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Disaster Waste Law

An analysis of the implications of existing legislation on disaster waste management in New Zealand

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Abstract

In the recovery following a disaster, disaster waste managers are restricted by existing legislation. In many cases, emergency legislation is available to waive peace-time¹ requirements to reduce threats to life, property and the environment. But disaster waste management sits in a grey area between an immediate hazard and a longer term threat to the economic, social and environmental recovery of a disaster struck area. Emergency laws are not often written with disaster recovery in mind.

Legal waivers were used effectively and ineffectively during the waste management processes following both Hurricane Katrina, 2005 and the Victorian Bushfires, 2009. In both these examples it was clear that the main driver behind use of the legal waivers was to expedite the clean-up process.

New Zealand law applicable to disaster waste is complex with a plethora of legislations and regulatory authorities associated with it. In general, current laws have adequate provisions to cope with the likely needs of disaster waste management, however, the complexity of responsibilities, stakeholders and unclear statutory precedence may result in slow or ineffectual decision-making. One potential bottle neck identified is the restrictions on transportation of hazardous goods by road and by sea. Complex licencing and permitting structures may be extremely restrictive.

The consultative, effects based nature of the Resource Management Act in New Zealand is also a potential hurdle to long-term disaster waste management. While there are effective emergency mechanisms to commence activities quickly, medium to long-term continuation of activities will be dependent on resource consent approval. The uncertainties associated with consent approvals may dis-empower the decision-maker. A pre-established, regulatory approved, assessment process which balances social restoration

¹ The term 'peace-time' is used in this paper to define time outside an emergency / disaster period when standard laws are in place.

and environmental protection would be a useful tool to support the decision maker.

In general, disaster waste management laws needs to: allow for flexibility for adaptation to any situation; be bounded enough to provide support and confidence in outcomes for decision-makers; be effectively communicated with the public both pre and post disaster; and provide stream-lining of waste management organisational structures including decision-making authority.

1 Introduction

Emergency laws often form part of a national or regional legal framework to enable communities to respond efficiently and effectively to emergency situations. Emergency legislation is utilised to stream-line existing regulatory processes and roles and responsibilities to save lives, protect property and the environment by facilitating a quick and coordinated response to an emergency situation.

The mobilisation of emergency laws in emergency response situations where there is an *immediate* threat to lives, property or the environment is largely unquestionable. However, the role of emergency provisions during recovery operations from large scale disasters, after the immediate hazards have been dealt with, is less clear.

Disaster waste management, for example, is likely to be included in this latter category. Once immediate threats from acutely hazardous waste, unsafe structures, blocked access ways and decaying wastes have been removed, the threat to a community from disaster waste becomes less apparent and less urgent. However, left unmanaged or managed too slowly, disaster waste can become a chronic problem with significant social, economic and environmental impacts. Whether or not existing emergency legislation can be applied to a disaster waste management programme and how effective it would be is a question worth considering before a potential event. Therefore, the focus of this paper is on legal pathways on managing the chronic threats posed disaster waste post emergency, although discussion of disaster waste as part of emergency response is also provided.

The following paper begins by looking at waste management following two international disaster events – Hurricane Katrina, 2005, and the Victorian Bushfires, 2009 – and how legal provisions were used effectively, ineffectively or not at all for post disaster waste management.

The paper then outlines the various pieces of New Zealand legislation that may be required in the governance of disaster waste, what emergency legislation is available and how it may be applied

The paper concludes with a discussion of the effectiveness of New Zealand law and recommendations on how legal provisions may be improved to help facilitate disaster waste management and consequently recovery following a disaster.

2 International examples

2.1 Hurricane Katrina

2.1.1 Background

On 29 August 2005 the states of Louisiana, Mississippi and Alabama, US, were hit by a Category 4 storm called Hurricane Katrina. The hurricane itself caused widespread property damage. In addition, heavy rain caused a flood levee breach in New Orleans that sent tonnes of water and toxic sediment (from historic petro-chemical industrial activity) down into parts of New Orleans. In total 76 million cubic metres of debris was generated at a projected clean-up cost in excess of US\$4.2 billion. The waste from the disaster contributed to a number of environmental and public health issues.

The law played a critical role in the post-disaster waste management process. Hurricane Katrina gives examples where legal waivers were used effectively, used controversially and where emergency waivers were not available when needed.

2.1.2 Basic legal and organisational framework

The majority of the debris management activities in the US are carried out in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act (The Stafford Act, 42 U.S.C s 5121-5206) and the National Response Plan (NRP). The Stafford Act allows for emergency declarations to be made by the President which in turn authorises federal agencies to respond to the disaster.

The NRP is administered by the Department of Homeland Securities (DHS) and under the plan the DHS has the mandate to declare Incidents of National Significance (INS). Under the NRP there are 15 clearly defined Emergency Support Functions (ESFs) which will assist in the response to an INS. The ESFs outline organisational structures including groups, capabilities, roles and responsibilities for each of the functions. The functions relating to debris management following Hurricane Katrina were:

- ESF #3 “Public Works and Engineering”
- ESF #10 “Oil and Hazardous Materials Response”

The Federal Emergency Management Authority (FEMA) is the coordinating and funding body for all emergency and recovery operations. The US Army Corps coordinates all debris removal, treatment and disposal works (under ESF #3) unless the State elects to manage its own debris clearance. The US Environmental Protection Agency (USEPA) is primarily responsible for locating and approving disposal sites and contaminated debris management practices (under ESF #10) to be used by the Corps or state appointed debris managers. State and local governments provide right of entry permits for private property.

The applicable legal frameworks for ‘peace-time’ and disaster waste management are largely at state and local level. In Mississippi and Louisiana, the state Departments of Environmental Quality (LDEQ and MDEQ) issued an

Emergency Order² and Declaration of Emergency and Administrative Order³ respectively. Both documents (and subsequent revisions) outlined measures to be taken in order to prevent irreparable damage to the environment and serious threats to life or safety, including works pertaining to:

- Wastewater Treatment Systems
- Solid Waste Management
- Open Burning
- Air Pollution
- Asbestos clean-up
- Hazardous waste management

The measures included relaxation in permitting and quality assurance requirements, authority to make disaster damage repairs on solid waste management facilities without prior permitting and general waste management strategies (including waste disposal sites and waste acceptance criteria, waste separation, burning restrictions, carcass disposal, hazardous waste storage).

The emergency orders were the main legal framework guiding the waste management process in both states and were updated and revised over the course of the recovery works.

2.1.3 Demolition

Absent residents following Hurricane Katrina slowed and/or prevented the demolition of many properties and subsequent removal of waste and debris. More than 2 years after the storm the flooded parishes of Orleans and St Bernard were only back to 70% and 41% of their respective pre-Katrina population levels⁴.

According to a Report to Congress on the debris removal process⁵, existing legislation prevented FEMA and the US Army Corps from expeditiously mandating house demolition. Neither organisation had the authority to demolish homes or remove debris from private property without following a multi-step process involving the home-owner and including decommissioning and condemnation. With the absence of many home-owners, this restricted demolition and debris removal works. In addition, it was speculated that even with residents' approval the complex process would have been too resource intensive for already stretched local governments to be implemented efficiently.

The demolition process (and associated debris removal works) was a balance between eliminating immediate public health and safety risks and respecting property owners rights in their absence. Mandating demolition of private property without consent, for reasons other than an acute risk to public health

² In accordance with Miss. Code Ann. s33-15-11(Supp. 2004) and Miss. Code Ann. s49-2-13 and 49-17-17 (Rev. 2003).

³ In accordance with Louisiana Revised Statutes 30:2001 et seq., and La. R.S. 30.2033 and 2011(D)(6).

⁴ Luther, L. (2008), Disaster Debris Removal After Hurricane Katrina: Status and Associated Issues, Congressional Research Service

⁵ Ibid

and safety, was not considered due to the likely significant social and political opposition. It was believed that many absent residents may opt to repair rather than replace their homes even if there was significant damage⁶.

Here, restrictive and complicated demolition regulations were a limiting factor in the debris removal process. It would be controversial to mandate house demolition without owner consent, however, the post-disaster demolition process could be streamlined to aid the efficiency of the debris removal process and subsequently the community recovery and rebuild.

2.1.4 Waste Handling and Transportation

Waste handling and transportation are major components of any clean-up operation. Following Hurricane Katrina, asbestos handling and the strict legal requirements for waste separation both contributed to a slow clean-up process.

The presence of large quantities of asbestos in damaged properties hindered the demolition and waste management process. Asbestos is a difficult and time consuming material to handle due to its high risk to public health and the resource intensive monitoring, operational and documentation requirements for handling it. While these controls are designed to protect the public and asbestos handlers, in a disaster situation they are in conflict with the primary objective in most disaster situations which is to clean-up as quickly as possible.

The USEPA identified standard asbestos handling and disposal procedures as a contributing factor to the slow debris removal process. In response to this the USEPA moved to reduce the handling requirements: “[US]EPA...is providing debris management guidance to ensure minimization of exposures while expediting cleanup.”⁷. In Louisiana, the USEPA granted ‘No Action Assurance’ letters⁸ which allowed a relaxation in some standard (NESHAP [National Emission Standards for Hazardous Air Pollutants] regulations) asbestos demolition and disposal procedures⁹. LDEQ were also granted delegated authority to use their own Louisiana Emission Standards for Hazardous Air Pollutants (LESHAP) in place of NESHAP.

The NESHAP/LESHAP requirements regulate handling, monitoring and reporting requirements for any asbestos containing structure. The No Action Assurance letters relaxed these requirements to expedite clean-up. NESHAP notification, handling, transport and disposal requirements still applied, however, reporting, monitoring and inspection requirements were waived for all structures demolished or condemned as a result of the disaster. The requirement for asbestos removal prior to demolition was also waived for

⁶ Luther, *supra* note 4

⁷ Luther, *supra* note 4

⁸ LDEQ (2006) Comprehensive Plan for Disaster Clean-up and Debris Management. Department of Environmental Quality (Ed.). Louisiana.

⁹ LDEQ (2007) Louisiana Katrina/Rita NESHAP Matrix

these buildings provided emission control measures were implemented (including wetting, restricting public access and air monitoring)¹⁰.

LDEQ estimated that the relaxation in management requirements reduced the demolition time for homes by 2 to 3 days. The provisions also allowed EPA and LDEQ to meet regularly and carry out more programme oversight work to identify key areas of concern¹¹. However, the relaxed regulations potentially increased level of health and safety risk (above peace-time standards). To date the authors have not cited any reports on the adverse health effects from reduction in the asbestos handling guidelines resulting from Hurricane Katrina. It is questionable where the liability for this action would lie should there be any adverse health affects attributed to the clean-up in the future.

Waste separation (e.g metals, concrete, vegetative debris) was required by local authorities to divert waste from landfill and to comply with existing federal and state laws¹². The Corps required the following segregation in order to fulfil both these objectives:

- White goods
- Metals
- Vegetative debris
- Electronic wastes
- Household hazardous waste
- C&D waste with asbestos
- Tyres

Private property owners were typically responsible for segregating the debris for kerbside collection, however, the mixed nature of the debris and the absent residents discussed in Section 2.1.2 meant separation and waste collection was very slow. In some cases in the flooded areas of New Orleans the Corps had to enter properties to assist residents to separate materials as much as possible before removal, however, this also required right of entry permission when residents were not always present.

Waste separation requirements also had to be met to be eligible for federal disaster assistance funding. Some returning residents commingled household garbage with demolition debris rendering the waste piles ineligible for collection, under FEMA regulations, by the Corps or State appointed waste contractor¹³. These piles in turn put extra strain on municipal waste collection teams who did not necessarily have the capacity or equipment to deal with significant amounts of additional waste.

Some flexibility in the waste separation regulations may have assisted the speed of clean-up process.

¹⁰ LDEQ (2006) Sixth Amended Declaration of Emergency and Administrative Order. IN State of Louisiana Department of Environmental Quality (Ed.).

¹¹ GAO (2008), Hurricane Katrina: Continuing Debris Removal and Disposal Issues, Hurricane Katrina Debris, Stephenson, J. B., United States Government Accountability Office, Washington, DC 20548.

¹² The Resource Conservation and Recovery Act (RCRA) requires States to regulate solid and hazardous waste in accordance with the provisions in the Act.

¹³ Luther, supra note 4.

Here, in the same event, we see an example where legal flexibility was allowed for asbestos management to speed up the clean-up and an example where no flexibility was allowed for waste separation and collection. The first example effectively sped-up the clean-up (with minor increase of health and safety risk) and the latter example significantly slowed the waste collection and clean-up process.

2.1.5 Treatment and Disposal

Following Hurricane Katrina, the State of Louisiana ran out of Municipal Solid Waste Landfill sites to take mixed debris (including asbestos). The LDEQ under the second amendment to the Declaration of Emergency and Administrative Order¹⁴ declared that the State's Construction and Demolition (C&D) landfills (unlined, as permitted by law) could expand their waste acceptance criteria. There was significant public concern over the potential for hazardous material inclusion in the debris due to the speed of the clean-up process. These concerns were particularly evident in landfills which had not been operating prior to the hurricane¹⁵.

The Louisiana Environmental Action Network (LEAN) filed two lawsuits to close down two C&D landfills. The first landfill (Gentilly landfill) had been permitted as a C&D landfill prior to the Hurricane but did not begin accepting waste until after the storm. The lawsuit resulted in an out of court settlement which limited the C&D shipments to the landfill to 19,000 cubic yards per day. The other site, Chef Menteur Landfill, was commissioned following Hurricane Katrina through an emergency authority by New Orleans' Major Ray Nagin. The lawsuit resulted in the site being voluntarily closed by Nagin one month later¹⁶. It is unclear whether or not there would have been opposition to the landfills if the C&D waste acceptance criteria had not been altered or whether it was a case of NIMBY (not in my backyard) for concerned neighbours of the 'new' landfills. Either way, the relaxation of the waste acceptance criteria was a leverage point for the complainants.

As LDEQ and FEMA found out first hand, environmental legislation relaxation in a disaster clean-up situation is not always acceptable in communities and can result in a costly law suit. Despite the legally acceptable waiver / emergency order (to expand the waste acceptance criteria in the C&D landfills) the USEPA determined that there was no way to protect FEMA or any other federal agencies involved in the clean-up against future liability at the landfills (resulting from adverse environmental effects)¹⁷.

This example shows that despite their availability, legal waivers are not always straight forward to utilise in a disaster recovery situation. Whether the

¹⁴ LDEQ (2005) Second Amended Declaration of Emergency and Administrative Order. State of Louisiana Department of Environmental Quality (Ed.).

¹⁵ Luther, supra note 4.

¹⁶ Luther, supra note 4.

¹⁷ Luther, supra note 4.

environmental risk was real or perceived, community acceptance of a legal waiver can be crucial to its effectiveness.

The other aspect of this example is the risk of liability. In an emergency it is inevitable that standards will be lowered in favour of speed of recovery – acceptance or understanding of this risk, and the ownership of this risk, is a key consideration before using or allowing provisions for an environmental waiver.

2.2 Victorian Bushfires

2.2.1 Background

On February 7, 2009 the State of Victoria, Australia, experienced the most deadly bushfires in Australian history - an event which will be forever known as 'Black Saturday'. 173 people were killed when a series of bushfires destroyed 430,000 hectares of land.

Over 3,000 properties were damaged or destroyed, requiring demolition. Three weeks after Black Saturday the Victorian and Commonwealth Governments announced that they would facilitate and pay for the demolition and waste disposal for all affected properties.

Due to the intense heat of the fires, the majority of the debris was incinerated and reduced to ash. Debris remaining included metals; un-burnt masonry and brick; and burnt vegetation. The residual ash contained some hazardous substances including asbestos, chromated copper arsenate (CCA) from treated timber and residues of burnt or partially burnt household hazardous materials.

2.2.2 Organisational structure

The government through the Victorian Bushfire Reconstruction and Recovery Authority (VBRRA) engaged a managing contractor (Grocon) to coordinate the entire demolition and debris removal process.

By all accounts, the legal and operational decisions during the waste management process were carried out collaboratively¹⁸. The main parties involved in establishing the legal standards and processes were the Victorian Environmental Protection Agency (EPA) and the Department of Human Services (DHS) / Worksafe.

Implementation and monitoring was carried out directly through Victorian EPA and Worksafe and for transportation aspects of the process monitoring was aided by Victoria Roads and Victoria Police.

Local authorities had little or no input in the legal, implementation and/or monitoring of the government funded debris removal process.

¹⁸ Personal communication with Myles Wheelan, Victoria EPA, 12/08/09

2.2.3 Demolition

Participation in the government demolition programme following the bushfires was voluntary. Property owners were requested to register their properties for clearance with VBRRA. A process was established by Grocon, to ensure all demolition work was carried out with full consultation and approvals including property entry rights and waste ownership (which unless otherwise agreed was assigned to the Contractor).

To date the authors are unaware of any properties which have been cleared under statutory powers due to health and safety or environmental concerns without permission from property owners.

2.2.4 Waste Handling and Transportation

There were two main pieces of emergency legislation used in the disaster waste management process following the bushfires.

The first was Section 30A of the Victorian Environmental Protection Act 1970 which is administered by the Victorian EPA. The provision allows for emergency storage, treatment, handling or disposal of waste in a temporary emergency or to relieve public nuisance or hardship. Management of bushfire waste was deemed to be covered by this definition.

The second legislation related to health and safety. An Order under Section 55 of the Dangerous Goods Act 1985 was initiated to regulate the removal of asbestos from fire affected properties. The order reduced the storage, handling and disposal standards and stated that this was:

“to assist with this emergency and the rebuilding of those towns and premises burnt by the 2009 bushfires, it is in the interest of public safety to make an Order that enables the expeditious removal of any asbestos from premises damaged or destroyed by those fires while maintaining appropriate standards of safety”¹⁹

Under these two provisions a decision was made to classify all the waste as a single classification, called “Bushfire Waste”. Both the Dangerous Goods Order and the Section 30A advised that all waste be handled and disposed of as Class B²⁰ asbestos waste. The authorities were able to establish specific handling, transportation and disposal controls for the overall waste matrix under these provisions. The benefits (both in terms of time and money) of classifying all waste as Class B (as opposed to Class A) asbestos include:

- no time consuming testing
- no requirement to make the construction site air-tight
- significantly more Class B licensed asbestos handlers than Class A
- material did not have to be double wrapped during transportation
- more vehicles could be licensed to carry Class B asbestos

¹⁹ Victorian Government Gazette (2009) Order concerning the removal of asbestos from premises damaged in the 2009 Victorian Bushfires. Finance, WorkCover and the Transport Accident Commission. (Ed.).

²⁰ Class A asbestos is defined as friable; Class B asbestos is defined as non-friable.

- waste could be disposed of at a municipal landfill rather than a prescribed industrial waste landfill

The classification of the debris was carried out without thorough testing or site assessments. However, the authorities were largely vindicated in their decision when air monitoring during the demolition works showed no air-borne asbestos²¹.

The use of the emergency provisions to establish a stream-lined debris management process which balanced the health and safety and environmental risks appears to have been effective as it allowed the debris to be handled quickly and in a straight-forward manner²².

2.2.5 Treatment and Disposal

To minimise a health and safety risk to waste-laden trucks travelling along a windy road called the Black Spur Road, a new waste disposal facility was constructed. A landfill cell at a quarry / landfill site located in and owned by Murrindindi Shire was constructed within two weeks. While the landfill was constructed and certified through official 'peace-time' legal processes, it was expedited significantly and the normal environmental impact assessment processes were not carried out.

Given the inert nature or low putrescibility of the waste the Victorian EPA concluded that there was relatively low environmental risk and that the level of protection by a single clay liner at this site was sufficient protection to the surrounding environment from bushfire classified waste. However, it is unlikely that this landfill would have been certified in peace-time as the standard was below that of existing municipal landfills in Victoria.

Grocon refused to accept the standard liability period for the landfill cell of 30 years. Instead, the landfill was handed back to Murrindindi Shire for maintenance and monitoring as part of their ongoing landfill operations. Depending on the terms of the hand-over agreement, should adverse environmental effects occur in the future due to the bushfire waste it is questionable who would be liable.

The construction of this landfill highlights the uncertainty of carrying out disaster recovery activities under peace-time law when peace-time standards may be relaxed to facilitate recovery. The resultant impact on liability associated with these decisions is an issue that should not be ignored.

²¹ Personal communication, Tim Bamford, VBRRA, 07/08/09, Frank Bortoletto, Grocon, 10/08/09 and Myles Wheelan, Victoria EPA, 12/08/09

²² It should be noted the single waste classification was possible due to the nature of bushfire waste (low in volume, difficult to segregate for recycling and asbestos that has been subjected to extreme heat). This approach may not be suitable to other disasters. The principle of legal flexibility remains the same.

3 New Zealand Law

Seventeen national regulations in New Zealand have been identified, which *may* be applicable to solid waste management in an emergency situation. The regulations and emergency provisions are summarised in Table 1 below. A more detailed description of the regulations is provided in Appendix A.

Table 1 Summary of New Zealand legislation relevant to disaster waste management

Legislation	Administrator	Implementing agent / body / authority	Purpose	Status in Emergency²³	Precedence over other legislation in an emergency	Full prosecution protection
Biosecurity Act 1993 (BioA)	Ministry of Agriculture	Local authorities	To protect New Zealand's biosecurity	Full powers to remove any biosecurity threat	RMA requirements exempted for 20 days	Yes
Building Act 2004 (BA)	Department of Building and Housing	Local authorities	To regulate and provide safe and sustainable buildings	Powers to remediate or demolish dangerous or insanitary buildings.	Unclear	Yes
Civil Defence and Emergency Management Act 2002 (CDEM)	Ministry of Civil Defence and Emergency Management	Civil Defence Emergency Groups established through local authorities	To promote sustainable hazards management	Full powers to act in State of Emergency to protect the public and property No powers to act outside a State of Emergency other than appointment of a Recovery Coordinator to coordinate recovery activities.	Precedence over all other Acts in State of Emergency	Yes – under State of Emergency

²³ Note Emergency here is defined to be circumstances which overwhelm existing facilities

Legislation	Administrator	Implementing agent / body / authority	Purpose	Status in Emergency	Precedence over other legislation in an emergency	Full prosecution protection
Fire Service Act 1975 (FSA)	Department of Internal Affairs	New Zealand Fire Service (NZFS)	To save lives and property in danger	Full powers to act to save lives and property	NZFS have powers to enforce HSNO Act. Relationship with RMA is unclear.	Yes
Government Rounding Powers Act 1989 No. 75 (GRPA)	Ministry of Transport	New Zealand Transport Agency	For construction and maintenance of state highways	Powers to clear state highways and associated drainage (including private property access)	Provision to override RMA. All other Acts applicable	Not provided for
Hazardous Substances and New Organisms Act 1996 (HSNO)	Ministry for the Environment	Environmental Risk Management Authority (ERMA)	To protect public health and safety and the environment	Powers to remove hazard in any emergency	Any action under the RMA must comply with HSNO.	Yes
Health Act 1956 (HA)	Ministry of Health	District Health Boards	To improve, promote and protect public health	No emergency provisions except for provision for Governor General by order in council to make regulations to protect health at any time.	None	N/A

Legislation	Administrator	Implementing agent / body / authority	Purpose	Status in Emergency	Precedence over other legislation in an emergency	Full prosecution protection
Health and Safety in Employment Act 1992 (HSE)	Department of Labour		To prevent harm to people in or near places of work	No emergency powers	None	N/A
Land Transport Act 1998 (LTA)	Ministry of Transport	New Zealand Transport Authority	To enhance New Zealand's land transport planning and funding and to promote safe driver behaviour	Some emergency powers but unlikely to be activated in relation to waste management	None	Not provided for
Dangerous Goods Rule 2007 (DGR)	Ministry of Transport	New Zealand Transport Authority	For safe transport of dangerous goods on land	No emergency powers	None	N/A
Local Government Act 2002 (LGA)	Department of Internal Affairs	Local authorities	To establish roles and responsibilities to promote well-being of communities	Emergency right of entry powers	None	Not provided for

Legislation	Administrator	Implementing agent / body / authority	Purpose	Status in Emergency	Precedence over other legislation in an emergency	Full prosecution protection
Maritime Transport Act 1994 (MTA)	Ministry of Transport	Maritime New Zealand	To regulate maritime safety, security and marine protection	Emergency powers to respond to oil spills only	Precedence over RMA in the event of an oil spill	Yes for marine oil spill only
National Environmental Standards Relating to Certain Air Pollutants, Dioxins, and Other Toxics 2004 (amended 2005) (NES)	Ministry for the Environment	Local authorities	To provide national standards for air quality	Emergency powers are those provided in the RMA	None	N/A
Public Works Act 1981 (PWA)	Land Information New Zealand	Local authorities	To construct, protect and maintain public works	Right of entry and power to act where there is imminent danger to life or property or serious interference with any public work.	None	Yes
Radiation Protection Act 1965 (RPA)	Ministry of Justice / Ministry of Health	National Radiation Laboratory	Regulating storage, transportation and packaging of radioactive materials.	No emergency powers	None	N/A

Legislation	Administrator	Implementing agent / body / authority	Purpose	Status in Emergency	Precedence over other legislation in an emergency	Full prosecution protection
Resource Management Act 1991 (RMA)	Ministry for the Environment	Local authorities	To promote sustainable management of natural and physical resources	Power to take emergency actions to protect life, property and/or the environment.	CDEM overrides RMA. All other Acts applicable	Limited protection outside State of Emergency
Waste Minimisation (2008) (WMA)	Ministry for the Environment	Local authorities	To protect the environment from harm and provide environment, social, economic and cultural benefits	Power to waive waste levy	None	Not provided for

4 Legal requirements to manage disaster waste

4.1 General requirements

The following key areas in disaster waste management have been identified in the above international case studies and through hypothetical scenario generation. Below is a discussion on how NZ law would be able to handle each of these areas and the potential challenges for waste management.

Waivers and/or clear legal boundaries in disaster waste management are needed in the following areas:

Demolition

- Property entry and protection
- Property debris /waste ownership

Waste Handling and Transportation

- Waste handling
 - Labour
 - Community
- Hazardous material handling
 - Health & Safety
 - Environmental
- Transportation

Treatment and Disposal

- Temporary disposal site
- New permanent disposal site
- Lower specification disposal or treatment options
- Land reclamation
- Incineration
- Hazardous material treatment and disposal
 - Health & Safety
 - Environmental

Organisation, roles and responsibilities

Financial mechanisms

For the purposes of the discussion below it is assumed that the works are carried out during the recovery phase of the disaster and there is NO state of emergency in force as it is unlikely that a state of emergency would be in force for the duration of the disaster waste recovery process. As shown in the legislation review there are several legislative pathways which allow authorities to respond effectively in a state of emergency (in particular the CDEM Act). The focus of this assessment is the management of the chronic threats (environmental, social and economic) posed by the presence and

management of disaster waste, although discussion of disaster waste as part of emergency response is also provided.

4.2 Demolition

4.2.1 Property entry and remediation

Property entry and remediation is likely to be required in the short term if a hazard is posed to public health and safety or the environment, for example, corpses, rotting food, flammable or toxic substances. In the longer term, if residents are slow to return and/or to facilitate clean-up of their own property, property entry and remediation may be desired by authorities to repair or demolish structures and remove debris to contribute to the wider social / community well-being. The presence of damaged property and associated debris will act as a constant reminder of the disaster event. Neighbouring property owners may also be reluctant to rebuild if they are uncertain about the future of their neighbours properties. The slow return of residents following Hurricane Katrina (refer Section 2.1.2) showed how slow resident return hampered overall recovery efforts and community rebuilding.

The Local Government Act, Government Rounding Powers Act, HSNO, and RMA all have provision for right of entry and removal of hazards and/or mitigation of effects to protect public health and safety and protect the environment. The Building Act allows for action to be taken (by the owner or on behalf of the owner if required) to remediate or demolish dangerous or unsanitary buildings.

If an expeditious recovery is desired then access to properties for works other than to mitigate immediate hazards will be required. It is uncertain how applicable the Building Act provisions would be in a disaster recovery situation where the threat posed by the building is not immediate but the demolition may assist community recovery.

Also to be considered, but not covered here (see Section 4.6), is the issue of payment for works carried out on private property by others to remove immediate (or perhaps chronic) threats. In accordance with the Building Act private property owners would be liable for any costs incurred for remediating properties that are a danger to the safety of people. However, following a disaster when multiple properties are affected, payment responsibility will largely depend on the overall financing / payment of the debris clean-up and/or disaster recovery activities.

4.2.2 Property debris /waste ownership

In cases where demolition is carried out by publicly appointed Contractors (such as the case of the Victorian bushfires) ownership of recovered waste materials needs to be established.

None of the NZ legislation discussed above covers waste ownership in the event of an emergency. Unless hazardous to the environment or public health as provided for in the CDEM, HSNO and RMA emergency works provisions or the Building Act, owner permission for demolition and debris works on

private property will be required at which time material ownership can be determined. However, if demolition works are carried out without property owner's permission waste ownership should be established legally.

4.3 Waste Handling and Transportation

4.3.1 Waste handling

Labour

With or without the use of heavy machinery a significant number of labourers will be required to carry out the waste management works. Health and safety concern for the workers is critical.

In the aftermath of the terror attacks on the World Trade Centre (WTC) in 2001 construction workers were exposed to particulate matter resulting from the collapse and burning of the WTC. Air monitoring during the clean-up suggested that the particulate matter was not particularly hazardous due to low asbestos levels, short dust particles and low concentrations of volatile organic compounds. However, construction / demolition workers clearing debris after the WTC site showed increased prevalence of respiratory symptoms, in particular those that were exposed to the contaminants for an extended period of time²⁴.

Labour unions advocating for workers dealing with the Victorian bushfire waste raised several health and safety concerns, particularly concerning asbestos handling. Management of health and safety concerns through legal structures would assist in managing concerns.

Under current NZ law, all Health and Safety (HSE) regulations and processes in the workplace remain unchanged. Consideration as to the effect of time-consuming peace-time HSE regulations on debris handling may need to be reviewed (refer Section 5.6).

Community

Community health is paramount in a disaster situation. Debris, waste, hazardous materials and potentially disease (through unsanitary conditions due to waste piles or broken sewage systems etc) can all pose a public health threat. Add to this heavy machinery and vehicles working to remove debris, public safety becomes a significant concern.

Both the HSE and HA will provide protection for public health and safety and will remain unchanged in a disaster situation.

4.3.2 Hazardous material handling

Disaster waste invariably contains hazardous material in varying forms and quantities.

In NZ, the HSNO and HSE Acts will be the governing legislation. While emergency provisions to mitigate hazards are provided in HSNO, there is no

²⁴ Landrigan et al, (2004) "Health and environmental consequences of the world trade center disaster". *Environmental Health Perspective*, 112, 731-739.

provision for changes in current handling procedures. Standard HSE procedures also remain in place.

It is unlikely that a situation would require hazardous waste handlers to be put at risk to facilitate the waste recovery process, however, in both Hurricane Katrina and the Victorian Bushfires asbestos handling procedures were modified to expedite the clean-up process. In both these cases, worker and public health safety was prioritised over environmental threats in the streamlined management of asbestos. Flexibility in emergency provisions for hazardous waste handling that protects workers but also assists in efficient management of the substance, should be considered and appropriate disaster-time risk assessments frameworks established (refer Section 5.6).

There will undoubtedly be a need to certify additional labourers to carry out certain works with hazardous substances. It is important that a streamlined and/or well resourced process for providing additional training and certification for specialist waste handlers is available.

4.3.3 Transportation

Transportation of waste will be a critical link in the waste management chain following a disaster as it will be necessary to move all waste – hazardous, non-hazardous, mixed, separated, processed, unprocessed – from the disaster site to the waste processing, treatment and disposal sites.

Flexibility to change transportation rules for asbestos (waiving the requirement to double plastic wrap asbestos contaminated material) was used in the Victorian bushfires to speed-up the clean-up process, reduce risk to health and safety (brought about when plastic lining trucks) and to increase the number of trucks suitable for waste transportation.

Five pieces of legislation cover transportation of dangerous goods in NZ – HSNO Act, Land Transport Management Act 2003, Maritime Transport Act 1994, Civil Aviation Act 1990, Biosecurity Act 1993 and Radiation Protection Act 1965²⁵.

There appears to be no provision for the Land Transport Act (or consequently the Dangerous Goods Rule) to be amended unless there is a threat to life or property (refer Appendix A). Even if emergency provisions were enacted under the HSNO Act, the emergency provisions do not allow for modification of the Land Transport Act (in terms of say licencing requirements or hazardous material containment) to facilitate hazardous material disposal. There are peace-time but not emergency provisions in the Maritime Transport Act for carriage of dangerous goods by sea, should that option be considered.

²⁵ Ministry of Transport (2009), "Regulatory Authorities and Legislation in New Zealand - Transporting Dangerous Goods", available at: <http://www.transport.govt.nz/about/publications/Pages/RegulatoryAuthoritiesandLegislationinNewZealand.aspx> (accessed 28/10/09)

Therefore, all standard licencing and operational regulations will remain unchanged under current law, including dangerous goods transportation rules. This restriction is considered to be a potential bottle-neck in the waste management process and should be addressed. A stream-lining process for licencing large numbers of transporters to assist in the operation should also be investigated.

4.4 Treatment and Disposal

4.4.1 Temporary storage site

Temporary storage sites for waste processing and sorting are likely to be needed. The RMA includes landuse changes, use of coastal marine areas, water use, use of lake and river beds and discharge of contaminants into the environment under its emergency powers. These provisions would allow for temporary storage sites to be utilised.

The RMA provision will allow for immediate action and decisions to be made, however, in accordance with the RMA emergency provisions, consent will be required for continued use of a temporary disposal sites – that is, longer than 27 days. As disaster waste management activities may last for years (as was the case of Hurricane Katrina) consents will be required. It is uncertain whether or not the assessment of environmental effects will assess the application using peace-time considerations and mentality or whether an adjusted disaster time assessment will be made. If concessions are not made during the resource consent assessment process, the RMA process could be a potentially significant barrier for disaster waste activities in the long term (see Discussion Section 5.7.2).

Authorised persons carrying out emergency works under Section 330 of the RMA are protected from prosecution, however, in the event of unforeseen environmental, economic or social effects from an activity under this provision, there is a potential for additional costs associated with remediation or compensation for any adverse effects caused. Liability for these costs needs to be addressed.

4.4.2 Temporary disposal site

Temporary disposal sites may be required to deposit waste temporarily before permanent sites have been established or identified.

Restrictions and limitations of siting temporary disposal sites under current law are the same as for temporary storage sites (refer Section 4.4.1).

4.4.3 New permanent disposal site

Disaster waste managers may elect to construct a permanent disposal facility during the main clean-up works (for example to save money, time, double handling, minimise environmental effects by reducing number of temporary disposal sites etc).

Restrictions and limitations of siting new permanent disposal sites under current law are the same as for temporary storage and disposal sites (refer Section 4.4.1). Obviously permanent facilities may be scrutinised more carefully than temporary sites in the resource consent process.

4.4.4 Lower specification disposal or treatment options

To increase processing, treatment and disposal capacities, some disaster waste managers will elect to reduce current solid waste management standards. For example, following Hurricane Katrina environmental officials expanded their waste acceptance criteria at their C&D landfills to increase disposal options and facilitate a faster recovery.

For general waste (ie not hazardous) this will be allowed for under the RMA provisions and will have the same restrictions and limitations as discussed in Section 4.4.1.

4.4.5 Land reclamation

One disposal option is land reclamation.

Works in the coastal marine area are included under the emergency provisions of Section 330 of the RMA. So land reclamation would be allowed but again would have the same restrictions and limitations as discussed in Section 4.4.1. As with permanent disposal facilities, scrutiny under the resource management process will be more thorough than for temporary measures.

4.4.6 Incineration

In previous disasters, incineration has been used as a waste volume reduction method to save landfill / disposal site space.

As with land reclamation, despite the severe limitations on incineration under the NES regulations, under the emergency provisions of the RMA, incineration would be a possible waste treatment option. As for all of the above, refer to Section 4.4.1 for the restriction and limitations.

4.4.7 Hazardous material treatment and disposal

As stated above, disaster waste is likely to have varying types and quantities of hazardous waste to deal with. Treatment and disposal will have health and safety and environmental aspects to consider.

Health & Safety

As per Section 4.3.2 HSE regulations are unchanged in an emergency situation.

After both Hurricane Katrina and the Victorian Bushfires certain requirements for testing and disposal of asbestos materials were reduced to increase the speed of the clean-up process. This may need to be considered in the NZ case.

Environmental

The HSNO emergency provisions allow for removal of the hazardous material threat but do not address the issues related to treatment and or disposal of the material should existing treatment or disposal facilities be insufficient to deal with the quantity of materials generated.

For asbestos, however, it should be noted that, in accordance with the HSE (Asbestos) regulations, disposal site selection shall be in accordance with the RMA which does allow for emergency measures to be taken.

In the Victorian bushfires, the Environmental Protection Agency utilised a relaxation in the disposal requirements for asbestos – from an industrial prescribed waste landfill to a municipal waste landfill – due to the cost and the availability of the specialised disposal sites. Dispensations were also made to handle asbestos from Hurricane Katrina.

4.5 Organisation, roles and responsibilities**4.5.1 Overall**

It is unclear where the overall responsibility for disaster waste management lies within the existing NZ legal frameworks. In peace-time waste management and environmental management it is the responsibility of local government²⁶ (unless it is on a State Highway in which case it is the responsibility of the NZ Land Transport Authority). The Department of Labour and Ministry of Health are also peripherally involved in aspects of the waste management process. In an emergency situation CDEM groups also become involved. Figure 4.1 shows the approximate hierarchy of current NZ disaster waste management legislation.

²⁶ Local Government Act s 286

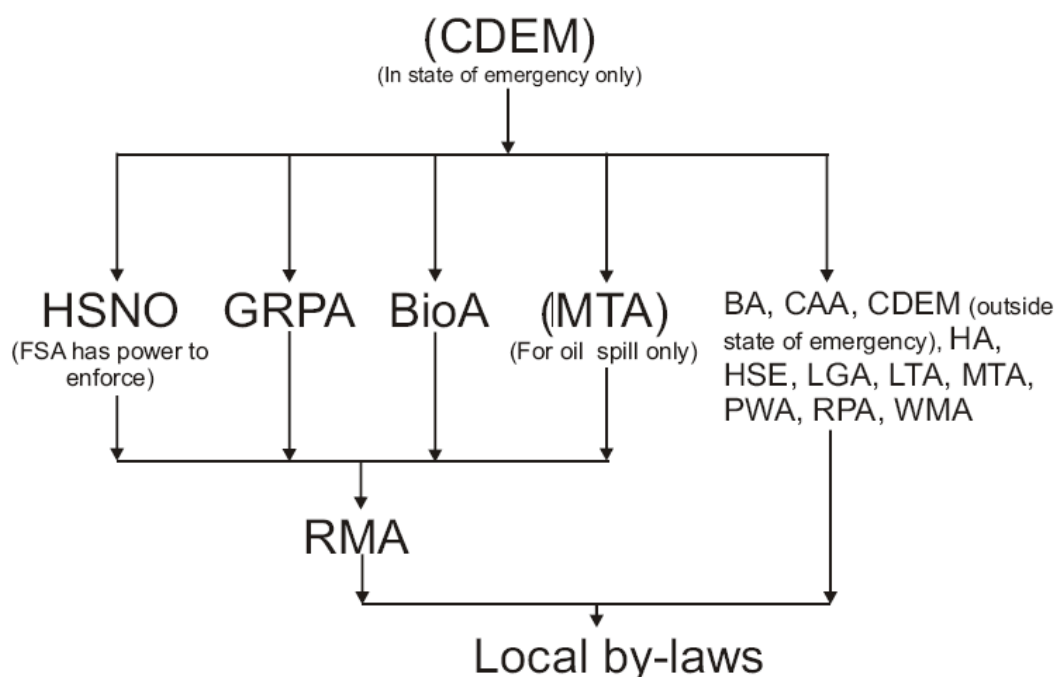


Figure 4.1 Emergency legislation hierarchy

During a State of Emergency, either CDEM bodies or local government (exercising emergency powers under the RMA) can act to manage any potential hazard (environment, social or economic) posed by the presence of disaster waste. Lifeline utilities (such as water, electricity, telecommunications) also have a responsibility to respond in emergency situations to restore their services. However waste management is not currently considered a Lifeline in New Zealand²⁷.

Outside a State of Emergency, when most disaster waste management activities will be carried out, there appears to be three possible options for overall coordination of disaster waste management:

- Regional CDEM groups.
- Appointed Recovery Co-ordinator²⁸ (when regional CDEM capacities are overwhelmed).
- Local government and its role under the RMA (in collaboration with the Regional CDEM recovery groups or Recovery Co-ordinator).

The role of CDEM Act is discussed further in Section 5.7.1.

4.5.2 Hazardous materials

Hazardous material management in NZ involves many different regulatory bodies and pieces of legislation.

²⁷ Brown, C., Milke, M. & Seville, E. (2010 in print) Waste management as a 'Lifeline'? A New Zealand case study analysis. International Journal of Disaster Resilience in the Built Environment.

²⁸ CDEM Act, s 29-30

Transportation of dangerous goods, for example, is governed by five pieces of legislation and eight regulatory bodies. These include:

- Environmental Risk Management Authority (ERMA) (HSNO Act)
- NZ Transport Authority (Land Transport Act)
- Maritime New Zealand (Maritime Transport Act)
- Civil Aviation Authority (Civil Aviation Act)
- Ministry of Agriculture and Forestry (Biosecurity Act)
- Department of Labour (HSNO Act)
- Ministry of Health (Land Transport Rule)
- Ministry of Health (National Radiation Laboratory) (Radiation Protection Act)

Asbestos is an example of a *material* which has a number of different regulatory bodies and controls: workplace safety is governed by Department of Labour; public health issues are regulated by Ministry of Health; local authorities are concerned with disposal²⁹; NZ Land Transport Authority for transportation; and overall management is regulated by HSNO Act through ERMA. As mentioned in the previous section such complex management structures could be challenging to manage in a disaster response situation.

4.6 Financial mechanisms

Implementation of disaster waste programmes and recovery programmes in general is highly dependent on funding availability. The reliance on local, state and national government reserves and even external funding bodies such as World Bank, charities and non-government organisations versus private property owners (insurance) will affect a disaster waste management programme³⁰. In New Zealand, the Earthquake Commission Act, 1993, provides one mechanism to facilitate debris removal and overall recovery for insured properties following natural disasters. There has been little analysis into various legal implications such as the potential for legislating mandatory insurance.

While funding mechanism is an important issue it is outside the scope of this paper.

5 Discussion

5.1 Emergency vs recovery

Recovery appears to come in a grey area of the law and of current thinking. Many of the emergency provisions discussed in this paper focus on the removal of an immediate threat to people, property or the environment. The question here is whether emergency laws are still applicable in a recovery - where there is a chronic threat such as due to the presence of disaster waste? That is to say if action is not taken now the medium and long term, social, economic and environmental recovery of a community may be compromised.

²⁹ Ministry of Transport, *supra* note 25

³⁰ Cooke, R. & Kousky, C. (2009) Are Catastrophes Insurable? Resources, Summer 2009: Number 172, pp 18-23.

Does New Zealand require another tier of laws applicable to disaster recovery as well as emergencies?

From the international examples and the NZ legal assessment above it is possible to see how emergency provisions can be adapted for recovery efforts. However, the use of an 'emergency' mentality in a recovery situation is not always suitable either. There is a need to address longer term effects of the action or non-action on the overall recovery process from a large scale disaster. A balance is essential.

5.2 Legal complexity

As a growing global awareness for environmental sustainability grows societies are developing more and more complex environmental standards and operations which make responding to a disaster situation increasingly difficult.

Following the Kobe earthquake, 1995, Kobayashi³¹ noted that as waste management systems become more complex (recycling and advanced waste treatment methods), their ability to cope with disaster waste decreased. In particular, Kobayashi was referring to the Japanese waste management system which primarily relies on incineration and disposal of residues to landfill. The landfills did not have capacity to take large influxes of non-processed disaster materials and the processing facilities did not have enough capacity for timely processing of the waste materials. Complex treatment and disposal processes with strict environmental standards are not designed for large acute influxes of materials so the use of environmental waivers in disasters becomes the only option.

The seventeen pieces of legislation and ten to twelve regulatory bodies which could potentially influence disaster waste management in NZ is a clear example of this complexity. Not only does the amount of legislation impact our ability to efficiently respond in a disaster but the complexity and prescriptive nature of laws can inhibit creative problem solving in a disaster. Some environmental laws impose cumbersome regulatory requirements and some exclude waste management techniques which may be considered necessary in a disaster situation (for example, incineration or land reclamation). Breadth and flexibility of waste management options will be imperative following a disaster to maximise disaster waste handling, treatment and disposal options. Consequently provisions for disaster waste management need to be considered when establishing peace-time waste management laws and systems.

5.3 Empowering the decision-maker

From the two case studies discussed in Section 2, it is evident that the drivers behind many of the decisions to use legal waivers (or the frustrations felt when

³¹ Kobayashi, Y. (1995) Disasters and the Problems of Wastes - Institutions in Japan and Issues Raised by the Great Hanshin-Awaji Earthquake. Earthquake Waste Symposium. Osaka.

flexibility was not available) were linked to the speed of the clean-up process. Disaster waste management is one of the first steps in a disaster recovery process so the ability to make good decisions quickly is essential.

The provision of well considered legal structures in a disaster response situation is critical to support, protect and empower decision-makers to facilitate an effective and timely recovery process. If legal structures are too rigid, this could lead to a slow clean-up process³². If legal structures are too flexible, potential for inappropriate decision-making is increased.

Due to the variability of the nature and impact of disasters and emergencies, emergency provisions are understandably broad. While liability or prosecution protection often forms part of provisions in a State of Emergency, there is no such protection for activities carried out during the recovery period. The ability to use emergency legal waivers are a mechanism to achieve a faster response, however, community acceptance, political support and confidence about the potential long-term impact of waiving peace-term standards are not guaranteed following a disaster. This concern is highlighted by experiences following Hurricane Katrina, when lawsuits were filed against emergency responders for using legal waivers to change waste acceptance criteria at several waste disposal facilities. Complainants were concerned over the environmental impact of that action^{33,34}. Fear of prosecution like this could significantly slow the decision-making process.

If legal provisions are to empower decision-makers and protect the community and their environment, there needs to be a balance between flexible emergency provisions and certainty of outcome if waivers are used. Figure 5.1 shows the balance between flexibility and regulation needed to be effective and efficient in an emergency recovery³⁵. A possible mechanism for achieving this for disaster waste management is to start introducing minimum disaster standards or disaster-time risk assessments as part of our peace-time planning strategy. For example – standards and designations for land reclamation activities if needed in a disaster; incineration standards; landfill specifications etc. A greater understanding and certainty about the potential social, economic and environmental risks will empower decision-makers to move forward and act quickly to make well informed decisions.

³² Luther, supra note 4 and Basnayake, B. F. A., et al. (2005), "Solid wastes arise from the Asian Tsunami Disaster and their Rehabilitation Activities: Case Study of Affected Coastal Belts in Sri Lanka and Thailand", paper presented at Tenth International Waste Management and Landfill Symposium, Sardinia, available at: <http://www.swlf.ait.ac.th/data/pdfs/715.pdf>

³³ Luther, supra note 4

³⁴ McCarthy, J. E. & Copeland, C. (2006) Emergency Waiver of EPA Regulations: Authorities and Legislative Proposal in the Aftermath of Hurricane Katrina. Resources, S. a. I. D. (Ed.). Congressional Research Service: The Library of Congress.

³⁵ Myburgh, D., et al. (2008), Post-Disaster Reconstruction Research in New Zealand: An Industry Update, Resilient Organisations Research Report - 2008/01, Resilient Organisations.

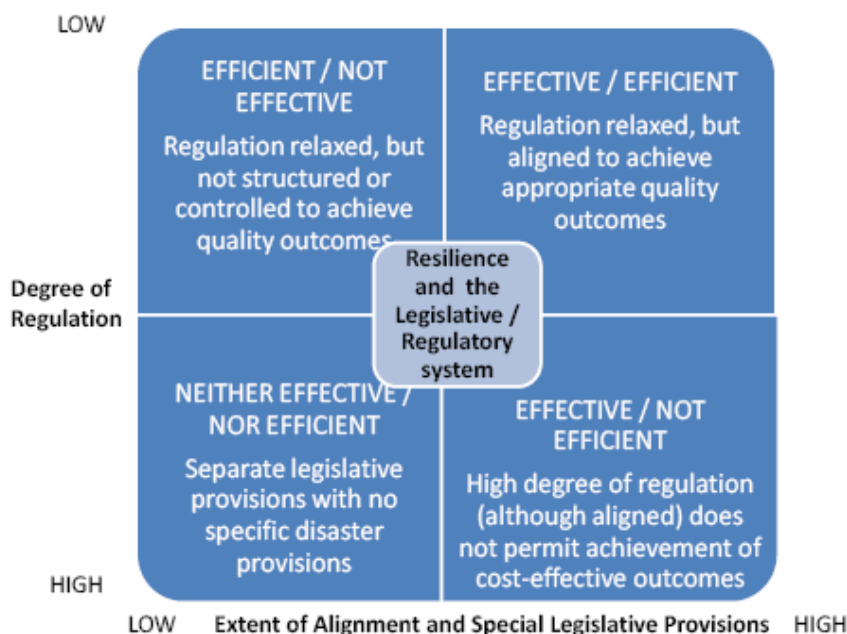


Figure 5.1 The legislative and regulatory system for achieving resilience outcomes³⁶

5.4 Delegation of decision-making

It is also vital that the right people are empowered to make the decisions. According to the State of California Integrated Disaster Waste Management Guidelines³⁷, it is important that the city/county staff responsible for the recovery be empowered by their local governing body to act independently in order to respond quickly. Having the flexibility to make independent decisions quickly can expedite the disaster response and the recovery operations.

One aspect which has not been covered in depth in this paper is the delegation of authority within an organisation (or under a specific legislation) to ensure emergency provisions can be activated in the event that key personnel are adversely affected by the disaster. This is a critical aspect of an emergency plan. Sections 33, 34 and 34A of the RMA have provision for delegation of powers to local authorities and other suitably qualified agents. These provisions could be applied in an emergency. It is prudent to establish these delegations pre-disaster.

5.5 Social / community acceptance of legal waivers

As evidenced by the LDEQ C&D landfill case in Section 2.1.5, even though the relaxation of waste acceptance criteria was deemed acceptable by the local environmental agency (LDEQ) given the urgency of the situation, certain community groups did not consider the elevated level of risk as acceptable. The consequence of this was a cessation of the activity requiring alternative

³⁶ Myburgh, supra note 35

³⁷ State of California (1997) Integrated Waste Management Disaster Plan: Guidance for local government on disaster debris management. Integrated Waste Management Board (Ed.).

(also potentially controversial) waste management options to be sought. This had the overall effect of slowing the debris management process down.

While it is not possible to determine the community response ahead of a disaster event, a valuable caution should be noted: despite the legitimacy of utilising legal waivers, the social impact cannot be easily predicted and should be anticipated where possible. Risk communication strategies could be an effective tool in mitigating negative community reaction.

5.6 Health and safety trade-offs

Disaster waste managers in both Hurricane Katrina (Section 2.1.4) and the Victorian Bushfires (Section 2.2.4) found that peace-time requirements to protect health and safety were a hindrance to the speed of their waste management efforts. In both cases existing regulations on handling and disposal of asbestos were relaxed to varying degrees. It is unknown what hazard or risk assessments were carried out prior to making these decisions and whether or not any public health issues resulted from the relaxations.

In response to the Victorian Bushfires, public and worker health and safety was identified as a priority when establishing waste handling procedures. Nevertheless relaxations from standard peace-time practice were still made. This implies that if peace-time regulations are the accepted minimum standards then an additional risk (above minimum) to human safety was deemed acceptable in this case.

A similar case was found following the clean-up of the World Trade Centre collapse in 2001. Levels of asbestos were detected that would ordinarily require an asbestos management plan, however, regulatory authorities ignored their own regulations to facilitate recovery³⁸.

Human health and safety is generally accepted as something that cannot be compromised, however, we see that in at least two disasters peace-time standards have been reduced. Regulators need to determine what the acceptable minimum standards are for health and safety – and whether this should be applied only in disasters or whether this is reflected in our peace-time rules. These should be reflected in health and safety laws.

5.7 New Zealand situation

As shown in Sections 3 and 5.2 New Zealand solid waste is managed under a complex legislative framework comprising seventeen regulations and a multitude of regulatory authorities. Emergency provisions exist in some of the governing legislation but not all.

³⁸ Lange, J. H. (2004) "The WTC Disaster and Asbestos Regulations". *Environmental Health Perspective*, 112, A606-607.

5.7.1 CDEM

The CDEM Act gives extensive powers during a State of Emergency. It describes coordination structures, authority delegation, and powers to act outside other pieces of legislation, such as the RMA. CDEM agencies, however, are reportedly^{39,40} reluctant to direct activities using powers under the Act, during a State of Emergency, as they would become responsible for the oversight and management of activities that they do not necessarily have the skills or resources for. They see their role as more of a coordination role with other authorities. To date the use of CDEM powers has not been tested in a court of law in NZ.

In a recovery situation, when it is assumed most of the disaster waste management activities would be carried out, the CDEM Act provides for directive and coordination possibilities with the appointment of a Recovery Coordinator⁴¹ when Group Controller's capacities are overwhelmed. The Recovery Coordinator appointment is for an initial period not exceeding 28 days, however, the appointment may be continued as required. Recovery activities⁴² which the Coordinator is responsible for include:

- a. the assessment of the needs of a community affected by the emergency; and
- b. the coordination of resources made available to the community; and
- c. actions relating to community rehabilitation and restoration; and
- d. new measures to reduce hazards and risks.

A Recovery Coordinator is likely to operate under similar principles as CDEM agencies – coordinating other authorities and experts to carry out recovery activities in specialised areas. While the Recovery Coordinator has the authority to coordinate and direct all the above activities, they must work within existing laws. The Recovery Coordinator may “suggest special policies” when existing policy provisions are insufficient⁴³. However, any changes to solid waste management or environmental laws necessary to manage the waste effectively (as examples, use of land reclamation as a disposal option, or modification of asbestos handling rules) would have to be implemented via the provisions in and authorities governing the RMA or other legislation. This seems to limit the directive powers of the Recovery Coordinator. However, this is considered appropriate as many decisions will lie outside the appointed Recovery Coordinator's expertise.

³⁹ AELG (2005), Resources Available for Response and Recovery of Lifeline Utilities, Technical Publication No 282, Auckland Regional Council.

⁴⁰ Rotimi, et al (2006), "The regulatory framework for effective post-disaster reconstruction in New Zealand", paper presented at Third International Conference on Post-Disaster Reconstruction: Meeting Stakeholder Interests. , May 17-18 2006, Florence, Italy, available at: <http://www.resorgs.org.nz/IREC%20Conference%20Paper%20Rotimi.pdf>

⁴¹ CDEM Act, s 29

⁴² CDEM Act s 4

⁴³ MCDEM (2009) The Guide to the National Civil Defence Emergency Management Plan. Second ed. Wellington.

The 2004 Manawatu flood recovery was largely coordinated through the Manawatu-Wanganui Regional Council CDEM group. During that recovery there was some initial frustration over the use of emergency procedures under the RMA – in particular determining what activities could be carried out without going through formal procedures. The Regional CDEM Recovery task group and the Regional Council eventually prepared a guidance note together to outline procedures to be followed⁴⁴. This example highlights the need for coordination and mutual understanding between stakeholders, particularly CDEM and those with authority under the RMA.

In general, the CDEM Act is an effective tool for emergency management. The emergency powers are effective for removal of immediate threats during a state of emergency, however, the institutional unwillingness to use the powers needs to be addressed. The coordination structures provided for both during a state of emergency and during a recovery period are clear. However, the key legislative decisions that may need to be made to manage disaster waste lie outside the scope of powers under the CDEM Act. Any regulatory changes which may be required to carry out recovery activities must be made by the relevant authority.

5.7.2 RMA

The consultative, effects based RMA processes may be a limiting factor in an extended disaster waste management process. In general, NZ law has the flexibility to manage disaster waste in the short to medium term, however, the ability for disaster waste to be managed in the long term is dependent on the impact of the resource consent process. All waste management decisions will be made with the understanding that a resource consent will be required for operations longer than 27 days. If decision-makers are uncertain whether a resource consent will be granted they will likely be more reluctant to commence the questionable activity.

Several factors may add to uncertainty in decision-making under the RMA. Firstly, decision-makers will be under significant time pressures in a post-disaster situation. Without time to gather adequate information and carry out a full effects assessment, decision-makers may feel unsupported in their decision-making. Secondly, as discussed briefly in Section 4.4.1, there is uncertainty as to what assessment criteria will be used in an emergency situation when a resource consent application is being assessed. How will assessors address the overall impact of the action on community recovery from a disaster? This uncertainty will add to the decision-makers' quandary.

The RMA has provision for Ministerial 'call-in' for projects of national significance. Management of disaster waste is likely to be considered under this provision. The main advantage of the Ministerial call-in is the ability for consents to by-pass local authority processes and go straight to the Environment Court to facilitate a faster consent process. It is intended that the application assessment process and outcome would be the same through

⁴⁴ AELG, *supra* note 39

both mechanisms, however, a Ministerial call-in would undoubtedly increase the level of political influence on the decision.

Despite the protection from prosecution that the RMA emergency provisions provide, the potential for considerable scrutiny during the resource consent process may also dis-empower the decision-maker to the point where they are reluctant to make decisions. This is particularly true for establishment of permanent disposal facilities if required (such as use of land reclamation).

The establishment of an assessment criteria for post-disaster situations would aid and support decision-makers. The definition of environment in the RMA includes for social and community as well as the physical environment. In a disaster recovery situation there is likely to be a greater emphasis on social / community impact than in peace-time situations. With a heightened emphasis on social factors (such as speed of waste management) it is likely that peace-time environmental impact acceptance will be in turn lowered to meet these different objectives. Understanding how this social-environmental trade-off will be assessed in the consent process would help to support decision makers when establishing their waste management strategy.

5.7.3 Complexity and organisational structures

The complexity of the New Zealand legal provisions (and associated regulatory bodies) is another factor that may hinder decision-makers in a disaster recovery situation. There is the potential for ten to twelve regulatory authorities to be involved in various aspects of the waste management process. This number of authorities is potentially cumbersome when trying to conduct a collective decision-making process in a time-pressured situation and could potentially lead to complicated implementation processes (monitoring, approvals, certification etc). Stakeholders may also have conflicting goals and agendas for the recovery process⁴⁵. The recovery coordination roles provided for in the CDEM Act, in particular the Recovery Coordinator, have the potential to effectively guide a recovery process. However, the success of the coordination will be dependent on how well they can manage the large numbers of waste management stakeholders and how willing the various stakeholders are to work together and meet recovery objectives. It would be beneficial to have a pre-determined disaster organisational structure, including roles and responsibilities, specifically for disaster waste management stakeholders. This structure could work under the direction of the overall CDEM recovery structure. Establishing relationships with stakeholders before the event is also an important step.

As is provided for in the emergency response functions of the US emergency regulations (The Stafford Act / National Response Plan) NZ needs to establish clear roles and responsibilities for management of disaster waste. The US regulations appear to stream-line the process to involve only four groups with clear responsibilities. NZ law has no such provision.

⁴⁵ Brown, C., Milke, M. & Seville, E., *supra* note 27

6 Recommendations for NZ emergency law

The following is a list of recommendations for NZ disaster law, standards and protocols to facilitate disaster waste management resulting from the discussion in Sections 4 and 5:

- Consider mandating property demolition or remediation of disaster affected properties to facilitate community recovery in the event of resident non-return. Note it is unclear which existing legislation (if any) this would be included in.
- Establish waste ownership of (or procedures for) recovered materials for government sponsored private property demolition or remediation works.
- Provide greater flexibility in transportation regulations in emergency (i.e. in situations that do not threaten life and/or property as is currently provided for).
- Organisational stream-lining and/or delegation of authority to facilitate decision-making across waste management regulatory bodies alongside CDEM recovery coordination structures (including delegation of authority within authorities in the event of personal harm or injury).
- Establish processes for expedient certification of waste handlers (hazardous goods etc) and transporters.
- Identify minimum hazardous material handling, transportation, disposal or temporary storage standards in a large scale disaster including the possibility of emergency arrangements under the Basel Convention for 'export' of waste products.
- Establish standards for handling and disposal of asbestos in a disaster situation.
- Review the effect of the resource consent process for medium to long term emergency / recovery activities such as disaster waste management.
- Pre-identify and regulate temporary waste management sites to minimise liability potential.
- Pre-identify and regulate potential disposal / treatment options which are currently outside our standard waste management options (eg land reclamation and waste incineration).
- Establish payment responsibility for government clean-up works on private property (for cases where there is not a centrally sponsored clean-up process but works are necessary to remove public health threat or danger resulting from the disaster event).
- Establish liability for long term adverse effects resulting from emergency provisions.
- Introduce emergency clauses in waste management by-laws and/or the Waste Minimisation Act.
- Establish assessment criteria (for environmental, economic and social impacts) under the RMA for post-disaster situations.

7 Conclusions

Disaster waste management is one of the first steps on the road to recovery. Appropriate laws, which are both flexible and give clear guidance on appropriate application are required for effective and timely decision-making.

While loose emergency waivers could lead to controversial decisions being made, very restrictive peace time regulations could severely restrict disaster waste manager's choices - to the point where social and political expectations cannot be met.

New Zealand law applicable to disaster waste is complex with a plethora of legislations and regulatory authorities associated with it. In general, current laws have adequate provisions to cope with the likely needs of disaster waste management, however, the complexity of responsibilities, stakeholders and unclear statutory precedence may result in slow or ineffectual decision-making.

In general, disaster waste management laws needs to: allow for flexibility for adaptation to any situation; be bounded enough to provide support and confidence in outcomes for decision-makers; be effectively communicated with the public both pre and post disaster; and provide stream-lining of waste management organisational structures including decision-making authority.

Appendix A: NZ Disaster Waste Legislation Summary

Resource Management Act (RMA) 1991

The RMA is administered by the Ministry for the Environment. The purpose of the Act is to promote the sustainable management of natural and physical resources.

Under the RMA there are two types of emergency works. Those carried out in a state of emergency (by persons acting under the powers of the CDEM Act) (Section 330B)⁴⁶ and those carried out at other times (Section 330)⁴⁷. For both types of emergency works the provision of the following sections of the RMA do not apply:

- Section 9 – Restrictions on use of land
- Section 12 – Restrictions on use of coastal marine area
- Section 13 – Restriction on certain uses of beds of lakes and rivers
- Section 14 – Restrictions relating to water
- Section 15 – Discharge of contaminants into the environment

In the event of a state of emergency the person exercising powers under the Civil Defence Emergency Management Act 2002 may authorise activities that “remove the cause of, or mitigate any actual or adverse effect of, the emergency”. Disaster waste would fall under this category. However, the disaster waste management period is likely to extend beyond the state of emergency declaration period or conversely the presence of disaster waste is unlikely to warrant an extension of the state of emergency.

Outside a state of emergency local authorities have the authority to undertake emergency works where the authority has financial responsibility for a natural and physical resource and it is affected or is likely to be affected by an adverse effect on the environment⁴⁸ or any sudden event causing or likely to cause loss of life, injury or serious damage to property⁴⁹. The emergency provision also includes authority for right of entry to private property.

It is important to note here that the definition of ‘environment’ in the RMA includes:

“(a) ecosystems and their constituent parts, including people and communities; and (b) all natural and physical resources; and (c) amenity values; and (d) the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters”

This broad definition is likely to be applicable in a disaster waste management recovery situation where immediate hazardous threats governed by the HSNO Act are not dominant and societal, economic and amenity values are the decision drivers.

⁴⁶ RMA s 330B

⁴⁷ RMA s 330

⁴⁸ RMA s 330(1)(d)(e)

⁴⁹ RMA s 330(1)(f)

In both types of emergency works the person, authority or network utility operator who authorised the emergency activity must notify the consent authority within 7 days. If an emergency activity undertaken under Section 330 or 330B requires a resource consent the standard RMA process is activated within 27 days of the activity commencing⁵⁰. The activity may continue until a decision has been reached on the application⁵¹. Any remedial action required would be identified and enforced⁵² via this process.

Depending on the intended activity and rules surrounding the activity this is likely to include the full public notification and submission process. However, the Minister for the Environment (or Minister of Conservation for works solely in coastal marine areas) has the power to call-in projects of national significance⁵³. It is likely that waste disposal after a large scale event would fall into this category.

No person may be prosecuted for emergency works undertaken by any person exercising powers during a state of emergency⁵⁴ or in fact acting under Section 330 of the Act⁵⁵. There is also a provision, in accordance with Section 341 that it is a defence to prosecution if the defendant proves:

- i) *The action or event to which the prosecution relates was necessary for the purposes of saving or protecting life or health, or preventing serious damage to property or avoiding an actual or likely effect on the environment; and*
- ii) *The conduct of the defendant was reasonable in the circumstances; and*
- iii) *The effects of the action or event were adequately mitigated or remedied by the defendant after it occurred.*

Section 11 of the RMA – subdivision of land – which may be required in the allocation of land for temporary and permanent waste management and disposal sites (refer Sections 4.4.1, 4.4.2 and 4.4.3) is not included in the provision for emergency works, however, it is included in Section 341 and is subsequently offered the same limited protection from prosecution.

Biosecurity Act (BioA) 1993

The Biosecurity Act is administered by the Ministry of Agriculture and enforced by local authorities. Its purpose is to protect New Zealand from biosecurity threats.

The emergency provisions in the Biosecurity Act are available in the event of an outbreak (eg, foot-and-mouth disease) or occurrence of an organism with potential to cause significant economic or environmental loss, or adverse

⁵⁰ RMA s 330A(1)(2), 330B(2)(3)

⁵¹ RMA s 330A(3), 330B(4)

⁵² RMA s 314

⁵³ RMA Part 6AA

⁵⁴ RMA s 330B(5)

⁵⁵ RMA s 18(2)

effects on human health, if it becomes established in New Zealand⁵⁶. Actions under the Biosecurity Act are exempted from RMA for up to 20 days if the organism is unknown to New Zealand and has the potential to cause significant economic, social or environmental adverse effects⁵⁷. It is unlikely that this would be a consequence of disaster waste.

Protection from civil or criminal liability is provided for any action carried out under the Act⁵⁸.

Building Act (BA) 2004

The Building Act is administered by the Department of Building and Housing and is enforced by local authorities. Its purpose is for the regulation of building works for safe and sustainable building practices.

Powers under the Building Act provide for management (including demolition and removal) of buildings deemed as dangerous, earthquake-prone or insanitary. They provide for placing hoarding to limit people from approaching nearer than is safe. The authority can then issue a notice to require action to be taken within a specified time-frame (which is no less than 10 days)⁵⁹. The owner of the building is liable for costs if the notice is not complied with and the territorial authority carries out the required works⁶⁰ which may include building demolition⁶¹. The territorial authority is also able to carry out works to remove any immediate danger to safety of people without giving any notice. The owner is again liable for the costs and the territorial authority is not liable for issuing the warrant in good faith⁶².

Civil Defence and Emergency Management (CDEM) Act 2002

The CDEM Act is administered by the Ministry for Civil Defence and Emergency Management and is implemented by Civil Defence Emergency Management Groups established through local authorities. The purpose of the act is to improve and promote sustainable management of hazards through planning and preparation⁶³.

An emergency under the CDEM Act includes any natural or other disaster which causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property in New Zealand and cannot be dealt with by emergency services⁶⁴.

Powers under the Act, under a declared state of emergency include:

⁵⁶ Biosecurity Act, s 144-151

⁵⁷ Biosecurity Act, s 7A

⁵⁸ Biosecurity Act, s 163

⁵⁹ Building Act, s 124

⁶⁰ Building Act, s 126

⁶¹ Building Act, s 127

⁶² Building Act, s 129

⁶³ CDEM Act, s 3

⁶⁴ CDEM Act, s 4

- carrying out works; clearing roads and other public places; removing or disposing of, or securing dangerous structures and materials wherever they may be⁶⁵
- prohibit or regulate land, air, and water traffic within the area or district⁶⁶
- undertake emergency measures for the disposal of dead persons or animals⁶⁷
- entry on premises where necessary for saving life, preventing injury or facilitating the relief of suffering or distress⁶⁸

Under a state of emergency, designated persons (deputy, chairperson or Controller of the Group or authorised person under the Group emergency plan) may enter into a contract outside regulations stipulated in the Public Bodies Contracts Act 1959⁶⁹.

Any authorised person acting under the provision of the CDEM Act in a declared state of emergency has protection from liability unless the act or omission constitutes bad faith or gross negligence⁷⁰.

The CDEM Act also cites the emergency provisions in Section 330B of the RMA.

In the recovery period, the CDEM Act allows for a Recovery Coordinator to be appointed if regional CDEM agencies are overwhelmed⁷¹, to direct and coordinate all recovery activities.

Government Roding Powers Act (GRPA) 1989 No. 75

The New Zealand Transport Agency has certain powers under this Act to construct and maintain all State Highways. Powers which will affect disaster waste include powers of entry to clear ditches / drains to drain water from State Highway⁷². No notice to land owner is required in the event of an emergency. The emergency rules provided in this Act override the RMA⁷³.

Fire Service Act (FSA) 1975

The Fire Service Act is administered by the Department of Internal Affairs and is enforced by the New Zealand Fire Service.

The Act provides for emergency powers to act wherever it is necessary to save lives and property in danger⁷⁴. In the event of a HSNO event, the fire service has authority to act under the act until a HSNO enforcement officer is in

⁶⁵ CDEM Act, s 85(1)(a)

⁶⁶ CDEM Act, s 85(1)(f)

⁶⁷ CDEM Act, s 85(1)(g)

⁶⁸ CDEM Act, s 87(a)(b)

⁶⁹ CDEM Act, s 94

⁷⁰ CDEM Act, s 110

⁷¹ CDEM Act, s 29 & 30

⁷² Government Roding Powers s 61(4)(j)(m)

⁷³ Government Roding Powers s 61(10)

⁷⁴ Fire Service Act, s 28(3)(3A)

attendance. It is arguable whether actions in emergencies are exempt from the RMA⁷⁵.

Protection from liability is provided in the Act⁷⁶.

Hazardous Substances and New Organisms (HSNO) Act 1996

The HSNO Act is administered by the Ministry for the Environment and is implemented by the Environmental Risk Management Authority (ERMA) and appointed enforcement officers. Under the RMA both regional⁷⁷ and territorial⁷⁸ authorities have jurisdiction in relation to hazardous substances. All persons exercising powers or functions under the RMA must comply with HSNO⁷⁹.

The HSNO Act in emergencies deals with actual or imminent danger to human health or safety or danger to the environment or chattels so significant that immediate action is required to remove the danger⁸⁰. Hazardous substances include substances with one or more of the following properties (either independently or in contact with air or water)⁸¹:

- i) explosiveness
- ii) flammability
- iii) a capacity to oxidise
- iv) corrosiveness
- v) toxicity⁸² (including chronic toxicity)
- vi) ecotoxicity, with or without bioaccumulation

Emergency powers (for unforeseen emergencies) under the Act include:

- Premise entry⁸³
- Powers of search and seize⁸⁴
- Power to require certain action to be taken or not taken, such as stop an activity, take an action to limit emergency extent, leave an area, refrain from entering⁸⁵
- Requisition of property for use in emergency⁸⁶
- Destruction of property to limit extent of emergency⁸⁷

⁷⁵ MfE (2009), "Emergency Powers", available at: <http://www.qp.org.nz/rma-enforcement/emergency-powers/index.php> (accessed 28/10/09)

⁷⁶ Fire Service Act, s 43

⁷⁷ RMA, s 30

⁷⁸ RMA, s 31

⁷⁹ HSNO Act, s 142(2)

⁸⁰ HSNO Act, s 135(a)(b)

⁸¹ HSNO Act, s 2(1)

⁸² HSNO Act defines toxicity as capable of causing ill-health, or injury to, human beings which would include asbestos.

⁸³ HSNO Act, s 137(1)(a),(b)

⁸⁴ HSNO Act, s 137(1)(c)

⁸⁵ HSNO Act, s 137(1)(d)-(g)

⁸⁶ HSNO Act, s 137(1)(h)

⁸⁷ HSNO Act, s 137(1)(i)

Where disaster waste poses a significant health and safety threat due to the presence of hazardous substances, the HSNO Act may play a major role in management of the waste.

No action can be taken against an enforcement officer (or person acting on their behalf) under these emergency provisions⁸⁸.

Health Act (HA) 1956

The Health Act is administered by the Ministry of Health and aims to protect the health and well-being of New Zealanders.

The Health Act provides emergency powers for drinking-water emergencies⁸⁹ but does not include any provision for powers for any other public health type emergencies such as hazardous material spills (now covered by HSNO Act) or insanitary buildings (now covered by Building Act).

Under the Act, officers may remedy a situation which is considered a nuisance and may be injurious to health either directly or by harbouring disease carrying vectors without prior notice. The person responsible for the nuisance is liable for any costs incurred⁹⁰. Poorly managed solid waste following a disaster could be covered under these provisions.

While not strictly an emergency provision, the Health Act at all times has provisions for the Governor-General by Order in Council to make regulations to fulfil the following purposes (note only those relating to solid waste management have been included here):

- the inspection, cleansing, purifying, disinfection, fumigation, and isolation of ships, aircraft, houses, buildings, yards, conveyances, drains, sewers, and things⁹¹
- the destruction of insanitary things⁹²
- the transportation and disposal of the dead⁹³
- the prevention of the pollution, so as to be injurious to health, of any river, stream, watercourse, or lake, whether used as a source of water supply or not⁹⁴
- the regulation of the handling, storage, and disposal of noxious substances or of goods that are or may become injurious to health or dangerous.⁹⁵

⁸⁸ HSNO Act, s 139

⁸⁹ Health Act s 69ZZA to 69ZZG

⁹⁰ Health Act s 29 to 35

⁹¹ Health Act s 117(1)(c)

⁹² Health Act s 117(1)(c)

⁹³ Health Act s 117(1)(f)

⁹⁴ Health Act s 117(1)(v)

⁹⁵ Health Act s 119(a)

Health and Safety in Employment (HSE) Act 1992

The HSE Act is to prevent harm to people in or near places of work. The Act outlines health and safety management systems, standards and roles and responsibilities. The Department of Labour administers the HSE Act.

There are no emergency provisions in the Act.

Under the Act, the Health & Safety in Employment (Asbestos) Regulations 1998 have been established. These regulations stipulate asbestos handling, distribution and disposal. As these regulations are made under the HSE Act, which has no emergency provision, these regulations will stay in force in an emergency. There is, however, provision for disposal sites to be identified using the RMA⁹⁶, so emergency disposal sites for asbestos could be identified using the emergency provisions in the RMA.

Land Transport Act (LTA) 1998

General

The purpose of the Land Transport Act is to enhance New Zealand's land transport planning and funding and to promote safe driver behaviour. The Act is administered by the Ministry of Transport and enforced by the Police.

The Act has provision for the agency to make emergency rules⁹⁷. Emergency rules may only be considered "as may be necessary to alleviate or minimise any risk of the death of or a serious injury to a person, or of damage to property". It is unlikely actions to assist disaster waste management would be considered under this definition.

No statement of liability or exemption from prosecution under this provision is included.

Section 152 of the Act provides for rules concerning dangerous goods, these are outlined in the following section.

Dangerous Goods Rule 2007

The dangerous goods rule sets out requirements for safely transporting dangerous goods. The rules vary depending on the type, quantity and purpose of transportation. Dangerous goods are defined to include goods with flammable, toxic, corrosive or infectious properties presenting a hazard to the environment or the public.

There are no emergency provisions for this rule other than those provided in the LTA.

⁹⁶ HSE (Asbestos) Regulations s 13

⁹⁷ Land Transport Act s 162

Local Government Act (LGA) 2002

The purpose of the local government act is to outline the roles and responsibilities for local government to promote the well-being of their communities. The Act is administered by the Department of Internal Affairs.

The Act has one provision for emergency situations: the power of entry in case of emergency. This provision can be used if there is a sudden emergency causing or likely to cause – loss of life or injury to a person; or damage to property; or damage to the environment⁹⁸. However, the extent of powers to act (e.g. removing or remedying a hazard) once on the property appears to be limited.

Maritime Transport Act (MTA) 1994

The Maritime Transport Act is administered by the Ministry of Transport and is enacted by Maritime New Zealand. Its purpose is to regulate maritime safety, security and marine environment protection.

Emergency provisions are provided for marine oil spills⁹⁹. For these events the MTA has precedence over the RMA provisions¹⁰⁰. Protection from liability for those tending to a marine oil spill is provided for those acting in good faith¹⁰¹.

The carriage of Dangerous Goods is governed by Maritime Rules Part 24A. There are no provisions for carriage of dangerous goods in emergency response situations.

National Environmental Standards (NES) Relating to Certain Air Pollutants, Dioxins, and Other Toxics 2004

The National Environmental Standards (NES) Relating to Certain Air Pollutants, Dioxins, and Other Toxics are administered by the Ministry for the Environment. The standards set national standards for air quality.

The NES have no emergency provisions. But it prohibits the following activities which may be related to solid waste management in a disaster:

- a) lighting of fires and burning of waste at landfills (unless controlled landfill gas flaring or the landfill is under a certain size threshold)¹⁰²
- b) burning of bitumen on a road¹⁰³
- c) Operation of high-temperature hazardous waste incinerator (except at crematorium and 3 named existing sites)¹⁰⁴

⁹⁸ Local Government Act s 173

⁹⁹ Maritime Transport Act, s 281

¹⁰⁰ Maritime Transport Act, s 467

¹⁰¹ Maritime Transport Act, s 327

¹⁰² SR 2004/309 (2004/433 and 2005 214) clause 6

¹⁰³ SR 2004/309 (2004/433 and 2005 214) clause 8

¹⁰⁴ SR 2004/309 (2004/433 and 2005 214) clause 12

All national environmental standards established under the RMA and relating to Sections of the Act exempted during an emergency are not binding if action is taken under the emergency works provision of the RMA.

Public Works Act (PWA) 1981

The Public Works Act is administered by Land Information New Zealand and is enforced by local authorities. Its purpose is to protect and maintain Public Works including any publically owned and operated buildings, facilities, roads, infrastructure etc.

The Act provides for right of entry in emergencies onto land where there is imminent danger to life or property, or a likelihood of serious interference with any road or public work and remedial measures need to be carried out immediately. Prosecution protection is also provided by these emergency powers¹⁰⁵.

Radiation Protection Act (RPA) 1965

This Act is administered by the Ministry of Justice and enacted by the Ministry of Health and the National Radiation Laboratory. Storage, transportation and packaging of radioactive materials are regulated by this Act. Regulation 3 of the radiation protection regulations stipulate materials must be handled in accordance with the International Atomic Energy Agency Regulations for the Safe Transport of Radioactive Material (IAEA Transport Regulations).

There are no emergency provisions in this act.

Waste Minimisation Act (WMA) 2008

The WMA is administered by the Ministry for the Environment and is largely implemented by local government authorities under the Local Government Act. The Act aims to protect the environment from harm and provide environmental, social, economic and cultural benefits¹⁰⁶. It includes for waste levies, product stewardship initiatives and territorial authority roles and responsibility.

Territorial authorities may introduce bylaws to regulate waste management practices including collection, transportation and disposal of waste¹⁰⁷. These bylaws will vary between jurisdictions but unless stated otherwise in the bylaw, they will be effective in an emergency situation.

There is a provision to allow the waiver of waste disposal levy payment¹⁰⁸ in 'exceptional circumstances'.

¹⁰⁵ Public Works Act, s 234

¹⁰⁶ WMA s 3

¹⁰⁷ WMA s 56(1)

¹⁰⁸ WMA s 29