

# Supply chain risk

**CHRIS PEACE** outlines the risks posed by inadequately managed supply chains.



For many New Zealand organisations, risks associated with their supply chains may be unrecognised or inadequately analysed and evaluated, resulting in the risks being poorly understood. Also, the nature and scale of supply chain risks may not have been communicated to stakeholders, resulting in surprises – possibly ugly surprises – if the risks eventuate.

To cite O'Keefe (2004): *"Supply chain management incorporates a wide range of very significant and inherent risks and opportunities. These risks and opportunities apply to activities within the company's organization as well as outside the organization at suppliers, at the suppliers' suppliers, and outward at the organisation's customers and customers' customers. In other words, these risks and opportunities can affect the entire chain. For most organizations, it is clear that supply chain management processes can greatly influence the organization's performance and the predictability of that performance."*

Many organisations have failed to apply the joint standard, AS/NZS 4360 Risk Management (SNZ, 2004). While it does not provide answers, the standard does help an open-minded organisation identify the risks it is exposed to.

Thinking about the standard definition of risk (see box) helps identify just what could impact on organisational objectives;

sometimes, it shows that objectives have not been thought about or are incomplete.

## What risk from supply chains?

Many organisations (but by no means the majority) have objectives which may include matters such as quality, price, service and OHS.

In relation to OHS, objectives often specify the absence of harm or future targets for harm reduction. Increasingly, sub-objectives may specify how the absence of harm to employees is to be achieved (training, house-keeping, maintenance, etc).

But how often is harm to employees of first-order suppliers and others along the supply chain considered? Or harm to employees of a supplier several stages along the chain considered (Tiemann, 2007)? The exposure can reach extraordinary proportions in industries such as offshore platforms in the North Sea, where 80% of work is done by contractors (Walker, 2005).

Just-in-time delivery systems aid efficient operation of organisations but increase vulnerability when something goes wrong. That "something" can include events or circumstances involving employees or contractors of suppliers. This might make a New Zealand organisation vulnerable to allegations that it has contracted out unsafe working conditions.

How many organisations considered their energy and financial supply chains before the problems of 2008? We saw oil (and thus petrol) triple in price due to events beyond our control. And credit became very difficult for businesses, again for reasons beyond their control.

## OHS in the supply chain

The reduction in OHS standards in Australia and internationally was reviewed by Nossar, Johnstone, & Quinlan (2003) and Quinlan (2003), who found that regulatory agencies had difficulties finding those at risk and then enforcing the required standards. The Australian solutions they describe work within a country but may not work across international boundaries.

Research on occupational health in supply chains for the UK Health and Safety Executive by Benjamin & White (2006) found that contractors were a major part of the supply chain but that latency of symptoms and the lack of resources in SMEs made it difficult to identify the causes of ill health.

Research in the USA by Enslow (2008) found that pricing of energy, food and commodities, along with the credit crunch, were driving supply chain risks to higher levels. Put another way, we are all used to buying commodities cheaply but now find them becoming more expensive, leading to the question "How can buyers in the supply chain reduce costs?"

Some manufacturers may be tempted to look for cheaper, offshore locations. The events in Thailand (political risk) and China (reputational risk) in 2008 suggest this may not be prudent in the medium or long term. Ritchie & Brindley (2000) commented that going offshore – or being there already – and managing supply chain risks may

become more difficult as suppliers (and their suppliers) become smaller, more fragmented and transient.

## Changes and opportunities

By going beyond conventional regulation, the EU REACH legislation has had global repercussions and is already influencing how we regulate and manage hazardous substances. Farber (2008) noted that the EU requirements were changing how Chinese manufacturers of toxic substances manufacture, label and provide information about their exports. How many health and safety practitioners have recognised those changes and made necessary changes in their parts of the supply chain?

Weil & Mallo (2007) found that leveraging along supply chains by regulators could help improve OHS standards. In 2008 we proposed to the Department of Labour (Peace, Cosman, & Brassington, 2008) that new OHS regulatory interventions should include such an approach. We considered how a major retailer might take account of the supply chain pressures it puts on its suppliers, right back to farmers – as discussed in Michaelis and McGuire (2006). It will be interesting to see if this approach is adopted.

## Options for action

What action might a health and safety practitioner take that could help manage supply chain risks? The following are a few thoughts.

- Buy, read and understand AS/NZS 4360 and (when published later this year) ISO 31000 Risk Management – Principles and guidelines on implementation.
- Ensure that all risks and their impacts have been considered in a full risk assessment on all aspects of the supply chain.

## DEFINITION: RISK

### AS/NZS 4360 Risk Management definition of risk

Risk is the chance of something happening that will have an impact upon objectives.

A risk is often specified in terms of an event or circumstances and the consequences that may flow from it. Risk is measured in terms of a combination of the consequences of an event and their likelihood. Risk may have a positive or negative impact.

See ISO/IEC Guide 51 for risk issues related to safety



Keep the assessment up to date, especially if the context changes.

- Monitor the supply chain for indications of stress in your suppliers and for changes in the context of their operations. Think what indicators may be needed to help do this.

#### Five years from now

The world economy changed in 2008. Where will it be in 2014? Remembering that risk is the *chance* of something happening, try to anticipate what may happen in five years. (For example, we are developing a risk assessment "When oil reaches US\$500 a barrel in five years" to help explore one facet of the risk environment; such a change would be catastrophic for many organisations). ■

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