

Don't ignore infrastructure crisis warnings

Tony Jaques says that the 2017 fuel crisis in Auckland is a textbook case study of yet another problem consigned to the too-hard basket, arguing that important warning signs had been ignored by a number of organisations, including government



There is no question that the best crisis management is taking planned steps to prevent a crisis from happening in the first place. But that important principle sometimes seems to take a back seat when it

comes to a crisis risk that involves costly, vulnerable infrastructure.

Take the predictable and avoidable crisis that struck New Zealand's largest city in late 2017. A ruptured pipeline carrying fuel to Auckland airport led to almost two weeks of cancelled and disrupted flights and critical questions about the vulnerability of the country's busiest airport and main international gateway.

The crisis began on September 14, 2017, when a break was detected in the privately-owned 170 kilometre pipeline, which conveys 400,000 litres of jet fuel, diesel and petrol per hour from the Marsden Point Refinery to Auckland.

Up to 80,000 litres of jet fuel spilled out onto a small farm at Ruakaka, just a few kilometres from the refinery, before engineers turned off the tap. The spill was much less than it could have been, and was largely contained in a drainage culvert. However, the ten-inch pipeline is the sole fixed supply connecting the refinery to Auckland city and its busy airport, which handles more than 18 million passengers a year.

With limited storage capacity available, the impact was sudden and dramatic. Airlines operating out of Auckland were immediately

put on severe rationing, resulting in scores of cancelled or delayed flights and disruption to thousands of passengers. Some incoming long haul flights were diverted to Australia or Fiji to load fuel before arriving, while a few large international aircraft flew empty to other New Zealand cities to find fuel. Australia's national carrier Qantas even flew two 'fuel mule' jets across the Tasman to top up its smaller aircraft used on domestic routes in New Zealand.

In response to the crisis, road tankers were drafted in from around the region to deliver fuel to the airport and Auckland's 1.4 million residents, and the Royal New Zealand Navy's supply tanker *Endeavour* was enlisted to move bulk fuel around the coast.

As with most crises, there was an outbreak of finger pointing

The effort to sustain supply was remarkable, but by the time the crisis finally eased almost two weeks later, 150 flights out of Auckland airport had been cancelled, and travel was badly disrupted for tens of thousands of domestic and international passengers. Added to this were the damage to New Zealand's airfreight exports and its reputation as a tourist destination.

While the crisis itself was relatively short-lived, the implications for the security of critical national infrastructure were wide reaching. As with most crises, there was an outbreak of finger pointing, and central to the blame-storm was the revelation that the Government had been warned about the problem at least 12 years earlier.

A report commissioned by the Government in 2005 identified the impact of a major outage. It warned that if the pipeline were unavailable for a significant period (more than one week) companies would have difficulty maintaining petrol and diesel supplies, and maintaining full jet fuel supply to Auckland airport: "Was likely to be infeasible." A second report in 2012, calculated that longer-term disruption to the Auckland airport fuel supply could cost up to \$NZ500 million (€290 million, \$US345 million) in lost exports and tourism.

While duplicating the pipeline has been estimated at around \$NZ300 million (€175 million, \$US205 million) it was suggested in 2012 that a new fuel terminal to increase local storage capacity could be achieved for about \$NZ57 million (€33 million, \$US40 million).

Yet the politicians of the day decided not to proceed with either option, perhaps encouraged by the report saying the probability of a short-term disruption to the pipeline was only 0.5 to one per cent per year, or once every 100-200 years.

Extraordinarily, the Government admitted in September 2017 that, just as the pipeline was failing, officials were: "Taking a fresh look," at the vulnerability of the fuel link, and yet another draft report was already out for review by industry. A spokesperson for the Ministry of Business,

Innovation and Employment (MBIE) conceded: "We will now need to reflect on the current event before considering the next step for the 2017 report."

It was inevitable that the crisis would quickly become a political football. Opposition Leader Jacinda Adern accused the Government of failing to secure fuel supply to the airport and taking a short sighted approach to the earlier warnings (though it was her party in Government that had received the 2005 warning).

For its part, the Government said: "A contingency for this type of incident," had been looked into but was not economically viable. Prime Minister Bill English said: "There have been a couple of studies done that



looked at different alternatives for backing up the current infrastructure, and the decisions were made that the investment that would be required to double up would be too much to be passed on to consumers.”

The Government promptly established a joint government-industry task force to restore fuel to the airport. However Mr English won't have to face the more fundamental question of infrastructure vulnerability. The crisis occurred just weeks before a General Election, and his party lost power, handing the problem to incoming Prime Minister Adern.

Apart from the airlines and Auckland airport itself – which understandably wanted to avoid any blame for the crisis – the other key player was Refining New Zealand, owner of the country's only refinery and the pipeline to Auckland.

The company – which estimated its costs at about \$NZ10 million (€5.8 million, \$US6.8 million) in lost revenue and repairs – attempted to position itself as a victim of the crisis. Within days, CEO Sjoerd Post said there was “clear evidence” the pipeline had been struck, with digger marks visible at the location of the 20-centimetre tear in the pipe. “It is very clear and independently confirmed by the Lloyds verifier that a digger has dented and scraped over the pipe with significant force,” Post noted. Remarkably though, this damage appeared to have occurred up to three years earlier.

At the same time, the company agreed it had raised pressure in the pipeline to increase flow volume just weeks before it burst, and conceded this was done without a fresh internal check on the line's internal integrity. It confidently asserted there was no evidence of a causal link between the volume increase and the failure, but decided to reduce pressure temporarily as a precaution.

As part of its communication strategy, the company also released graphic photographs of the damaged pipeline, and commissioned an external asset integrity expert to carry out an investigation. None of this addressed the underlying crisis risk of a recognised infrastructure vulnerability being effectively ignored.

Crisis managers everywhere will recognise the predictably unhelpful response by the MBIE – that as a country with a small population, there was a balance to be struck between having: “Extremely high levels of resilience in infrastructure,” and the costs this imposes on consumers. The Ministry spokesperson said: “We appreciate the inconvenience being caused by the pipeline outage. However, given the costs of additional infrastructure that would very rarely be used, operational responses, such as managing airline refuelling at other airports and trucking in petrol and diesel, remain the best way to minimise any disruption.”

Bureaucratic response

It was a classic bureaucratic response and no comfort to the thousands of individuals and businesses affected. Equally unhelpful was the over-confident declaration by then-Deputy Prime Minister Paula Bennett: “I think people will see this as a very rare occurrence. It hasn't happened for 30 years and we don't expect it to happen again.”

Potential crises demand acknowledgement rather than denial, and effective preventive action. The Auckland airport fuel crisis is a textbook case study of yet another problem consigned to the too-hard basket.

And don't be misled by a calculated risk of ‘once in a hundred years’. For any given crisis risk, that once just might be this year.

The Marsden Point Refinery

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