENCE | 2018

The **Risk Engineering Society** is delighted to be an Engineers Australia co-host for one of the 13 offsite technical forums that are being organised as part of the ***Australian Engineering Conference 2018,*** which is being held between 17-19 September in Sydney.

SPECIAL OFFER

RES Member Special discounted $900 - 3 day conference offer.

This is an exclusive offer to RES (and SESA) members who would like to put a little bit back into the profession and get to the conference for a reasonable price. Come for part or all of the 3 days. These special passes can be shared and hence the cost can also be shared if you can only contribute/participate for part of the time.

Promote RES at the RES & SESA Information booth at the AEC Exhibition space. This includes the 3 days of conference and a special student engagement day 4 shared with other RES volunteers, and all meals (excluding the conference dinner).

If you wish to join other volunteers, please contact memberservices@engineersaustralia.org.au to make your expression of interest in this special offer.

If you are unable to attend the full three-day conference, we have a number of day pass options available to allow you to attend, including the opportunity to participate in the Offsite Technical Forums being held on Tuesday 18 September.

ONE-DAY REGISTRATION RATES

$565 EA MEMBER (INCL. GST)

$665 NON-MEMBER (INCL. GST)

REFLECTIONS ON SAFETY

PART 3

By Geoff Hurst

Continuing on in the series on 'Reflections on Safety', Part 3 will cover 'A Focus on Compliance'.

To solve the problems of the past, our linear models (Domino, Swiss Cheese, Energy Damage, GTSM, Bow Tie, Tripod, Accimap, ICAM, STAMP) have served our organisations well. Performance improvement has even been achieved in a relative state of naivety: without us fully understanding the complexity of what is to be dealt with. That is: without actually defining the problem. This is because today's socio-technical systems are far too complex to conceive fully by linear concepts and models.

It may be easier to consider and deal with one so-called "Root Cause" than to face the reality that issues will emerge in complex systems rather than be a direct outcome of a sequence of causes. The efficiency of this way of thinking may seem acceptable in the short term, but the thoroughness is insufficient in the long term.

Oversimplification of the problem is the biggest pitfall and the challenge for all organisations is to deal with the complexity rather than to make it go away by force fitting traditional models to an oversimplified problem description. Adding more and more compliance measures and/or rules, increasing the complexity of the so called "Safety Management System and responding to investigation findings. Being in a state of comparative ignorance leaves organisations with a warm fuzzy feeling: *"risk assessment shows that no more really needs to be done to make it safer."*

The return on investment for reliable improvements (and therefore safety) is slow and it is not always possible to measure the benefit directly. Justification for expenditure on improvements becomes problematic unless management accepts a long-term perspective.

In the next edition of 'Opportunity', Part 4 of this 6-part series will examine 'Leading in Safety'.

Interested in contributing to future editions of OPPORTUNITY—Risk Engineering News?

Please submit your article via email to:

res@engineersaustralia.org.au

RISK & PROJECT CONTROLS CONFERENCE 2019 SYDNEY

15 MAY – 17 MAY 2019
INTERNATIONAL CONVENTION CENTRE (ICC)

ENGINEERS AUSTRALIA

Australian Cost Engineering Society

Risk Engineering Society

A Time For Action:
Risk Engineering and Project Controls Impacting the Future

Register your interest online:

risk-pcc19.com.au

- The Asia Pacific infrastructure market is expected to grow 7-8% a year, reaching US$5.36 trillion a year by 2025 representing 60% of the world total. Both emerging and mature economies need substantial investment not only on development and upgrade of right new infrastructure, but also to maintain and optimise their existing assets.
- One common challenge is fundamental constraints, including budgetary, timeline, uncertain benefits and risks. Therefore, there is a critical need to improve risk-based decision making approaches including integrated risk engineering and project controls solutions to address challenges facing the industry in development, delivery and optimisation of infrastructure assets.

Key Elements to Preparing for and Managing a Crisis Event

Summary

This article covers some key aspects to being able to respond to, and manage, a crisis event. Aspects covered include how to leverage guidelines and procedures, understanding and planning for crisis events, and learning from simulations and actual crisis events to continuously improve.

The reason for having crisis management

Crisis management is part of risk management. Risk management is about managing uncertainty; crisis management is how you deal with a crisis event that has significant immediate and longer-term impacts. A crisis event can take many forms and have many different impacts – including a critical or even catastrophic safety impact, reputational impact, cost impact and operational impact. One or several impacts can result from a crisis event.

What are we trying to achieve with ensuring we have effective crisis management in place? Essentially, we want to make sure that we respond in the best way to a crisis event, to manage its impacts and knock-on / residual risks in the best possible way (starting first and foremost with safety, if the event incurs safety impacts).

A definition of a crisis, and of crisis management

A crisis is defined as an abnormal and unstable condition that threatens the organisation's strategic objectives, reputation or viability.

Crisis management is the development and application of the organisational capability to deal with crises.
(source: BS 11200:2014 Crisis Management – Guidance and Good Practice)

Do you follow a crisis management maturity benchmark?

Crisis management maturity benchmarks exist, which can be used as guides to assess where you are today, and where you want to be to manage crisis events well.

Maturity benchmarks can also help with benchmarking yourself against other organisations, providing an opportunity to learn from and share experiences with others.

Understand your "crisis event risks"

Different organisations face different types of crises. Certain crisis events are those that you get "caught up in" and may be actually managed by authorities such as the police and emergency services. Other crisis events are caused by problems with your activities and/or impact directly your organisation in a specific way.

Do you quantify and rationalise different types of crisis events that you may be faced with as part of your crisis management planning? Some crisis events may be beyond your control whereas others may be those that you exercise control (to varying degrees) over. Whether you have any control over them or not, by understanding them you can create training and preparedness responses to ensure you can respond to a crisis event should it occur in the most effective way possible.

Taking the time to truly understand interconnections of crisis events and how they could unfurl, and ensuring that you have appropriate, stress-tested crisis management controls in place plays an important role in managing a crisis. You will never be able to precisely predict how a crisis event will unfold; one thing you can be assured of is that there will be lots of different elements to deal with.

A couple of tools that you may find useful when thinking through your principle "crisis risks" are the Bow-Tie Analysis tool, to think about the controls you require, and counterfactual risk analysis, a method to think about different ways that a crisis event

Be prepared for a crisis: you never know when one will occur

Crisis events may occur when you least expect them. Investing in crisis management capability means having good practices in place to manage them (such as Standard Operating Procedures or similar processes), ensuring people have the skills and authority to quickly form a team to manage the crisis, and ensuring people can hone their capabilities through well-planned and high-quality crisis simulations / exercises.

A Crisis Management Plan (CMP) is a common tool used by a Crisis Management Team (CMT) to plan how to deal with a crisis event. CMPs should be of appropriate length and not be excessively long. The CMP should clearly articulate elements such as how you respond to a crisis event, how you escalate crisis decisions within the organisation, CMT roles and responsibilities, your crisis room and facilities, checklists, key contact details (including emergency services, specialist teams etc.) and examples of crisis scenarios that you may need to deal with. You may also summarise your CMP into a one-page electronic and/or laminated page.

Strong leadership in a crisis is critical

Leadership in a crisis is key. The leadership characteristics for leading in a crisis are arguably the same as in regular "business as usual", but you have the added factor of a constantly shifting situation and the need to adapt to changes thrust upon you.

Decisions will often need to be made in the midst of times of high emotion, and perhaps with public scrutiny on your doorstep (this is all the more evident in today's world of social media).

The people "on the sharp end" of the crisis, who are dealing with the immediate event have to operate as a high-performing team, led by a high-performing leader who may communicate with a central Crisis Management Team (CMT) that manages the business end of things. People in the organisation will be part of the CMT to assist with communications, logistics, finances, HR and other supporting activities, which all need crisp leadership.

The health and stress levels of everyone involved in dealing with the crisis are important to be aware of and to monitor – and this is sometimes overlooked in the heat of dealing with a crisis. The ability to keep calm, think positively and clearly, and constantly review options, is key. In a good organisational culture, people know how to take charge and assume responsibility for their actions.

As part of CMT preparation, a number of actions can be taken in advance of any crisis occurring which will help diminish the challenges that the Crisis Leader and their CMT face. This includes, for example, discussing what role your Executives, and in particular the CEO (who, more often than not, is not a designated CMT Leader) and perhaps other senior leaders such as Board members will undertake in the event of a crisis occurring. Understanding roles up front will avoid confusion around authority, especially in the important opening hours of dealing with a crisis. Preparation activities also include rehearsing team-working techniques to execute specific tasks, which will mean that the CMT Leader can quickly get the CMT working effectively as a team as soon as they come together.

Communication during a crisis is key

Whatever the crisis event is, clear communication with people who are involved in, and affected by it (such as your customers), is critical. This means clear and regular internal communication and external communication. As just one aspect of external communication, how you respond to social media during a crisis can have profound consequences on your organisation in the immediate and the long term. With social media at everyone's disposal, information and views about an event, factual and non-factual, can instantly go global.

When a crisis is managed as well and with genuine authenticity, it will be recognised by people who are impacted and affected. You don't need to look for such coverage, it will just happen.

Manage the "long tail" of the crisis as efficiently as possible

A crisis event can have a long tail of activities to manage and close out after the initial event has been brought to an end (sometimes referred to as business continuity management). This long tail can incur a lot of effort and cost and involve many people who may need to divert their attention from regular business towards these efforts. Insurance recoveries, if relevant, can take a long time to finalise. Planning your post-crisis business continuity tasks early and ensuring that they can be dealt with as efficiently as possible, is important. For example, you may set up a separate team early in a crisis to deal with the long tail of business continuity activities. You may also agree certain ways of undertaking activities to manage the crisis that maximise the efficiency of dealing with the "long tail". For example, the tracking of photographs with date and time stamps on them, and the structured recording of information can help a great deal when dealing with the aftermath of the crisis.

Do you adhere to crisis management standards and guidelines?

Some good international standards and guidelines exist to provide suggested activities and approaches to set up and implement crisis management procedures and a structure. BS 11200:2014 is a good guide, for example.

Hold and learn from crisis simulations and practice reviews

Take the time to plan in detail and hold crisis simulations which cover crisis event risks that you have identified. As well as serving as valuable training and up-skilling for the Crisis Management Team, simulations provide good opportunities to test the effectiveness of your controls.

Whether you choose to 'spring a simulation' on a Crisis Management Team as a surprise, or whether you inform some or all of the team about it, will depend on your organisation and what will work best.

It can be helpful to have external parties involved in simulations – perhaps experts that you liaise with for certain types of risks (e.g. Cyber experts, Health experts). They can be good "actors" in simulations as well as help to ensure the simulation is life-like for a good team learning experience.

One thing you must make sure of is that when you hold a simulation, all stakeholders who may get involved in it must know that it is a simulation. You do not want people accidentally thinking that the event is real. Prepare carefully to ensure this does not happen.

Learn from simulations and actual crisis events and keep improving

Make sure you hold thorough lessons learned reviews from crisis simulations and actual events and capture these learnings soon after the heat of the crisis event has died down. Follow up on these collective learnings by agreeing what you can do to continuously improve, track improvement actions to closure and measure your improvement. Continue also to look at your crisis management structures and processes to look for ways to enhance them.

Conclusion

The ability to manage a crisis is an important aspect of being a resilient organisation in today's ever-changing and complex world. You need to ensure that you can respond in the best way possible to a crisis event, to manage its impacts in the best possible way (starting first and foremost with safety, if the event has safety impacts).