

The IChemE Safety Centre

2016 Annual Report

Not getting hurt is a basic human right

People have a right to not get hurt, no matter where they are. Sadly, the high hazard industries have not always measured up against this moral imperative and the Institution of Chemical Engineers (IChemE) recognises that eternal vigilance, proactive learning and constant improvement are the price of outstanding safety performance. This was the driving force that catalysed the idea of a new IChemE Safety Centre (ISC) at the beginning of the decade.

The centre will celebrate its third birthday at the beginning of next year. It has grown rapidly from its modest beginnings back in January 2014 when six founding partners came together with the aim of creating a new framework for process safety built around leadership across six functional areas.

- Knowledge and competence
- Engineering and design
- Systems and procedures
- Assurance
- Human factors
- Culture

These areas apply to all industries, at all points in the business life cycle. In acknowledging this proposition, the founding partners unlocked a powerful learning process and the ISC began to explore and develop the concept of sharing for safety across different industries.

Today, as 2016 draws to a close, the ISC provides a vibrant network for 27 companies, along with a further 15 collaborators and supporting partners drawn from academia, government and other centres of process safety excellence.

This short report expands on the values and behaviours that underpin our work. It describes our achievements to date and it sets our ambitions for the years ahead. IChemE does not have a monopoly on wisdom and we recognise that safety is not proprietary; that's why the centre aims to share best practice and encourage others to do likewise.

Join us on the journey to process safety excellence at the ISC.

Stay safe.

Trish Kerin

Director, ISC
September 2016
@TkerinTrish



Membership

Operating Partners

These companies are represented on ISC's advisory board. They set the strategic direction for the centre

- BHP Billiton
- Conoco Phillips
- ExxonMobil
- Orica
- Origin Energy
- PTTEP Australasia
- Quadrant Energy
- Rio Tinto
- Santos
- Shell
- Todd Corporation
- Vermillion Energy
- Viva Energy Australia
- Woodside

Industry Partners

Employees from these companies play an active role in the centre's working groups

- Dekra Insight
- EnVizTec
- ERM
- HIMA
- IRESC Global
- Kelvin TOPSET
- MMI
- PDV Consultants
- PSRG
- PSV
- Safety Solutions
- Sherpa Consulting
- WorleyParsons

Supporting Partners

These organisations are invited to participate in ISC activity and support our work

- The University of Adelaide
- University of Auckland
- The Civil Aviation Authority of New Zealand
- University of Canterbury
- University College London
- The University of Melbourne
- Monash University
- Newcastle University
- RMIT University
- SafeWork NSW
- The University of Sheffield
- Universiti Teknologi Petronas

Collaborators

ISC seeks to collaborate with other safety centres, and has agreements in place with these organisations

- Mary Kay O'Connor Process Safety Center
- Center of Safety Excellence
- Centre of Advanced Process Safety

We are a values-based organisation

ISC's operation is guided by a series of underlying values. These have been agreed by our advisory board. All work programmes and activities are benchmarked against these values.

ISC is a thought leader in process safety for the simple reason that creating a world in which the highest standards in process safety are maintained everywhere, at all times, is absolutely the right thing to do. ISC strives to do what is right and we always want to do things better today than we did yesterday. Our expectations are high and we constantly seek continuous improvement. We will collaborate with others whenever it is appropriate to do so. Process safety depends on partnership and we will respect our partners by keeping our promises and doing what we say we will do.

A year of progress and delivery

Work programmes are planned and delivered by a series of working groups with leadership drawn from the ranks of ISC's partners. Over the last year, the groups have focussed on a range of projects and topics.

Interactive learning

The centre launched three interactive case studies in May. These are being used by member companies and in industry and academic circles more widely, to illustrate the causes behind an accident in a real-time setting. The case studies examine incidents in a gas plant, a tank farm and at a coal mine. The user makes life or death safety decisions, at designated points throughout the training experience – and quickly discovers how those decisions impact on the outcome of the incident.

The tools have been well received. Next in the pipeline is a fourth case study, due in 2017, which unpacks the events leading up to a catastrophe on an offshore oil platform.

New guidance

The centre's first guidance documents on lead process safety metrics and process safety competency were launched in July 2015. In the months that followed, the publications sparked a series of engagements with process safety practitioners in Australia and South East Asia as well as in Europe and North America. Well-attended presentations were delivered in Perth, Kuala Lumpur, Edinburgh and at the Mary Kay O'Connor Process Safety Center International Symposium in Texas. Interest in the guidance is spreading beyond the process safety community too, with the global financial services company Citibank referencing the lead metrics in a recent report on process safety performance among companies listed on the Australian stock exchange.

During 2016, working groups assessed the impact of both guidance documents. ISC will build on lessons learned to continue the evolution of process safety competency and the consistent application of process safety metrics.

Safety and the next generation

ISC is exploring new ideas for undergraduate education programmes. This topic was the subject of a lively panel debate featuring Trish Kerin and others at the 15th International Symposium on Loss Prevention and Safety Promotion in Freiburg, Germany, in June.

Occupational health and safety – recognising the implications of process safety

ISC is collaborating with the Safety Institute of Australia to produce several new chapters for the next edition of the well-regarded publication, *OHS Body of Knowledge*. The ISC contribution will examine chemical process safety hazards and their management, with the aim of improving joint working with OHS professionals to achieve better safety outcomes.

The \$64,000 question – what's the future of process safety?

As with much else in life, process safety isn't standing still. Trish Kerin hosted a workshop with Dr Sam Mannan from the Mary Kay O'Connor Process Safety Centre at the *Hazards 26 Symposium* in Edinburgh, Scotland in May. The output from the workshop is being used to inform a report that will influence the development of new thinking around emerging process safety challenges.

Other activity

ISC's Process Safety Masterclass became firmly established part of the centre's training offer and interest in the centre's Process Safety and the Board programme continued to build.

Virtual knowledge sharing was also a feature of the centre's work with a series of well-attended webinars including a sobering review of the Pike River coal mine incident in New Zealand coincident with the fifth anniversary of the tragedy in November 2015.

ISC members were closely involved with the development of IChemE's Professional Process Safety Engineer Registration. At the time of writing, 150 process safety practitioners around the world have qualified for this globally-recognised signal of trustworthy professionalism in process safety, via three tailored pathways designed to cater for different levels of experience.

Where do we go from here?



ISC aspires to be a global, go-to, organisation for process safety benchmarking, sharing best practice, education and an accessible forum for developing solutions to common problems.

This is an ambitious goal, but we believe it's achievable, and everyone involved with the centre fundamentally believes that it's the right thing to do; for all of the right reasons. With this in mind, we intend to maintain close connections with other industry bodies and with competent professionals in industry around the world. We'll focus on those areas for development that can have a meaningful impact on process safety performance and to do this we will build on the solid foundations established in Australasia and expand our staff team in 2017.

Our aim is to identify unmet need in the process safety space and to deliver differentiated products and services that add value for industry, for academia and for regulators.

In 2016 IChemE's governing Council and the centre's advisory board signed off a development plan that will shape ISC's growth over the next five years. We will interact proactively and cooperatively with other safety organisations to set new benchmarks for process safety.

Because nobody should get hurt, anywhere, ever.

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