FLASHPOINT

NZ INSTITUTE OF HAZARDOUS SUBSTANCES MANAGEMENT

Summer 2013

Ruapehu spill an object lesson

Critical items for hazardous substance regime

USEFUL ORGANISATIONAL CONTACTS

NZ Institute of Hazardous Substances Management
(formerly the Dangerous Goods Inspectors Institute)
www.nzihsm.org.nz
The official home of professionals committed to the safe management of hazardous substances and dangerous goods.

The NZIHSM is a 'not for profit' industry association specialising in improving safety, health and (site) environmental performance, particularly the safe management of hazardous substances in the community.

Responsible Care NZ
www.responsiblecarenz.com
Box 5557 Wellington 6145
Responsible Care NZ works with industry partners to implement the Hazardous Substances legislation. This is achieved by implementing and promoting the international SH&E protection initiative.

Worksafe (MBIE)
Government agency formed to povide advice and enforcement of hazardous substances

EPA
www.epa.govt.nz
The EPA administers the HSNO Act and supplies extensive information on working with hazardous substances.

Ministry for the Environment
www.mfe
The Ministry provides policy, publications, technical reports and consultation documents on HSNO legislation.

Department of Building and Housing
www.dbh.govt.nz
The Government agency that maintains the Building Act and the Building Code.

Local Government NZ
www.lgnz.co.nz/lg-sector/maps/
Local Authorities have responsibility for policing building controls. Some local authorities are contracted to Department of Labour to provide enforcement of the Hazardous Substances legislation.

Government legislation
www.legislation.govt.nz

If you know of other agencies which could be useful to members, please let us know at office@nzihsm.org.nz.

President's column

A time of change!

TOGETHER we shall save our PLANET or
TOGETHER we shall PERISH IN ITS FLAMES
John Fitzgerald Kennedy 1917-1963

Americans have recently been remembering the death of President JF Kennedy who was taken before his time 50 years ago. Does his quotation show a leader who had a prescience of our current situation? Hopefully not, as he was most likely referring to a nuclear standoff in Cuba between Russia and the USA where either side could have caused a nuclear war!

We were fortunate that time that by co-operation, a fully human melt-down was avoided.But once again humanity has approached the edge!

As before, this may partly be as a result of human activities, but this time the results should be delayed for future generations to cope with, so possibly not as dramatic but similar just the same!

The hazardous substance regime also seems to be in a state of flux as the Government's new Worksafe agency is ready to re-charge our modus operandi. In this regard, the NZIHSM argues for balance in the system and believes that science-based rules accompanied by a suitable compliance and monitoring system is crucial for success!

In line with this, the magazine covers:
- Ruapehu diesel spill;
- the Philippines tornado;
- critical items for a successful HSNO or worksafe control regime;
- a test certifier's review of the system;
- watercare system;
- NZIHSM feedback on the draft Health & Safety Reform Bill.

There are a number of other similar items and Archie seems flustered as 'superbugs' make their return and over-ride our antibiotic protection.

We hope that you enjoy the read!
John Hickey

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Flashpoint

Flashpoint is the official journal of the NZ Institute of Hazardous Substances Management.

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Feedback on the Health and Safety Reform Bill

The NZIHSM submission was:

Overall comment:
Minister Adams has stated that between 500 and 800 Kiwis die from industrial illnesses every year, many as a result of exposure to toxic substances. (Stuff 30/05/13) and Minister Simon Bridges' press release (Beehive 29/10/13) said that the Health & Safety Reform Bill is to develop new regulations for "general risk and workplace management; worker representation and participation; major hazard facilities; and hazardous substances".

The NZIHSM believes four critical items for hazardous substances should be included in the H&S Reform Bill for reasons as outlined in the attached article: **Critical Items for successful Hazardous Substance or Worksafe Control regime**

The NZIHSM has key issues as follows:

1. The 'purpose' of the Bill must include 'substances'.
2. Pre-incident 'compliance certification' is critical for success.
3. Toxic substances must be included in compliance certification.
4. Strict liability and enforcement must support test certifiers.
5. Test certifiers are extremely cost-effective for NZ safety.

Detail on the NZIHSM five key issues is as follows:

1.0 The 'Purpose' of the Bill must include 'substances'
Purpose –
(1) The main purpose of this Act is to provide for a balanced framework to secure the health and safety of workers and workplaces by —
(a) protecting workers and other persons against harm to their health, safety, and welfare through the elimination or minimisation of risks arising from work or from specified types of plant; **(and substances)** and …

While the proposed Bill defines 'hazardous substances' under 'substances', the bill should include 'substances' in the object if it is to seriously handle these (eg: In the Pike River case, the incident was the explosion of a hazardous substance. Yet the hazardous substance (HSNO) controls were not actively enforced or checked at the mine?).

2.0 Pre-incident 'compliance certification' is critical as separate to 'post-incident' enforcement in a viable health, safety and hazardous substance system.

2.1 Compliance inspections and certificates by independent test certifiers must be retained.

The necessity for regularly inspected 'compliance' through the training and issuing inspected compliance certificates is vital to a well-functioning 'Proactive Accident Preventative System' as opposed to a reactive 'blame' system after incidents have occurred.

While the Person Conducting Business or Undertaking (PCBU) is a good concept, we believe that for a practical 'preventative system' the training, information transfer and inspection roles of independent test certifiers (as per HSNO Act) are critical for a successful system.

Rena report released

Former GCSB head Simon Murdoch's review of the Maritime agency's initial response to the containership grounding off the Tauranga coast on October 5, 2011, and to the oil spill and salvage operation that followed, pointed out key areas for improvement. See report at

http://www.maritimenz.govt.nz/Environmental/Responding-to-spills-and-pollution/Past-spill-responses/Rena-documents/

The main reason for this is that NZIHSM members have found over 30 years' experience that while PCBU's do not usually deliberately endanger their workplace, they often lack compliance knowledge and inadvertently create dangerous situations unless corrected.

2.2 Minimum standard compliance and enforcement actually protect local New Zealand manufacturers against an influx of unregulated (dumped) substances into New Zealand from low cost, unregulated offshore suppliers with the accompanying danger risks to persons and the environment.

3.0 Toxic substances should be included in a workplace inspection and certification regime.
If toxic substances are a major cause of workplace incidents then the supply, storage, use and disposal of these should be included in a 'proactive incident prevention' inspection and certification system.

As part of this, while individual persons are very important, the regulation should not solely concentrate on this, and communities and the environment should also be included especially for ecotoxic substances. Location and stationary containment compliance is critical for this.

4.0 Strict liability and enforcement must back up compliance certification by independent test certifiers.

The ability of 'compliance authorities' (independent test certifiers) to liaise with PCBUs without the implied threat of immediate enforcement is important for 'proactive' engagement between users, suppliers and compliance advice.

However, in difficult circumstances where users adopt potentially dangerous arrangements with no care for compliance, enforcement tools become necessary. Strict liability should be maintained to keep onus of proof on PCBUs and not victims.

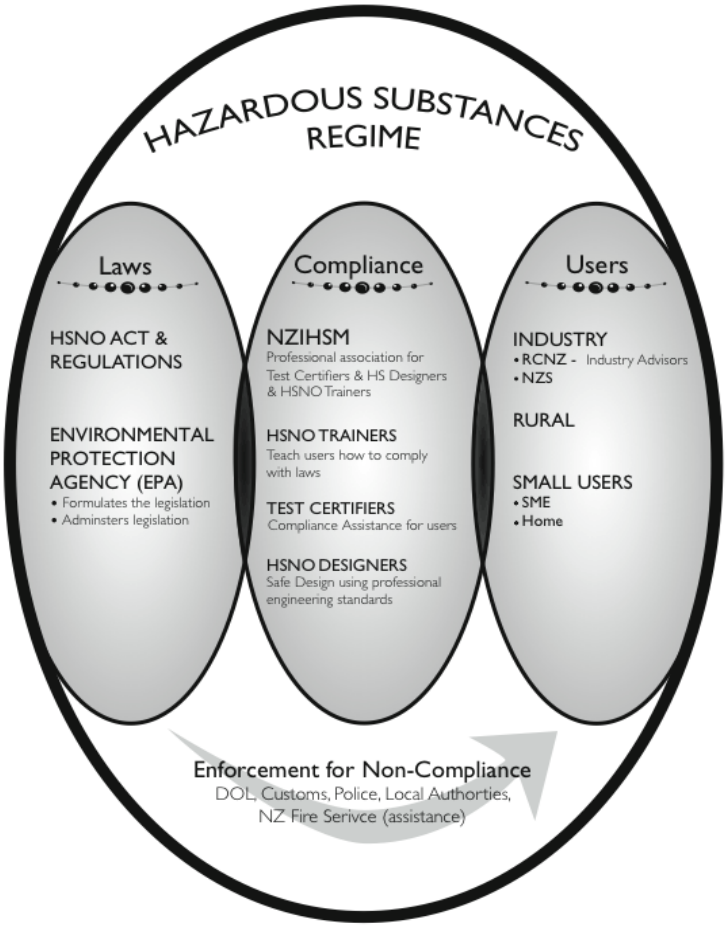
It is important that compliance and enforcement officials collaborate with each other and enforcement also occurs in a proactive rather than just reactive basis.

5.0 High cost/benefit to government and industry using independent test certifier regime.

Following a simple cost/benefit approach: assuming that the current 230 test certifiers and HS enforcers are required to be maintained at the average annual salary for a test certifier of $55,000pa with 38% of their salaries from HSNO activities (source: 2008/13 NZIHSM member survey), then this would imply a direct cost to the Government and industry of approx. $4.8 million per annum.

Stated values from government sources are of between 500 to 800 deaths per year from toxic chemicals, and a budgeted amount to fund health and safety initiatives of between $50m a year at present (C. Winter, **NZ Herald** 3 Nov 13) to $80m in 2017.

Based on the above figures, the existing privately-funded test certifier system cost of under 10% of this budget, to reduce flammable incidents, is extremely cost effective for the taxpayer and industry, and a similar system should be implemented for the certification of toxic substances.



Critical items for successful HSNO or Worksafe control regime

The 1996 HSNO Act as a public/private partnership model (compliance and enforcement) is a significant improvement on the pre-1984 dangerous goods enforcement regime and the most beneficial items should be retained in any changed (Worksafe) model as follows:

Background

The HSNO Act came into law in 1996 as a response to a number of incidents around the 1984 ICI fire where a number of firefighters were injured fighting a fatal industrial blaze with ongoing 'toxic' consequences.

After the 1984 fire 'clean-up', it became apparent that there were many and diverse regulations that were almost incomprehensible to many in government agencies and members of the general public, if indeed, they knew that they existed prior to an incident.

For example, there were many prescribed requirements from the 1958 Dangerous Goods (DG) and 1985 Class 3 DG Regulations, such as a requirement that all Class 3 sites have hazardous zoning diagrams and that all ignition sources within these zones should be rated accordingly, to avoid unintentional ignition of flammable substances. However, test certifiers often found during preliminary site visits that sites did not comply with these requirements, or indeed have hazardous substance registers, in spite of having received DG licences from local authorities since 1958.

The purpose of this paper is to provide a brief synopsis on the critical items, which, in the opinion of the NZIHSM, should be maintained or enhanced in any review of the HSNO monitoring regime. The views expressed support the HSNO Act's goal of "Protecting people, communities and the environment against the adverse effects of hazardous substances" while maintaining the benefits of using these.

Toxic substances fared even worse, and were not even covered under most DG licences, the controls were diverse and often differed between local authorities, and many controls appeared missing in many of the initial test certifier inspections.

In many cases it appeared that where annual DG licences were issued, most were not based on regular inspections of compliance with the HS substance controls. In fact many sites did not appear to comply with basic signage, security, segregation, secondary containment, separation and safety requirements when first inspected by test certifiers.

From meetings attended following the 1984 ICI fire, it became apparent that policy and procedures needed to align with scientific and engineering principles in a single set of regulations which applied to all situations and which the public could understand. The Hazardous Substances & New Organisms Act 1996 was a result of this.

NZIHSM believes the HSNO Act 1996 has achieved some success towards mutual safety goals for the use of chemicals. The introduction of approved handler's knowledge along with regular compliance inspections, using proactive test certifiers prior to events, has in many cases lead to a major improvement from the situation in 1984, where post-event enforcement appeared to be the preferred policy.

Outcomes and the public-private

partnership compliance model

The outcome is to achieve the goal through a single and simple law where possible to enjoy the positive benefits of chemicals while minimising critical incidents.

The NZIHSM, as the institute for hazardous substance certifiers, advisors, designers and HS enforcers, has much of the practitioner's knowledge within New Zealand in this area.

The system for the advice on hazardous substances following the HSNO Act 1996 had established a public/private partnership system for the management of hazardous substances, which can be demonstrated in the diagram on page 3.

Operations

At present there are:

Law makers – Environment, EPA, MBIE.

Compliance – HSNO test certifier regime, allows for general public advice, liaison and checking (public/private partnership), includes approved handler trainers, design engineers and general safety advisors.

Users – users of more than 'minor quantities' of hazardous substances need to comply with HSNO controls. Suppliers should also have responsibilities.

Enforcement – MBIE, Dept. of Labour, OSH, Police, Customs, local authorities et al

While ALL parts of these are important, they could be enhanced by increased co-operation between private (users and certifiers) and public enforcement.

The private co-operation between users, suppliers and test certifiers has, in many cases, acted as a 'safety fence at the clifftop' rather than an 'enforcement' ambulance below.

Critical Items in the HSNO Act regime

Classes of hazardous substances – 9 Classes of hazardous substances.

Two major categories of hazardous incidents

Flammable (Class 1-5 regulations).

Poison/toxic (Class 6,8,9 regulations).

Three types of hazardous substance inspection/certificate

Approved handlers (Cls 1-9).

Location certificates (Class1-5 only, >100 l).

Stationary containers (Class 1-9, >1000 l).

Hazardous substance controls

Class 1-5 controls (flammables).

- Control fuel, oxygen, ignition or monitoring of %LEL (lower explosive level).

Class 6,8,9 controls (toxics).

- Personal protective equipment, safe storage.

General controls for protection of people and the environment (all class 1-9).

- Hazardous substance register and the seven S's: security, segregation, separation, signage, secondary containment, suits (PPE), safety systems – ERPs, MSDS, etc.

The HSNO Act system of controls could easily be

Chinese moving on rare earth problem

Radioactively contaminated leaks from decades of rare earth refining have been slowly trickling underground toward China's Yellow River, a crucial water source for 150 million people.

In Jiangxi province, the national government has seized control of rare earth mining districts from provincial officials after finding widespread illegal strip-mining. And in Guangdong province, regulators are struggling to repair rice fields and streams destroyed by powerful acids and other runoff from open-pit rare earth mines that are often run by violent organised crime syndicates.

While the Chinese government has begun spending billions of dollars to clean up the damage, the environmental impact is becoming an international trade issue, with a World Trade Organisation panel in Geneva expected to issue a crucial draft report on it. Whole villages between the city of Baotou and the Yellow River in Inner Mongolia have been evacuated and resettled to apartment towers elsewhere after reports of high cancer rates and other health problems associated with the numerous rare earth refineries there.

also applied to other safety systems such as the Health, Safety and Employment Act and Pressure Equipment, Cranes and Passenger Ropeways regulations.

Costs and benefits

Costs are always an issue and since 1996 the cost items have been arranged in the form of a public-private partnership with the previous conflicts between compliance and enforcement being separated by private test certifiers assuming the compliance roles and the government retaining the enforcement role.

Pros

- This, in essence, means that the government incurs less cost from the employment and support while industry engages the compliance functions on a 'user pays' basis.
- Certificate costs are similar to the previous DG licence cost, but with closer liaison between 'the user' and 'the certifier' to allow for a transfer of safety information as part of the certification process.

Cons

- A perceived problem could be the closer relationship between test certifiers and their 'user' clients, rather than enforcement agencies. However, if the inspection process is carried out properly, then this is positive and adequate enforcement audits can hopefully identify potential problems before events occur.
- Responsibility without matching authority for test certifiers may allow potential HS sites to 'duck' the system although supplier responsibility can assist here.
- Knowledge sharing between private certifiers and government enforcement could be improved for a mutually beneficial system.
- The non-inclusion of toxics from the location certification system has lead to a significant gap in the compliance system.

Can exemptions and exceptions cause problems

Inspection exception? (Pike river).
Natural gas exemption (Watercare explosion?).
Refrigeration exemption (Tamahere?).
Secondary containment exception (Raetihi oil spill).
Toxic location certificate exemption (many incidents).

Conclusions and key points

The 1996 HSNO Act (compliance and enforcement) regime as a Public/Private partnership is a significant improvement on the pre 1984 Dangerous Goods enforcement regime with the following items being the most beneficial.

- The private co-operation between users, suppliers and test certifiers has, in many cases, acted as a 'safety fence at the clifftop' rather than an 'enforcement' ambulance below.
- Hazardous substance registers and published HS controls are useful.
- Approved handler training has lead to increased safety knowledge on HS sites.
- Test certifiers have proved beneficial to the transfer of compliance information to sites with 'users trust' gained which is not always possible in an 'enforcement only' regime.
- Stationary container certification has lead to checks and tests on high volume HS tanks on a more regular and beneficial basis to prevent tank failure and leaks into the environment prior to catastrophic events in most cases.
- Suppliers having responsibility as well as 'users' and 'certifiers' has lead to more responsibility throughout the whole HS process.
- The HSNO Act system of controls could easily be also applied to other safety systems such as the Health, Safety and Employment Act and Pressure Equipment, Cranes and Passenger Ropeways regulations.

Overall since the 1996 HSNO Act, supplier, user, compliance, enforcement system has lead to a much-improved system over the pre-1996 DG regulation User and Enforcement system only.

NZ Institute of Hazardous Substance Management Inc.

President: John Hickey, Chartered chemical engineer.

Glasshouse syndrome:

Think first, comment later

by Jack Travis

We must have all been in situations recently, where the previous test certifier has issued a certificate on a site location (often more than once) that from your view wouldn't comply and never would have in the present form.

In fact I'd suggest many of us have realised on our own jobs when we revisit for renewal of the location certificate, that we'd missed something on our first visit or wasn't shown it. For example, a storage depot that complies, but later discovering a factory printing machine without an electrical verification certification. We are, after all, only human and not infallible.

The legislation we deal with is complex and often not easily understandable. The Transfer Notice 2004, as amended, can be contradictory in parts. For example, schedule 10 regulations 16 & 29 allow for certain storage in quantities identified in tables in regulation 30 (8) at nil isolation, i.e. can be inside the building. While regulation 29 (4), drastically reduces the quantities, and regulations 16 and 29 restrict, container sizes to unworkable levels for today's industry.

The fibreglass Industry would be one such example, where large 209 litre drums of resin (class 3.1C) are used on chop strand spray units inside the factory, along with gelcoat, another class 3.1C product. The regulations 29 (4) in the Transfer Notice limits use to only 250 litres in total.

Photo: IWS Group

While the industry has been trying to produce a C.O.P. for a number of years now, it is still not finished and there remains many operators either non-compliant or uncertified. One would have to say EPA needs to explain what appears to be contradictory, while there is duplication of regulations i.e. 16 same as 29 and 12 same as 25. We all know the meaning of control zones and high intensity land use. It might be of benefit if EPA was able to amend the transfer notice after seeking submissions for all test certifiers.

In hindsight, one might say ERMA as it was, should have provided comprehensive training before the certification of test certifiers. Most in those early days were ex Dept. of Labour explosives inspectors and local authority dangerous goods inspectors. All had their own ideas of levels of compliance – the E depots and cabinets are a fine example of this.

In those early days, having an Act come out in 1996, the class 1 to 5 regulations turned out to be too vague and hard for industry to understand. What about regulations 31 and 79 covering unintended ignition and on heat transfer?

Hence, the arrival of the transfer notice in 2004, which has since had a number of amendments. It addresses the nuts and bolts of compliance, like isolation distances, and depot construction etc., but it only covers Classes 2 and 3, and was restrictive and contradictory.

So, while some test certifiers still struggle with the classes 4 & 5, at least there are some better specifics on classes 2 & 3. Plus the EPA is putting out codes of practise and is working on one for classes 2 and 3.

This will stand alongside the transfer notice and be a means of achieving compliance. I can't wait to see it happen! Pity we only have class 2 and 3 so comprehensively covered.

Such actions on behalf of the EPA will help develop a more proactive regime. But as professional test certifiers, we must stick together and support one another. So many times in the past, a customer's current test certifier has openly criticised the previous test certifier of the site and often to the customer in question.

As NZIHSM members, we must all ensure that the institute is a tool to provide on-going support and a platform to air our views and queries. Do not be apprehensive to seek answers. We all work independently and often are reluctant of exposing ourselves on the HazChat line.

We are here to help and service industry, not rip it off. I would remind test certifiers that those who live in glass houses ... and recommend they think before they criticise someone else's work and hard efforts.

Remember you can report those non-complying sites and businesses to MBIE or whomever our new bosses may be. If we maintain a professional code of conduct with our customers and with each other, then the whole industry benefits.

Keep up the good work.

Jack Travis
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Raetihi: diesel and water don't mix

Many will remember the early days of television when a series called "The Beverley Hillbilly's" shone through our black and white screens around dinner time.

Hillbilly farmer Grandpa Clampett had accidently found oil on his land when out shooting one afternoon, resulting in truckloads of cash, and a shift to town to spend it. Grandpa, along with Grandma, Ellie-May and Jed extolled the benefits of money and oil to the western dream, if often in a rather 'unsophisticated' and humorous way.

Unfortunately however, the truth is that a dose of oil in a small town's water supply is no laughing matter.

This has happened recently to a small King country town by Ruapehu, when a 20 tonne diesel tank on the side of Mount Ruapehu unloaded much of its contents into the main water supply river for the town of Raetihi!

Not only can they have the potential environmental effects on the short finned eels, native fish and plant-life but it also has had a major effect on the local's lifestyle and businesses. Raetihi was originally a forest and farming town, settled over one hundred years ago, although in recent years the forests are gone, and much of the local businesses are farming or based around the tourist and café sector drawn to the area by Mt Ruapehu and the Whanganui river.

While the parties concerned did arrange for tanker water to be delivered shortly after the oil spill was discovered, a lack of tapped water supply still had a major effect on local tourist businesses and lifestyle of the community.

Oil tanks do fail. The presence of adequate secondary containment around an oil tank and piping system can allow for the contents to be trapped and contained at the source before the surrounding people, communities and the environment are adversely affected.

This is why the NZIHSM recommends its members do require this as part of their reviews.

In this case, the secondary containment failed, the oil did leak, resulting in damage to the environment and local communities.

John Hickey
President NZIHSM

Uncle Archie

Hello HS PRACTITIONERS!

Superbugs may yet win!

A Wellington teacher is believed to be New Zealand's first victim of an aggressive superbug, caught while he was overseas, that is resistant to every type of antibiotic!

Tests revealed he was carrying a strain of bacterium known as KPC-Oxa 48 - a "pan-resistant" organism that repels every kind of antibiotic.
"It's the first one that we've ever seen that is resistant to every single antibiotic known.
"This man was in the post-antibiotic era, and this is why so many agencies over the world are raising alarm bells."

New Zealand hospitals are already seeing increasing cases of multi-resistant "superbugs", which can be treated by only a limited number of expensive antibiotics.

This should be a worry to us all, as the development of antibiotics has helped humans combat many previously fatal diseases, such as pneumonia, over the past century and because of this extend our average lifespans.
It would be a catastrophe indeed for us all in humanity to lose this immunity!

Giant typhoons and hurricanes??

Typhoons and hurricanes seem to be getting larger lately with more and more devastation. Pictures cross our screens on a more regular basis showing human settlements flattened and much suffering from their consequences.
However the outcomes from the Rio 12 Earth Summit and indeed the Warsaw follow-up are still deafening in their SILENCE!

Worksafe progress?

The Government has started a major campaign to reduce deaths caused by workplace chemicals. Environment Minister Amy Adams started a publicity campaign to raise awareness of the dangers of workplace chemicals that she says kill 500 to 800 New Zealanders each year.
A 2004 report from the National Occupational Health and Safety Advisory Committee estimated the death toll at 700 to 1000.

So what is the cure?
Based on a perceived scientific principle that 'what we can't see won't hurt us', we could continue to cancel all compliance inspections of possible toxic and substance sites and leave these out of the draft Act. Yeah right!

Archie just hopes that the 'GOOD SCIENCE' and understanding of how mother nature 'actually works' that have been built up over the many years that the ERMA compliance and test certificate system was operating are NOT LOST in the 're-invention'.

If you want to send your comment, you can send it to archie@NZIHSM.org.nz.
The ideas expressed in this column are not necessarily the views of the NZIHSM or Flashpoint and in some cases the NZIHSM frankly does not approve!

Total devestation from Typhoon Haiyan – one of the most powerful storms ever on record.

2015 for test certification changes

by Craig Mallett of MfE

As you may have seen in the previous issue of Flashpoint, and through several recent announcements, the Government has agreed to significant reform of the workplace health and safety system.

These include changes to the ways in which hazardous substances are managed, and specifically who sets controls and how these are set, and oversight and improvements to the test certification regime.

This change is driven largely by the need to improve the effectiveness of the regime. New Zealand has an unacceptable record of harm in the workplace, including from hazardous substances exposure. While the estimates of harm vary, it is clear that there is significant harm occurring unnecessarily.

Following the Royal Commission into the Pike River Mine Tragedy and the Independent Taskforce on Workplace Health and Safety, in July 2013 Government announced a range of changes aimed at reducing harm in the workplace.

Responsibility for workplace use of hazardous substances, including oversight of an improved test certification regime, is to move from HSNO to reformed health and safety legislation. The new health and safety legislation will be implemented by the new stand-alone workplace health and safety Crown agent – WorkSafe New Zealand.

Having responsibility for all health and safety matters, including workplace use of hazardous substances, sitting within one regulatory regime will provide complete and integrated information of workplace health and safety requirements, including for the first time, hazardous substances. This will make it easier for businesses to understand their obligations and comply.

Government is also seeking to refocus HSNO towards controls aimed at minimising environmental harm, and those that ensure hazardous substances are correctly labelled and packaged before being distributed within New Zealand. The Environmental Protection Authority will have a new role of enforcing these controls.

Firms whose core business is the introduction of hazardous substances into the market, will continue to deal with the HSNO regime for approvals and compliance with HSNO.

Included in the reform are also changes to improve the efficiency and flexibility of the HSNO control-making process through the development of a new tertiary instrument, called an EPA notice.

These will essentially replace hazardous substances regulations, and will allow controls to be created and updated by the EPA rather than going through a formal legislative process. This will allow a more efficient means for controls to be kept up-to-date with the latest understandings of chemical management.

The process of transferring existing controls from regulations into EPA notices also presents an opportunity for the EPA to review current hazardous substance controls that will remain within the HSNO regime. Consultation with industry during the making of EPA notices will be critical to ensure the notices reflect best practice.

So in brief:

- **WorkSafe NZ** – implements the reformed health and safety system, which will include controls for hazardous substances in the workplace and the test certifier regime.
- **EPA** – implements HSNO, which will focus on environment and classification controls (SDS, labelling, packaging, disposal, product content). The EPA will also enforce these controls.
- **Ministry for the Environment** – retains policy oversight of HSNO.

- **Ministry of Business, Innovation and Employment** – has policy oversight of the reformed health and safety system.

test certification changes

Test certification changes

There are a couple of changes of particular interest to test certifiers.

(1) From July 2014 onwards WorkSafe NZ will oversee the test certification regime. The regime will remain in HSNO until it is transferred to the reformed health and safety legislation in April 2015. This change in responsibilities provides a more integrated approach to hazardous substances management. It will mean that the test certification regime will sit alongside the setting and enforcement of workplace hazardous substances controls.

(2) Government also decided to make a number of improvements to the test certifier regime, which are intended to be introduced with the reformed health and safety legislation in early 2015.

These changes are aimed at ensuring businesses can access the expert advice and compliance assistance provided by test certifiers, and ensures that WorkSafe NZ is able to monitor the performance of the regime and take action where required. These changes include:

a. enabling WorkSafe NZ to employ or contract test certifiers in areas where there are shortages;

b. enabling WorkSafe NZ to consider whether an applicant is a fit and proper person when approving, continuing or renewing an application to be a test certifier;

c. recognising institutions (such as laboratories and training organisations) as test certifiers;

d. requiring mandatory auditing on a cost-recoverable basis;

e. requiring performance-targeted auditing;

f. enabling WorkSafe NZ to take account of an applicant's history of compliance with performance standards;

g. enabling WorkSafe NZ to suspend, impose conditions upon, or revoke, a test certificate.

These changes were informed by an ongoing assessment of the test certification regime, which begun in 2008/09 when the Ministry for the Environment established an industry advisory group to undertake a review to identify the relevant issues related to the test certifier regime. The changes are aimed at ensuring there are enough test certifiers available to meet the needs of businesses in areas where there have been shortages, and to ensure that the performance of the regime can be better monitored. These changes will take effect from April 2015.

Where to next?

The way workplace hazardous substances will be managed in future will be outlined in regulations to be made under the new Health and Safety at Work Act. MBIE is preparing a discussion document that details the content of those new regulations. In preparing the document, MBIE will be working with a guidance group, consisting of industry groups, including the New Zealand Institute of Hazardous Substances Management. The document is expected to be available for public comment in the first quarter of 2014, with the aim that the regulations commence in April 2015.

WorkSafe NZ will be up and running from 16 December 2013. One of WorkSafe NZ's new roles will be to oversee the test certification regime. We expect the administration of test certification to move from the EPA to WorkSafe in July 2014, although there are still details to work through. The above changes to the test certification regime are expected to be in place from April 2015.

With regard to changes to the HSNO regime, in 2014 the EPA will begin the process of creating EPA Notices for HSNO controls - environmental and classification controls (SDS, labelling, packaging, disposal, product content). While details of this process have not been confirmed, it will include appropriate engagement with stakeholders.

Further information

Government is committed to keeping stakeholders up-to-date and engaged with the changes. Detail on the workplace health and safety reform package is available on MBIE's website at: www.mbie.govt.nz/what-we-do/workplace-health-and-safety-reform.

Craig Mallett is Manager, Environmental Risk and Innovation Team, Ministry for the Environment.

Mother Nature strikes back?

Super typhoon Haiyan came ashore in the Philippines last month and made Hurricane Katrina and Hurricane Sandy, which ravaged the United States in 2005 and 2012, respectively, look like weak cousins.

More than 600,000 people were displaced, and whole towns flattened, particularly in the Eastern Samar area, near Cebu. The death toll is over 5000 and still be added to as rubble is cleared from the disaster area.

The Philippine Red Cross says the number is likely to increase significantly as previously inaccessible areas are reached. For almost a week, little food and water available to men, women and children in distressed areas.

Believed to be one of the strongest storms on record, Haiyan sustained winds of 235kph with gusts of over 300kph when it made landfall on Nov 13. Hurricanes Katrina and Sandy, in contrast, carried winds of about 206 kph and 151 kph, respectively. Excess of 300kph is very high indeed, over three times the typical maximum airspeed in Wellington of 104 kph or 10 times the average wind speed of 29kph and over 20% higher than the highest gust of wind ever recorded in Wellington of 248kph.

This latest tragedy to the people of the Philippines is sad indeed and we should all help where we can. However, this super-tornado seems to be part of a long line of increasingly powerful hurricanes and tornadoes that are ravaging parts of the earth including the mid-west of the US on an annual basis, causing devastation for any humans and structures that may be in their paths.

These faster winds and powerful blasts are a sign that hurricanes have more energy than many in the recent past. While the science is still being finalised, many experts are blaming warming seas and land for the additional power, which, in turn, allow more energy to be absorbed as the tornadoes form.

Like most non-nuclear energy on earth, this additional energy is from the Sun's heat trapped on earth. But why is more heat and energy being trapped on earth lately? Could this again be part of the phenomenon of 'global warming', the cause of which being attributed to unbalanced carbon usage?

YES, when will blokes learn that if WE ARE GOING TO ENJOY THE CARBON MEAL, WE MUST DO THE DISHES!!!

Survivors queue for food and water in Talcoban city. Photo:Eric de Castro, Reuters.

Compliance target not achievable without streamlining

by Rex Alexander

The point was made at the EPA conference that test certifiers were viewed as, and should consider themselves, as professionals; that test certification was a profession.

The definition of profession is quite clear; it is an activity where the state, through the EPA in this case, takes responsibility as the regulator. The activity of test certification is seen as sufficiently complex that it can only be practiced by EPA-approved individuals with specific and sufficient levels of experience, knowledge, and competence maintained by continuing professional development and audit.

There are examples of professions where the authority is devolved by the state to a professional body. Reference was made to that in part where the EPA might allow competencies for EPA test certifier approval to be vetted by an outside party. In either case, whether test certification remains governed solely by the EPA or (partly) by a professional organisation in future, the profession by definition maintains a monopoly.

Alternatives to the 'professional' definition would be to say that test certification is a trade or occupation. With a trade, the 'activity' defines the role rather than the activity of the individual; the activity may specify required and quantifiable outcomes. In New Zealand, our use of the term 'trade' typically is one where the state regulates the activity, especially where it is in the interest of society. The activity may require specific qualifications and training, usually apprenticeships, or it may be totally deregulated.

The lines are rather fluid – for example it could be said that a registered master builder (as an individual) is a professional operating in a 'trade' activity. Despite that element of professionalism, a regulated trade like building requires constant verification of compliance by a professional inspectorate.

With an 'occupation', the focus is again back on the individual rather than the activity, but usually differs from a profession in that it is self-regulated. Quality typically is market-driven and unlike a profession, does not allow for monopolies.

As professionals then, we were reminded by the presenters of the huge body of knowledge and experience in the room; that HSNO could only succeed by us working together. It was heartening to hear that there was the opportunity to simplify the controls and again, as we previously had with the Gazette notices originally, return HSNO to a set of 'living' legislative controls.

Poor definition of the framework leads inevitably to poor outcomes, anomalies to confusion, higher than necessary costs to industry, and the current level of non-conformances in test certificates.

Box checkers

Test certifiers were reminded by an EPA senior staff member in the MfE working party on test certification, a programme referred to a number of times during the conference, that we were 'just box checkers'. This position was strongly debated and refuted by industry representatives on the working party who valued the professional input of the certifiers.

This is where we walk the conflict of interest line between certification and consultancy – a line that must be managed to ensure the knowledge and experience of the certifier is employed to greatest effect.

While we are currently given no option but to accept that there is no discretion available to the test certifier when certifying locations, that directive will only be of logical value, indeed possible, once the anomalies in the controls and approved codes of practice have been rectified.

It is possible, currently, to certify a site or facility that does not quite meet the strict legislative points required to certify, and yet be fundamentally safe. Any changes required to achieve 100% compliance is often seen by the client as a bureaucratic, expensive nonsense, more in keeping with prescriptive, rather than performance legislation, and adding nothing to safety.

it is equally possible to certify a site or facility 100% in compliance with HSNO that is a disaster waiting to happen for all of the interactive HSE, RMA, building or fire safety legislative reasons.

Not only that, but because of the anomaly excluding classes 6-9 and 3.1D from location test certification consideration, a site or facility 100% in compliance with the 1-5 regulations could well be, and often is, compromised by these other classes, not only by any incompatibilities.

A further complicating factor is that presented by hazardous wastes – those created where;

(a) a substance is only minimally contaminated, thus presenting the same hazard classification as the parent substance,

(b) those wastes changed significantly in hazard classification now bearing no relation to the parent;

and (c) those waste substances that occur from processes involving non-hazardous substances yet now presenting hazards above the minimum degrees of hazard. From the point that the substance becomes a waste, the HSNO controls in terms of locations (if they previously applied), Type 1-3 and A-D structures and approved handlers etc no longer apply with only final disposal in accordance with those particular regulations. Group standard controls would suggest that the full HSNO controls should apply to wastes described by (a) but it is hard to see how they could apply to (b) and (c) without analysis of the chemical hazard to determine compatibilities etc. Should wastes be controlled under HSNO where it is logical that they should – absolutely! Currently that is a worrying gap.

Unfortunately, unwanted hazardous substances are directed into the same waste streams by disposal companies. HSNO lifecycle controls fully apply to those substances but often are not appreciated and not complied with by the disposer.

The descriptor above highlights the real world environment that the test certifier in the field works in on a daily basis.

It can only improve if the EPA, in approving us as competent experienced professionals, trusts us to apply an element of discretion in assessing 'reasonable' compliance against real world performance measures.

And it can only improve if that 'experience in the room' is engaged by the regulator in continuing to improve the legislative environment. HSNO performance-based controls were born during the 90s from the dialogue between competent professionals as part of the stake holder consultation process. We were there, we know.

Enviromental toxicity widespread

As many as one in six American children nationwide has a neurodevelopmental disability, including autism, speech and language delays, and attention deficit hyperactivity disorder, and 3% are estimetd to be directly caused caused outright by environmental toxicity and an additional 25% by environmental exposures interacting with genetic susceptibilities.

The number of children needing special education services has increased 200% in the past 25 years. Every day, America's pregnant women and young children are exposed to a trifecta of suspected neurotoxicants in the form of pesticides (mostly via food and water but also home, lawn, and farm applications), polycyclic aromatic hydrocarbons, or PAH (mostly via exposure to vehicle exhaust), and polybrominated diphenyl ethers, or PBDEs (flame retardants, mostly in upholstered furniture and electronics). But everyone is equally exposed, and some appear to be more vulnerable to them for reasons that may include genetic susceptibility, poor nutrition, stress, and age.

The increased complexity inherent in the new legislation in moving from prescriptive controls and as a result of its societal and economic importance required the government to manage HSNO through test certification as a profession. It can only remain a profession by taking full advantage of the flexibility that performance controls by definition allow.

Frustration

There has been frustration towards the introduction of prescriptive guidelines in the form of approved codes of practice to explain and control performance based legislation where such codes are intended to compensate for the perceived lack of competence in industry, enforcement agencies and test certifiers.

That approach both risks stagnation on one hand by 'dumbing down' large chunks of the law, but equally allows industry to develop particular codes for specific aspects of their operation as customised proprietary means of achieving a competitive edge.

While not unique, New Zealand legislators are adept at using prescriptive explanatory guides for performance controls; the Building Act acceptable solutions are one such methodology. They have their place; but…

Much of the frustration in HSNO is as the result of the Transfer Notice GN35 remaining 'locked' (stagnant) in recent years, despite wide acknowledgement that there are numerous mistakes in the document – many elements of which in Schedules 8 and 10 especially are unworkable. Approved codes of practice developed as a 'work around' are hampered in their effectiveness and applicability by these inherent constraints.

Such controls based on flawed regulations and controls cannot but fail when exposed to the reality of an evolving industrial need. And evolve it must to take full advantage of what started off as world-leading performance legislation.

The approach over the last few years limits the logical and cost effective evolution of performance legislation. There have been significant gains in compliance since commencement but that almost despite the constraints.
The Minister, the EPA chair, and the EPA Chief Executive's admonitions that anything less than 100% compliance is not acceptable, that we have to do better.

While we agree with the goal to eliminate workplace injury and death from hazardous substances, simply is not achievable without the commensurate streamlining and alignment of the controls and engagement of the practitioners both certifier and enforcer to that end.

Test certifiers, as competent experienced professionals, need to be trusted and supported by the regulator that approved them, engaged, appreciated and called on to assist equally in that evolution. The carrot not the stick – working together – it is not achievable without us. It just cannot be allowed to fail.

– R Alexander M.I. Fire E
TST 000009
Member NZIHSM

I have used accepted definitions of the terms used and in applying them with respect to test certification. I have drawn quite heavily on remarkably similar parallels made in a paper on the profession of fire safety engineering, my other professional discipline, by Prof José L Torero. Director of Fire Safety Engineering at the University of Edinburgh.

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More gas explosions

At least six people have been killed and two injured in a gas explosion in the central Mexican state of Puebla. The explosion set off a fire which engulfed much of the area.

The main highway linking Mexico City and Veracruz was closed for more than four hours as firefighters brought the blaze under control. Businesses and homes were evacuated in a radius of 3km.

There has been a series of gas-related accidents in Mexico. More than 20 people were killed when a lorry carrying gas tanks exploded on a highway on the outskirts of Mexico City, and 26 died in a fire at a gas plant owned by the state oil company Pemex in the city of Reynosa.

Attention to detail lacking in water pipe explosion

The odds against being blown up in a water pipe must be astronomical, but the report into the 2011 Onehunga incident, proves that prevention and attention to detail are the only safeguards.

The explosion occurred in a waterpipe being drained and worked on by Watercare. Killed was mother of two Philomen Gulland, while her colleague Ian Winson, a former marathon runner and engineer, lost both of his legs. The blast also injured several other workers – a tragedy that might have been much worse.

Such was the force of the blast that houses in the area shook violently and mud and debris were thrown a considerable distance.

It appears that when the pipeline was being emptied of water, air release valves were opened to drain down a section of the water main, and hazardous gases entered from another source. Early reports stated that natural gas through rotting vegetation had entered the pipes, but knowledgeable certifiers suggested that was rather unlikely in a usually full water line.

Two years later the summary of facts in the case against Watercare was read identified factors that could have prevented another preventable tragedy. The explosion occurred when a new water mains pipe was being added which required draining the old pipe to connect it with the new. The injured parties entered the emptied pipe to inspect internal damage. While inside, their personal gas detectors alarms sounded and the pair withdrew. A fan was placed at the entrance to provide ventilation.

The pair re-entered the pipe and, after taking a few steps, an explosion occurred, throwing both of them from the pipe.

It was stated that once the alarms sounded, the entry team should have advised everyone of the presence of an explosive gas and evacuated the workplace. They should have then determined the source of the gas, remedied the problem, and then ensured the environment was safe before re-entry.

A casualty is removed from the scene of the explosion.
Photo: Stuff

Gas sucked into pipe

At the time of the explosion independent contractors were gas cutting through a valve 500 metres from where the inspection team entered the pipe. When the gas cutting was nearly complete, a

sudden rush of air came out of the pipe, and got sucked back into the pipe.

Experts believe that during the draining process, explosive natural gas leaked from the nearby Vector gas network that travelled through the pipe's scoria bedding material and into the emptied water main.

The old pipes present in the area were prone to leaking gas and hazardous levels were previously detected in air valve chambers, but this was not reported to any contractors.

The gas leaking into the pipe was caused by one of the air valve chambers not being ventilated during the draining process creating a vacuum. "Had that air valve chamber lid been removed during the drawdown process, the gas may have simply dissipated into the air and an explosion would have been prevented, the MBIE prosecutor stated.

$396,000 penalty

The Auckland City Council-owned wastewater company was fined $81,000 and ordered to pay $315,000 in reparations to the victims of the blast. The company had previously pleaded guilty to two charges laid under the Health and Safety in Employment Act in relation to the June 4, 2011 explosion.

As Mr Winson sat silently in a wheelchair, his wife read an emotional account of how the accident had robbed their family of a normal, happy life. Her husband had undergone 18 major operations, his elbow was smashed into more than 100 pieces, he had undergone skin grafts, suffered a neck fracture and his middle finger was surgically removed.

To prevent incidents such as this is why NZIHSM professionals strive for their goal of "Protecting people, the environment an communities against the adverse effects of hazardous substances".

All of us wish the community to enjoy the 'silence of a prevented tragedy' rather that the clamour and hurt when one occurs.

As most recent tragedies appear to have occurred in circumstances that have 'exemptions' from the controls of the HSNO Act, this may indicate that the HSNO and test certification controls are having some success and should be more extensively employed.

The scene of the explosion.
Photo: NZ Herald

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