



# **Risk and Safety in New Zealand: Setting Standards**

**International and national standards: benefits, practitioner usage, comments**  
**Research report RR0162**

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## About Chris Peace

Chris set up Risk Management Limited in 2003 to help clients establish effective risk management frameworks, including systems for business continuity and compliance, and carry out major risk assessments as part of decision-making. He also provides in-house and public risk management training courses. Further information about Risk Management Limited is at [www.riskmgmt.co.nz](http://www.riskmgmt.co.nz).

Between 2005-2012 Chris was part-time Lecturer in Risk Management Studies at Massey University and re-wrote their course handbooks to align them with AS/NZS ISO 31000:2009 *Risk Management – Principles and guidelines* and ISO 31010: 2009 *Risk Management – Risk Assessment Techniques*. He is a member of the New Zealand Society for Risk Management ([www.risksociety.org.nz](http://www.risksociety.org.nz)) and contributes to the Society's newsletter and activities.



## Risk management standards

Chris represents the New Zealand Institute of Safety Management on the joint standards committee that wrote AS/NZS 4360: 2004 *Risk Management* (now replaced by AS/NZS ISO 31000: 2009 *Risk Management – Principles and guidelines*). He also represents NZISM on the joint standards committee on dependability standards and is helping to write and revise risk-related standards and handbooks aligned with the international standards. He conceived and substantially wrote two Standards New Zealand specialist handbooks on risk management (SNZ HB 4360: 2000 *Risk Management for Local Government* and SNZ HB 4525: 2006 *Fire Risk Management Handbook*).

## Career

Chris was born and educated in the UK. He graduated from the University of Aston in 1974 and started his working life enforcing health and safety legislation in the UK before emigrating to New Zealand in 1980, moving to work in the insurance industry as a loss control engineer and subsequently as a risk consultant.

In 1990 he returned to the UK for five years where he worked for Jardine Lloyd Thompson as a risk management consultant helping major UK employers manage their risks more effectively. During that time he worked with major manufacturing and retail companies and public and private hospitals. His work took him to the USA, the Caribbean, Holland, Spain, Eire and Italy.

Chris returned to New Zealand in 1995 and set up the Risk Management Unit of Jardine Lloyd Thompson, then a specialist in local body risk and insurance management. There he worked with local authorities, tertiary education bodies and private sector companies on liability risk management, legal compliance and asset management. Projects included development and auditing of risk management frameworks.

In 2000 Chris joined Natural Gas Corporation (NGC) as their Risk Manager, establishing the risk management framework and managing the internal audit and insurance functions of the company.

Since leaving NGC Chris has worked for a wide range of organisations on diverse aspects of risk and the management of risk. He is currently carrying out postgraduate research into the effectiveness of risk assessments, part-time at Victoria University in Wellington.

## Qualifications and memberships

MSc Risk Management and Safety Technology (Aston University 1995)

BSc (Hons) Environmental Health (Aston University 1974)

Chartered Fellow of the UK Institution of Occupational Safety and Health (2005)

Fellowship examinations for UK Institute of Risk Management (1993)

AFIA Fire Engineer (in-house course, 1982-1984)

Diploma in Occupational Health and Safety (Coventry Technical College, 1977)

Diploma in Air Pollution Control (Aston University, 1975)

Member of the Society for Risk Analysis

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# 1. International and national standards: benefits, practitioner usage, comments

## 1.1 Background

In 2016 the Ministry of Business Innovation and Employment (MBIE) enforced a policy on funding of standards development, including adoption of international standards. The new policy also affects joint Australia/New Zealand standards ("joint standards"). In early 2017 Risk Management Ltd realised this would result in non-adoption of at least some risk- and safety-related standards and might also affect development and maintenance of local standards. This has potential for adverse effects on the management of risk and safety. We realised that little was known about usage of such standards by risk management or health and safety practitioners. Accordingly, in June and July 2017 we ran an anonymous online survey of such practitioners, asking about use of current and draft standards, and carried out a literature review of the benefits of standards.

This report summarises the survey findings, including comments made by respondents, and indicates how the MBIE policy may adversely affect the management of risk and safety in New Zealand.

Two brief examples of the need for such standards are also given.

## 1.2 Executive summary

The survey and literature review show that:

- the government target of a 25% reduction in work health and safety fatalities and serious harm events by 2020 may not be achieved if relevant standards are not adopted or revised
- MBIE funding requirements for standards development, adoption and revision may start to limit those benefits, with long-term adverse consequences for the economy and the safety of workers and others
- progressive withdrawal from development and maintenance of ISO, IEC and joint standards may harm development of the "Single Economic Market" with Australia
- failure to adopt ISO and IEC standards may result in NZ being seen as a poor international partner
- collaboration in the development of joint and international standards on risk and safety management provides access to a wider knowledge base than exists in NZ
- the costs of this collaboration are substantially carried by a few people and organisations (mainly in the private sector) while the benefits accrue across the whole economy
- effective management of risk and safety adds value to the economy both tangibly and intangibly
- respondents see the costs of joint and national standards as high but ISO and IEC standards can be up to twice their cost, making these too expensive for small businesses and consultants to purchase
- the cost of such standards means risk or health and safety practitioners (and, probably, "lay" managers) will continue to rely on their "professional judgement" (known to be highly fallible) instead of the guidance in ISO, IEC and joint standards; as a result NZ will fail to gain the full benefits of effective risk management
- failure to effectively publicise many risk- or safety-related standards means some are not known to potential users.

## 1.3 Further commentary

The following blogs on problems with standards have been published on the Risk Management Ltd website:

[Bricks, Screws, and Management Standards](#) by Chris Peace.

[Building Standards, risk and life safety in New Zealand](#) by Peter Hughes.

## **1.4 Conflict of interest**

This work was self-funded by Risk Management Ltd as a response to Government policy.

The author self-funds membership of two joint standards committees to which he was nominated by the New Zealand Institute of Safety Management.

## 2. Methodology

### 2.1 Online survey

A link to the anonymous online survey was emailed to 627 possible respondents using an email database of risk and health and safety practitioners. It was also mentioned in a [blog](#) and on LinkedIn. A total of 71 people responded, giving a response rate of about 10%. Some also gave narrative comments that have been quoted in this report (shown as indented, italicised text).

The introduction to the survey said:

This anonymous survey is about the use of risk-, business continuity- or safety-related international and national standards in New Zealand. Our standards writing body, Standards New Zealand, seeks funding for the development or review of national standards, or adoption of international standards. In some recent instances the lack of funding has resulted in international standards not being adopted. While this is of concern to at least some people we don't have a clear picture of how widely such standards are used by individuals or organisations and cannot therefore lobby for change. Please help to fill in some of the gaps. The anonymous data from this survey will be passed to relevant professional bodies so they can lobby the government and Standards New Zealand for change.

If you have colleagues who might also be interested please pass on the link to this survey (and if you want to know the results of this survey see the link that follows this survey).

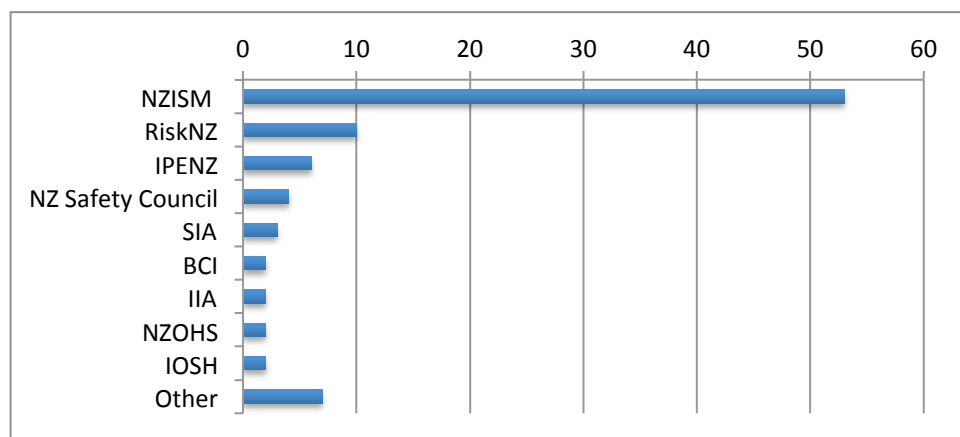
### 2.2 Professional status of respondents

Respondents said they were members of the following professional bodies, with some being members of more than one organisation.

**Table 1. Membership of professional bodies**

Professional body	Number of people responding
New Zealand Institute of Safety Management (NZISM)	54
RiskNZ	10
Institution of Professional Engineers (IPENZ)	6
NZ Safety Council	4
Safety Institute of Australia (SIA)	3
Business Continuity Institute (BCI)	2
Institute of Internal Auditors (IIA)	2
New Zealand Occupational Hygiene Society	2
Institution of Occupational Safety and Health (IOSH)	2
Other	7

**Figure 1. Membership of professional bodies**



“Other” professional bodies were:

- Business Leaders’ Forum
- New Zealand Institute of Directors
- New Zealand Organisation for Quality
- Canterbury Employers Chamber of Commerce
- New Zealand Occupational Health Nurses Association
- Institution of Chemical Engineers
- New Zealand Institute of Hazardous Substances Management.

## 2.3 Location of respondents

While the survey was anonymous, it was possible to tell that 62 respondents lived in New Zealand with 36 in the areas of:

- Auckland (19)
- Wellington (8)
- Canterbury (5)
- Bay of Plenty (4).

## 2.4 Literature review

We also carried out a brief literature review looking primarily at research that had considered the effects of standards.

## 2.5 Abbreviations used or organisations mentioned

BCI	Business Continuity Institute
HSP	Health and safety practitioner
IEC	International Electrotechnical Commission
IIA	Institute of Internal Auditors
IOSH	Institution of Occupational Safety and Health
ISO	International Standards Organization
MBIE	Ministry of Business Innovation and Employment, the NZ Government agency with accountability for standards published under the Standards and Accreditation Act 2015
NZ	New Zealand
NZISM	New Zealand Institute of Safety Management, the largest professional body for HSPs in NZ with over 1600 members
OB007	The joint standards committee having oversight of the development of risk management-related standards and handbooks; the secretariat is provided by Standards Australia
QR005	The joint standards committee having oversight of the development of dependability-related standards (essentially, the development, review, revision and adoption of IEC standards)
RiskNZ	Previously the NZ Society for Risk Management, a professional body with about 200 members
SA	Standards Australia
SIA	Safety Institute of Australia
SNZ	Standards New Zealand, now part of MBIE
WH&S	Work health and safety



### 3. Literature review and comments from respondents

#### 3.1 Benefits of risk and safety management

In the private sector, effective adherence to compliance obligations is increasingly seen by market analysts as evidence of effective management, contributing to greater stability in share prices.

At the organisation level, *effective* risk management helps develop resilience in the face of risks with negative consequences while enabling opportunities from risks with positive consequences.

Effective management of risk – of uncertainty – by private sector companies enables change and adaptation when technology, markets or expectations change, or when legislation imposes new or increased expectations. It also increases trust in the board and executive management. In the public and not-for-profit sectors, effective management of risk helps maintain trust in institutions.

There is good research evidence that effective risk management adds value to private sector organisations (eg, increased share price, profits, dividends) and public sector and not-for-profit organisations (eg, service delivery, dependability, service quality). A summary of some research is in Table 2 on the next page. Thus, apart from any ethical considerations, the research evidence shows that management of risk and safety are directly and indirectly beneficial for the economy.

#### 3.2 Benefits of standards – general

Conformance with ISO and IEC standards is now a key element of elimination of non-tariff trade barriers (Kaplinsky, 2010) and acts to positively encourage trade (SA, 2013; Swann, 2010a, 2010b). Standards can also act directly or indirectly to affect corporate social responsibility (Geiger, 2003).

The need to maintain a competitive economy (and not just prevent harm or losses) was expressed by two respondents.

*It is important that these standards are adopted in NZ otherwise we will fall behind the international community.*

And, more forcefully:

*Standards must be supported. NZ must be represented on TCs [technical committees] and WGs [working groups] at international level. It is reprehensible NZ is not a P [participating] member on ISO45001 and other standards. NZ should sign an accord with CE to enable ZZ appendices [the meaning was not clear]. NZ should not slide into pariah status with outdated AS/NZS or NZS standards operating outside international frameworks.*

However, knowledge and application of all international standards requires that they be developed with the support of a wide range of countries to avoid self-interest of major actors<sup>1</sup> (Bialous & Yach, 2001; David & Greenstein, 1990; Oreskes & Conway, 2010) and that they are then adopted for local use.

Standards can act as a “repository” of knowledge about best practice work health and safety (WH&S) that small- or medium-sized businesses (SMEs) can access (Nadvi, 2008) and act to reduce injury rates (Lamm, Massey, & Perry, 2007; Mohammadfam et al, 2017; Pandelides & Giovanis, 2010); some might also help overcome knowledge deficits that contribute to productivity deficiencies in the manufacturing sector in New Zealand (Green et al, 2010).

Standards can also help demonstrate corporate social responsibility in relation to supply chains. Research using data from 3,276 suppliers in 55 countries showed that use of management system standards had a strong relationship with improvements in supply chains (Bird, Short, & Toffel, 2017).

When published, ISO45001 may therefore become another management system standard that businesses in NZ can cite or ask if it has been implemented. Conversely foreign customers may ask if NZ suppliers conform with the standard, as evidence of fair labour standards (Anon, 2017).

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<sup>1</sup> The tobacco industry adversely influenced the development of international standards on testing tobacco products and smoke for about 20 years.

**Table 2. Evidence for the benefits of effective risk management**

Activity	Research findings	Effect on objectives
Occupational safety	A desktop audit of management of safety-related risks by the 150 largest companies listed on the Australian stock exchange found a positive link between corporate safety management and share price.	Positive
Occupational safety	The retiring chief executive of Fletcher Building, Jonathan Ling, claimed in a newspaper interview that reducing the 12-month rolling average injury frequency rate per million employee and contractor hours from 60 in 2006 to 8 in 2012 had saved the company "a small fortune". This was done in part by linking 10-20% of managers' short-term bonuses to improvements in health and safety and starting all board meetings with health and safety reports, issues and strategies.	Positive
Occupational health and safety	There is some evidence for a link between occupational health and safety, business performance and productivity in New Zealand but the data is skewed towards larger firms, often in the USA.	Positive
Occupational safety and health	There is increasing evidence that a healthy and safe working environment can increase productivity and, in turn, business profits. Certain necessary ingredients are required, including effective engagement of employees by management.	Positive
Process safety	Collective action in the process industry helped reduce the destruction of financial and non-financial value if a major event causes significant loss of life.	Positive
Construction safety	Innovative designs for construction projects led to compliance with construction safety management legislation in the UK and prevented costs due to injuries and other events.	Positive
Construction safety	In the UK the Construction (Design and Management) Regulations (CONDAM) were introduced to comply with a European Union Directive and to help reduce the rate of harm to workers. The Regulations seem to have driven professionalisation of some parts of the construction industry and led to designers becoming involved earlier in projects than was previously the case.	Positive
Construction safety	"Human characteristics like respect, trust, clarity, pre-emption, challenge, consistency, collaboration, motivation, empowerment, communication, openness, fairness and assurance" were key to the positive outcomes for the London Olympic Park. Many of the research findings offer benefits across a wide range of construction projects and for different companies in the construction supply chain.	Positive
Price/earnings ratio	Effective management of physical or insurable risks was found to reduce the frequency of losses and so improve the price/earnings ratio. The study found that companies with strong management of physical risks (caused by, for example, fire, flood or earthquake) had, on average, earnings that fluctuated by 17.9% whereas companies with weak physical risk management practices, on average, had earnings that fluctuated by 31.4%. "The stronger the physical risk management practices, the lower the earnings volatility; the weaker the physical risk management practices, the higher the earnings volatility".	Positive
Corporate governance and share market performance	Australian research investigated companies that had adopted the Australian Securities Exchange (ASX) Corporate Governance Council's Principles of Good Corporate Governance and Best Practice Recommendations (ASX Corporate Governance Principles). The companies with greatest compliance with the Principles were found to outperform less compliant companies in shareholder performance, operating performance and one-year sales growth.	Positive
Firm value	Using the recent Standard & Poors risk management rating, there is some evidence of a positive relationship between increasing levels of risk management capability and firm value.	Positive
Share price	Research on some insurers in the United States found a gain of about 17% of stock value for those companies that used enterprise risk management.	Positive
Share price	A positive effect on share price was found in companies forming captive insurers (although other research has found no benefits, or even dis-benefits).	Positive and negative
Share price	Sudden positive increases in share price due to unforeseen events can be maintained (while negative effects can be reduced) by competent and assertive responses from a company.	Positive
Share price	A reputation for social responsibility has been found to protect companies from a fall in share prices after a crisis.	Positive
Banking sector	The Basel Core Principles for Effective Banking Supervision for 65 countries were used to explore the relationship between banking sector performance and the quality of regulation and supervision. A significant positive impact of higher compliance with the Principles on banking sector performance, as measured by nonperforming loans and net interest margin, was found.	Positive
Intangibles: trust in organisation	Trust is hard to create and maintain and easy to destroy. While trust is intangible its loss can lead to financial damage in the form of "goodwill".	Positive
Corporate social responsibility	Adoption of management system standards acts to improve working conditions in global supply chains.	Positive

Sources: (Brown, G. D. et al, 2015); (Larsson, Mather, & Dell, 2007, pp. 263-271); (Stock, 2012); (Brown, R. & Gørgens, 2009); (Hoyt & Liebenberg, 2011); (Cross, Davidson, & Thornton, 1986, pp. 471-483); (Knight & Pretty, 2002); (Knight & Pretty, 2003); (Kramer, 1999); (Lamm et al, 2007); (McShane, Nair, & Rustambekov, 2011); (Schnietz & Epstein, 2005); (Pretty, 2011); (Bennett & Gilbertson, 2006); (Eastham, 1994); (Podpiera, 2006, pp. 306-325); (Bennett, 2004); (Bolt et al, 2012); (Cheyne et al, 2012); (Finneran et al, 2012); (Bird et al, 2017)

### 3.3 Closer Economic Relations with Australia

In 2009 NZ and Australia agreed to develop a “Single Economic Market” (see the Ministry of Foreign Affairs and Trade website <https://www.mfat.govt.nz/en/countries-and-regions/australia/new-zealand-high-commission/single-economic-market/>). This cooperation aims to:

- reduce the impact of borders
- improve the business environment through regulatory coordination
- improve regulatory effectiveness
- support business opportunities.

Failure of NZ to adopt ISO and IEC risk- and safety-related standards may affect these aims in a variety of ways, as suggested in the following table.

**Table 3 Effect of standards on the Single Economic Market**

Single Economic Market	Example of the impact of standards
Reduce the impact of borders	Trading partners in Australia have access to and understand ISO, IEC and joint standards, reducing time to meet contractual obligations
Improve the business environment through regulatory coordination	Standards such as ISO19600 <i>Compliance management systems</i> are used in both countries and respective regulators understand what conformance means
Improve regulatory effectiveness	Adoption of the forthcoming ISO 45001 <i>Occupational health and safety management systems</i> benefits businesses trading in Australia
Support business opportunities	NZ businesses are more easily able to demonstrate good risk- and safety-management practices to Australian customers Australian businesses seeking to sell goods or services to the NZ State Sector are similarly able to demonstrate such good practices, improving competition and potentially saving public funds

### 3.4 Costs of developing standards

Standards represent best practice in a sector, across the economy and internationally. Almost all the development work is carried out by volunteers who share their intellectual property for the wider benefit, often with little recognition.

*Standards give a basic guidance and are considered by both industry and the courts to be relevant. Funding should, in fact, come from the Govt which is minimal given that the work is largely voluntary by those developing the standards.*

NZ is a member of two risk- or safety-related joint standards committees. One has about 25 members, with only three from NZ. The other has about 15 members, also with three from NZ. Thus, SNZ acquires a wider range of knowledge and experience

#### **Costs to SNZ**

The Standards and Accreditation Act 2015, section 26, permits (but does not require) the NZ Standards Executive to set a scale of fees to recover costs associated with “developing, approving, maintaining, and providing access to New Zealand Standards and other standards-related publications”.

Since SNZ was absorbed into MBIE this has been interpreted as a requirement to seek funding for all such work, including adoption of international standards related to risk and safety. In some cases it may be possible to identify a sector or group of businesses that obviously benefit from such adoption but, for many risk- or safety-related standards, the beneficiary is the whole economy.

Standards Australia provides the secretariat for both OB007 and QR005 and hosts physical and teleconferenced meetings in Australia. It now requires SNZ to pay about \$3,000 as its contribution to the costs of adopting a risk- or safety-related ISO or IEC standard.

A New Zealand company used a HAZOP study to identify design faults after commissioning a new item of plant that had cost \$3 million and was malfunctioning. The analysis should have been started at the concept design stage and did not follow guidance in IEC61882. It failed to achieve the terms of reference.

The same company was found to be using extremely brief HAZOP studies as the risk assessment that preceded a planned shutdown. A review of the results showed that many WH&S risks had been overlooked.

Managers had no knowledge of IEC61882 *Hazard and operability studies (HAZOP studies)* – Application guide

If the Standards Australia fee is not paid, an ISO or IEC standard is adopted as an Australia-only standard (eg, AS/IEC61882 *Hazard and operability studies (HAZOP studies)*) that might be of wide interest and applicability in New Zealand. The IEC version of IEC61882 costs NZ\$430 but, if it had been adopted in NZ, it might cost less than \$200, making it more accessible to SMEs and independent consultants who work with such businesses.

Despite protests to MBIE, this requirement for funding has resulted in the non-adoption of two IEC dependability standards in NZ. It is anticipated it will also affect ISO31000 (when a revised version is published in 2018) and ISO45001 *Occupational health and safety management systems* when it is published in 2018.

In NZ the Ministry of Transport and ACC have published estimates of the costs of harm (MoT, 2016; O'Dea & Wren, 2012) with MoT data updated annually. In rounded-up terms, the value of a statistical:

- life is \$5 million
- serious harm injury is \$500,000
- minor harm injury is \$20,000.

These figures are aligned with earlier work in New Zealand (Pezzullo & Crook, 2006), and values in Australia (Access Economics, 2008) and the UK (EAU, 2006). Using these values, it can be argued that adopting risk- or safety-related ISO or IEC standards looks cheap if it contributes to a few minor harms being avoided, let alone a fatality.

New Zealand has a higher rate of workplace fatalities and injuries than either Australia or the UK (MBIE, 2015; WorkSafe, 2017) and it is New Zealand government policy to reduce the number of fatalities and serious harms by 25% by 2020. The current trend is encouraging but would be helped if practitioners received support through easier access to risk- and safety-related standards.

### **Costs to committee members**

New Zealand members of OB007 and QR005 pay their own costs to attend meetings in Australia and elsewhere in the world and contribute their time without any recompense. A conservative estimate suggests the annual direct costs for each committee member are about \$3,000 for travel, etc and annual indirect costs of about \$20,000 for lost chargeable time.

## **3.5 Cost of standards**

Several people commented on the cost of standards. One respondent (possibly a consultant) commented:

*The main barrier to the use of standards in all the organisations I have worked with is cost. If you had to purchase all relevant standards it would cost a fortune. To be well utilised they need to be free. The government should fund them.*

Another respondent (possibly an in-house practitioner) commented:

*I do find that the combined cost of standards, I need many for my business, makes it prohibitive to purchase them. It doesn't really encourage new business holders to stay up to date with them if you have to pay so much for them.*

Four other respondents talked about the cost of standards.

*For a small to medium size company the cost is excessive*

*The cost of standards is prohibitive. If law references this material it should be freely available.*

*Expensive to purchase.*

*If the NZ Government gives free access to its legislation surely it should also be making standards freely accessible as well. Just as legislation works towards producing a well governed society so standards work to build better systems that produce better functioning organisations who benefit a society.*

Training and teaching organisations may try to keep up to date with standards and use them as part of their courses but even they will struggle with the costs.

*Academic institutions need affordable access to relevant standards. NZ standards can be accessed by these institutions but international standards which are relevant to NZ are often financially "out of reach". This can lead to deterioration in the understanding of the*

*importance and application of standards in the "next generation" of entrants to the NZ workforce.*

### 3.6 Availability of standards

Many safety- and risk-related international and national standards are important to the prevention of harm to workers and other people. One respondent remarked:

*WorkSafe should have these standards a) in use and b) readily available on the WorkSafe site.*

WorkSafe does provide some support to the development of international standards by appointing a few people to relevant standards committees. The joint risk management committee, OB007, has one such person, but not the joint committee dealing with dependability standards such as *hazard and operability studies*, *failure modes and effects analysis* and *root cause analysis*. This is unfortunate as WorkSafe staff will have valuable insights into the application of such standards.

Another respondent said:

*They are expensive which makes them inaccessible. We prefer the idea that the most important aspects are incorporated into work safe guidelines. This is from a generalist h & s practitioner point of view. I imagine there are specialist sectors who would benefit from access to specific standards.*

One respondent commented that the Ministry of Business Innovation and Employment does provide close support for national and international standards for the electrical industry.

*MBIE is clearly funding devt of IEC & AS/NZS standards for the electrical industry. These have wider application for the H&S professions in the area of explosive and combustible substances risk mgmt. These need to be more readily available. It is very difficult and expensive to obtain NZ Standards at present.*

### 3.7 Uptake of standards by organisations

Once published, standards need to be publicised (as noted above, in comment about the role of WorkSafe).

*They are not used enough within our industry.*

*It seems likely that many businesses may not be aware of many of these standards – instead, when they need a particular management system element, they tend to borrow someone else's rather than seek out a standard and use that. This could be due to lack of awareness about available standards, or it could be an attempt to avoid paying for standards. In either case, the result is often an inferior management system policy / process being implemented.*

*they must be appropriate and used as and when required*

And, from a consultant:

*Real-world consultancy clients typically ignorant of standards when seeking assistance, many within over-tight budgets.*

Standards may be developed for different sectors, such that:

*Some are contradictory so need to cherry-pick.*

However, standards are recognised as being valuable sources of information:

*these [standards] help when writing SOP [standard operating procedures] and of policy with out having to reinvent the wheel*

*business should be free to determine which standards are most relevant o their purpose – this is the gift of ISO.*

### 3.8 Problems with Standards New Zealand and MBIE

It is often difficult to know before buying a standard if it will help solve a problem.

*Summaries [or] abstracts of standards need to be readily available so that potential purchasers can appraise the standard and decide if it is what they want / relevant etc.*

*Nobody wants to purchase an expensive standard in the hope it meets their needs / is relevant only to find it is not useful.*

Issues with membership of Standards New Zealand committees were mentioned, as was the time to make submissions.

*The value of standards is entirely dependent on the expertise of the committee members who prepare standards. Standards NZ are interested only in representation and not competency. Whether cited in legislation or not, published standards inevitably have the effect of tertiary law via incorporation in contracts or as a prima facie benchmark in tort actions*

*Submissions on drafts time consuming & unacknowledged.*

In relation to the policy of charging for development or adoption of risk- or safety-related standards one respondent said:

*For most organisations, the absurdity of the situation that is developing will not be realised until it becomes a problem. MBIE is supposed to be there to support NZ business not oversee its weakening.*



## 4. Survey results and related information

### 4.1 Risk management standards

New Zealand has been a member of two joint standards committees for many years. In the early 1990s the joint Australia/New Zealand standards committee OB007 developed the ground-breaking standard AS/NZS4360 *Risk management*. This went through three versions (1995, 1999 and 2004) and was subsequently used to aid development of ISO31000:2009 *Risk management: principles and guidelines* (adopted as a joint standard to replace AS/NZS4360).

A company operating in a high-risk sector decided to implement ISO31000 and develop an integrated WH&S management system. They have since dramatically reduced injuries, and are winning more business

The first survey question asked if respondents used five risk-related standards frequently, sometimes or never. The results are summarised in the table and chart below.

The data shows that ISO31000 is used “frequently” or “sometimes” by 77% of respondents. This supports international surveys showing ISO31000 is one of the top selling and most widely used ISO publications; Standards New Zealand also sells many copies. A revised version is being developed and is likely to sell well in New Zealand as well as internationally when it is published.

IEC/ISO31010 sets out risk assessment techniques for use in the risk management process described in ISO31000. It is under revision and may be published in 2018. SA/NZS HB89:2013 was developed as a joint handbook, due to some issues in IEC/ISO31010 as originally published.

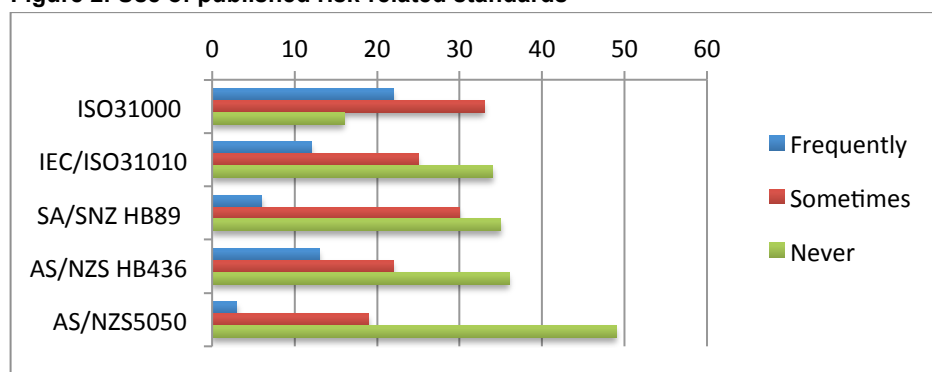
HB436 provides considerable guidance on the application of ISO31000 but will need revision when ISO31000: 2018 is published. AS/NZS5050:2010 *Business continuity - Managing disruption-related risk* is under review as a joint standards project.

Under the current MBIE policy, it is likely that none of these standards will be funded for adoption or revision.

**Table 4. Use of published risk-related standards**

Standard or Handbook	I use the following published standards:		
	Frequently	Sometimes	Never
ISO31000 Risk management: principles and guidelines	22 (31%)	33 (46%)	16 (23%)
IEC/ISO31010 Risk assessment techniques	12 (17%)	25 (35%)	34 (48%)
SA/NZS HB89 Risk assessment techniques	6 (8%)	30 (42%)	35 (49%)
SA/SNZ HB436 Risk Management Guidelines: a companion to AS/SNZ ISO 31000:2009	13 (18%)	22 (31%)	36 (51%)
AS/NZS5050 Managing disruption-related risk	3 (4%)	19 (27%)	49 (69%)

**Figure 2. Use of published risk-related standards**



## 4.2 Safety-related standards

The second question asked about use of safety-related standards.

AS/NZS4801: 2001 *Occupational Health and Safety Management Systems* is used by 77% of respondents but is now out of date and needs revision. Parts of the standard were used in the ACC workplace safety management practices programme (now withdrawn). It is likely that Standards Australia will withdraw the standard after publication of ISO 45001 (discussed later) leaving AS/NZS4801 as an “orphan” in NZ with no support and no funding for its revision. OHSAS 18001 *Occupational Health and Safety Management Systems* is used by 42% of respondents and will also be withdrawn after publication of ISO 45001.

AS/NZS ISO9001 *Quality management systems* is widely used by 77% of respondents as part of management systems.

AS/NZS2865: 2001 gives guidance on *Safe working in a confined space*, a high-risk area in many industries. It may be due for review.

After the Canterbury, Seddon and Kaikoura earthquakes, WH&S should now include seismic restraints of building contents, as described by NZS4104: 1994 *Seismic Restraint of Building Contents*. We have strong evidence that ignorance of the standard contributed to much damage to workplaces and their contents in the 2016 Kaikoura earthquake. As written, the standard is also relevant to residential building contents. This standard also needs to be updated as it is 23 years old (Fitzgerald, 2012).

AS/NZS 4024 is derived from an international standard ISO/TR 14121-2:2012 and gives guidance on *Safeguarding of machinery*.

A joint Australia/New Zealand standard, AS/NZS 4581:1999 *Management system integration* shows how quality, environmental and health & safety management systems could be integrated. Integrated management systems have been found to be cost effective and avoid document duplication (Pojasek, 2006; Zutshi & Sohal, 2005). However, the standard is nearly 20 years old and lacks an obvious funder.

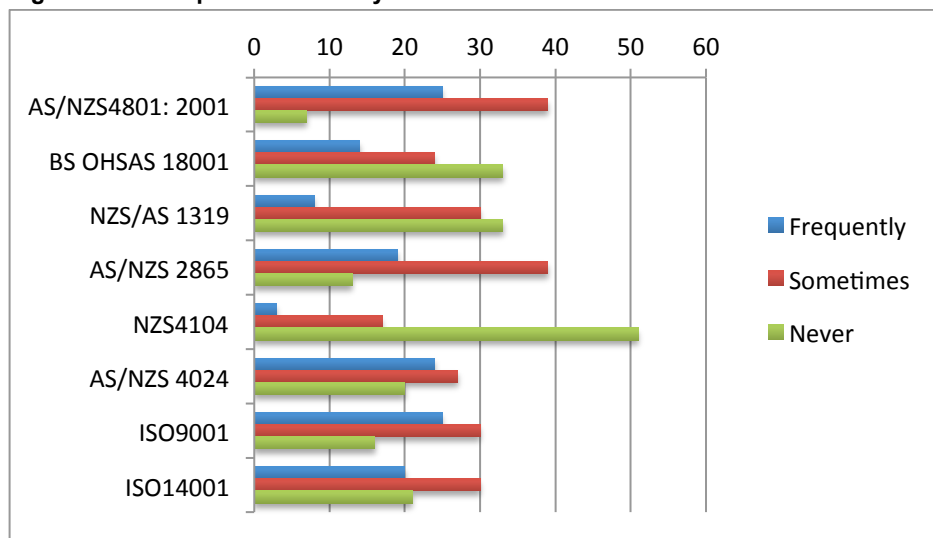
These standards provide benefits across the whole NZ economy and starkly pose the question: who should fund them, those who sell such hardware or those who benefit from it?

Under the current MBIE policy, it is likely that none of these standards will be funded for adoption or revision.

**Table 5. Use of published safety-related standards**

Standard	I use the following published standards:		
	Frequently	Sometimes	Never
AS/NZS4801 <i>Occupational Health and Safety Management Systems</i>	22 (31%)	33 (46%)	16 (23%)
BS OHSAS 18001 <i>Occupational Health and Safety Management Systems</i>	12 (17%)	25 (35%)	34 (48%)
NZS/AS 1319 <i>Safety signs for the occupational environment</i>	6 (8%)	30 (42%)	35 (49%)
AS/NZS 2865 <i>Safe working in a confined space</i>	13 (18%)	22 (31%)	36 (51%)
NZS4104 <i>Seismic Restraint of Building Contents</i>	3 (4%)	19 (27%)	49 (69%)
AS/NZS 4024 <i>Safeguarding of machinery</i>	24 (34%)	27 (38%)	20 (28%)
AS/NZS ISO9001 <i>Quality management systems</i>	25 (35%)	30 (42%)	21 (30%)



**Figure 3. Use of published safety-related standards**

### 4.3 Standards used with or supporting other standards

A range of standards support or affect other standards, although only two were offered in the survey.

AS/NZS ISO19011:2014 provides *Guidelines for Quality and/or Environmental Management Systems Auditing* and is used by those who audit occupational health and safety management systems.

AS/ISO19600 *Compliance management systems* was not adopted in New Zealand. The low use of AS/ISO19600 is notable given the weight of legislation that businesses must comply with. The low response may indicate that those who do use the standard were not aware of the survey. Standards Australia has withdrawn support for the earlier AS/NZS 3801 *Compliance Programmes* and there is no funding for its review or revision in NZ.

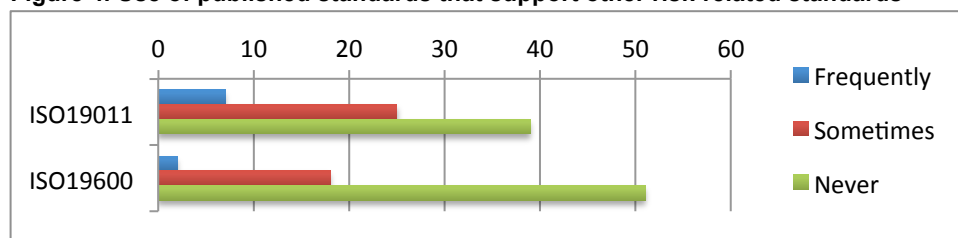
ISO19600 provides benefits across the whole NZ economy and poses the question of its funding: those who require compliance or those who benefit from it? Related questions arise from another draft standard ISO37001 *Anti-bribery management systems*. NZ is rated the least corrupt country (Transparency International, 2017) but organisations must be able to access such guidance if the country is to maintain that position.

Under the current MBIE policy, it is likely that none of these standards will be funded for adoption or revision.

**Table 6. Use of published standards that support other risk-related standards**

Standard	I use the following published standards		
	Frequently	Sometimes	Never
ISO19011	7 (10%)	25 (35%)	39 (55%)
AS/ISO19600	2 (3%)	18 (25%)	51 (72%)

**Figure 4. Use of published standards that support other risk-related standards**



#### 4.4 Fire safety-related standards

NZS 4541 *Automatic Sprinkler Systems* is of considerable importance to those who design, install, certify or test such systems. Sprinkler systems have been much discussed in relation to high-rise apartment buildings since the Grenfell Tower disaster in the UK. NZS4541 needs review and revision in light of technology changes (see the [blog article](#) by Peter Hughes).

NZS 4503 *Hand Operated Fire Fighting Equipment* is more widely used by practitioners and others who seek to self-regulate use of such equipment.

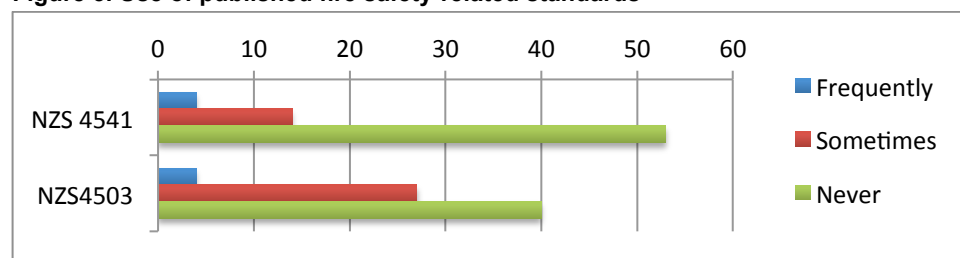
Review and revision of such standards is funded by an industry levy but provide life safety benefits across the whole of NZ society, not just workplaces, and pose the question: who should fund them, those who sell such hardware or those who benefit from it?

Under the current MBIE policy, it is likely that neither of these standards will be funded for revision.

**Table 7. Use of published fire safety-related standards**

Standard	I use the following published standards		
	Frequently	Sometimes	Never
NZS 4541	4 (6%)	14 (20%)	53 (75%)
NZS 4503	4 (6%)	27 (38%)	40 (56%)

**Figure 5. Use of published fire safety-related standards**



#### 4.5 Importance of draft or approved international standards

This question asked about the importance to respondents of four international standards that were either in draft or that had not been adopted in New Zealand.

ISO45001 was rated as very important (59%) or somewhat important (28%) by respondents – a total of 87%. As noted earlier, when ISO45001 is approved and published, other international or joint standards (including AS/NZS4801) used in New Zealand will be withdrawn, leaving only whatever guidance WorkSafe or the Accident Compensation Corporation (ACC) publishes on WH&S management systems. Development of such guidance will require public funding.

Such guidance may be auditable for WorkSafe or ACC purposes but may not be recognised internationally by trading partners or foreign companies with subsidiaries in New Zealand. This will leave New Zealand to fund its own revision of AS/NZS4801 at an estimated cost of \$70,000. Alternatively, ISO45001 could be adopted by Standards New Zealand but (under current rules) the work still requires a funder. The ISO version will be available and may cost about \$400 whereas an adopted version might be less than half that cost.

*Surely with the loss of ACC's WSMP program the need for ISO45001 would be a priority for the whole of NZ.*

In 2010 New Zealand became a member of another joint Australia/New Zealand standards committee, QR005 Dependability, which has since contributed to the development and revision of IEC standards. These aid the management of risk and safety through analysis of risk in the design, construction, commissioning, use, maintenance and decommissioning of "equipment" in the widest sense and (in common with ISO standards) also act to eliminate international non-tariff barriers to trade. They therefore underpin subpart 2 of the Health and Safety at Work Act 2015.

AS/IEC61882 *Hazard and operability studies* and AS/IEC 60812 *Procedure for failure modes and effects analysis* have not been adopted in New Zealand, due to lack of funding, but are seen as very important or somewhat important (64% and 58% respectively), probably by practitioners who carry out specialist risk assessments.

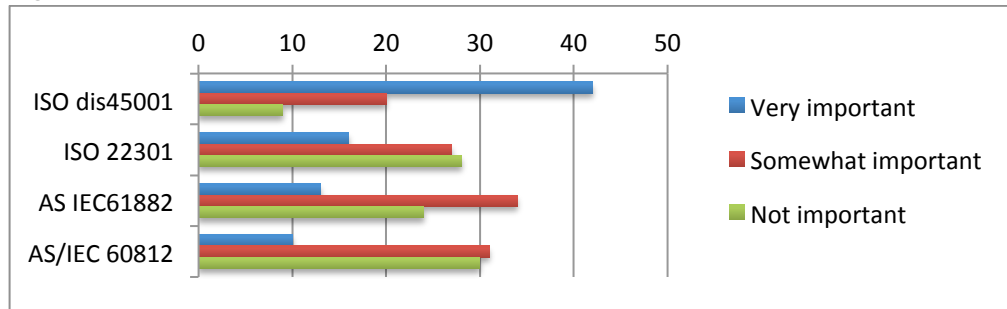
ISO 22301 gives requirements for *Business continuity management systems* and is widely used in New Zealand although it has not been adopted here. It is known that approximately 35-40 government departments have based their business continuity plans on this standard<sup>2</sup>. The government could be embarrassed if such plans were found to be less than adequate following a natural disaster.

Under the current MBIE policy, it is likely that none of these standards will be funded for adoption or revision.

**Table 8. Importance of draft international standards (ISO or IEC) to respondents**

Standard	The importance of the following draft standards is:		
	Very important	Somewhat important	Not important
ISO 45001 <i>Occupational health and safety management systems</i>	42 (59%)	20 (28%)	9 (13%)
ISO 22301 <i>Societal security – business continuity management systems</i>	16 (23%)	27 (38%)	28 (39%)
AS/IEC 61882 <i>Hazard and operability studies</i>	13 (18%)	34 (48%)	24 (34%)
AS/IEC 60812 <i>Procedure for failure modes and effects analysis</i>	10 (14%)	31 (44%)	30 (42%)

<sup>2</sup> Personal communication from David Thompson, 17 August 2017.

**Figure 6. Importance of draft international standards (ISO or IEC) to respondents**

### Other standards mentioned by respondents

Respondents were also asked to name any other standards they considered important; these are listed below.

- AS/NZS 4745
- AS/NZS 2865
- AS/NZS 3000
- AS/NZS 3000 Electrical Installations
- AS/NZS IEC 62740:2015
- AS/NZS 1418
- AS/NZS 1296
- AS/NZS 1296
- ISO21101 Handbook
- AS/NZS 2865
- AS/NZS 300
- PPE eg safety glasses, hard hats, respirators etc; Fall arrest



## 5. References used in this report

Two blogs are published on the Risk Management Ltd website and raise further concerns about the funding of risk- and safety-related standards.

[\*Bricks, Screws, and Management Standards\*](#) by Chris Peace.

[\*Building Standards, risk and life safety in New Zealand\*](#) by Peter Hughes.

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