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Access Economics

Regulatory Impact Statement for Dangerous Goods (Transport by Road or Rail) Regulations 2018

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Glossary

Acronym	Full name
ADG Code	Australian Code for Transport of Dangerous Goods by Road & Rail
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AESIG	Australian Explosives Industry and Safety Group Inc
CAP	Competent Authorities Panel
CBA	Cost-benefit analysis
CFA	Country Fire Association
COAG	Council of Australian Governments
DG	Dangerous Goods
DGSA	Dangerous Goods Safety Adviser
DRIS	Decision Regulatory Impact Statement
Duty holders	Business that hold current DG vehicle licences
e.g.	For example
EIP	Emergency Information Panel
EQ	Excepted Quantities
HSBU	Health and Safety Business Unit
IBC	Intermediate bulk container
i.e.	That is
IGA	Inter-Governmental Agreement for the Regulatory and Operational Reform in Road, Rail and Intermodal Transport
LPIS	Legislation, Policy and Information Services Division
LQ	Limited Quantities
MFB	Metropolitan Fire Brigade
Model Act	Model Act on the Transport of Dangerous Goods
Model Regulations	Model Subordinate Instrument on the Transport of Dangerous Goods by Road or Rail
MPU	Mobile Processing Unit
MPU Code	Code of Practice: Mobile Processing Units
NSW	New South Wales
NTC	National Transport Commission
OCBR	Office for the Commissioner of Better Regulation
OHS Act	Occupational Health and Safety Act 2004
OHS Regulations	Occupational Health and Safety Regulations 2017
ONRSR	Office of the National Rail Safety Regulator
RDP	Retail distribution package
RIS	Regulatory Impact Statement
TDG Regulations	Transportation of Dangerous Goods Regulations

The Act	Dangerous Goods Act 1985
The Guide to Regulation	The Victorian Guide to Regulation
The Regulations	Dangerous Goods (Transport by Road or Rail) Regulations 2008
The Rule	Land Transport Rule: Dangerous Goods 2005
TIC	Transport and Infrastructure Council
TISOC	Transport and Infrastructure Senior Officials' Committee
UK	United Kingdom
UN Model Regulations	United Nations Model Regulations for the Transport of Dangerous Goods
UN Recommendations	United Nations Recommendations on the Transport of Dangerous Goods - Model Regulations
US	United States
WorkSafe	WorkSafe Victoria

Executive Summary

Purpose of this RIS

The transportation of dangerous goods by road or rail in Victoria is regulated by the Dangerous Goods (Transport by Road and Rail) Regulations 2008 (the Regulations).

The Regulations are due to sunset by December 16 2018. A Regulatory Impact Statement (RIS) must be prepared for new regulations in accordance with the Commissioner for Better Regulation's *Victorian Guide to Regulation* (the Guide to Regulation) and the *Subordinate Legislation Act 1994*. The purpose of the RIS is to facilitate consultation with the community on the best approach to regulate the transport of dangerous goods. It also provides a framework for Government to develop and explain policy, and provides a foundation for effective and efficient regulation.

Legislative framework

The transportation of dangerous goods by rail or road in Victoria is subject to the relevant provisions of the *Dangerous Goods Act 1985* (the Act). The Act sets out a range of duties for the manufacture, storage, transport, transfer, sale, purchase and use of dangerous goods.

The Regulations are made under Section 52 of the Act. The Regulations facilitate the operation of the Act in relation to the transport of dangerous goods, particularly through Section 31A (which prohibits the transport of goods that are too dangerous to transport) and Section 31B of the Act (which requires that dangerous goods be transported in a safe manner, so far as reasonably practicable).

In the Act and the Regulations, the transport of dangerous goods includes any of the following activities:

- Importing, or arranging for the importation of, dangerous goods into Australia
- Packing dangerous goods for transport
- Marking or labelling packages containing dangerous goods for transport
- Placarding containers and vehicles in which dangerous goods are transported
- Consigning dangerous goods for transport, including the preparation of transport documentation
- Loading dangerous goods onto a vehicle, or into a container that is to be put on a vehicle, for transport
- Unloading dangerous goods that have been transported
- Handling fumigated cargo transport units
- Driving a vehicle carrying dangerous goods
- Maintaining vehicles and equipment used in the transport of dangerous goods
- Following appropriate procedures such as the implementation of emergency plans in dangerous situations
- Being the consignee of dangerous goods that are transported
- Undertaking, or being responsible for, the transport of dangerous goods, otherwise than as an employee or sub-contractor
- Being involved as a director, secretary or manager of a body corporate, or other person who takes part in the management of the body corporate, that takes part in an activity included in this list.

The Regulations are guided by a national framework for the transport of dangerous goods by road or rail. The national framework includes a national model set of laws to reduce the risks of personal injury, death, property damage and environmental harm arising from the transport of dangerous goods by road or rail. The National Transport Commission (NTC) is responsible for monitoring and managing the Transport of Dangerous Goods laws in Australia, and introduced the national framework in 2008. The national framework provides uniformity and consistency in transporting dangerous goods across jurisdiction and harmonises Australian regulations with international intermodal regulations (published by the United Nations (UN)). The Regulations give effect to the Australian Dangerous Goods Code (ADG Code) and Model Regulations. A comprehensive framework is in place to evaluate this regulatory framework.

A number of change proposals to the ADG Code and Model Regulations were submitted by the NTC for approval by the Transport and Infrastructure Senior Officials' Committee (TISOC). These were endorsed by TISOC on 23 March 2018 for submission to Transport Ministers for endorsement. The proposed amendment package was endorsed by Ministers at the TIC meeting on 18 May 2018. Jurisdictions will need to make arrangements to adopt the new model laws in the second half of 2018.

The problem

The properties of dangerous goods – including but not limited to their flammability, toxicity, explosiveness and corrosiveness – mean that if not transported safely, they pose the following significant risks:

- Risk of direct harm to individuals, resulting in serious injury or death. These individuals can include:
    - Drivers of transportation of dangerous goods
    - Employees responsible for packing and loading (or unpacking and unloading) the dangerous goods
    - Emergency workers called to respond to incidents
    - Nearby bystanders or transport system users (particularly in the event of a fire or explosion)
- Risk of harm to private and public infrastructure, such as damage to the transporting vehicle itself, other vehicles, public transport infrastructure (e.g. roads, rail) and other nearby infrastructure
- Risk of harm to the environment, such as air pollution or chemical spillage into sensitive environmental areas
- Risk of productivity and economic costs, such as delays to other road users due to road closures following fires or chemical spills on the motorways.

Given the extent of these harms, there is a substantial body of legislation in place that seeks to minimise them, including the Victorian legislative framework, the national framework which guides the Victorian framework, as well as the international intermodal regulations.

It is difficult to obtain data that provides a clear demonstration of the nature and extent of the problem, particularly data that is Victorian specific. This may indicate that the current Regulations (including relevant enforcement activity) are effective in preventing harm to humans and infrastructure. However, this also means it is difficult to accurately quantify the benefits of the Regulations.

In consultation, transport businesses overwhelmingly emphasised the importance of Victoria maintaining national consistency in regards to the regulations around the transport of dangerous goods.

Options to achieve the objectives

Regulatory impact analysis for sunsetting regulations involves assessing options to achieve specific objectives against the 'base case'. The base case is the scenario that would occur if the existing Regulations lapsed and were not remade. This allows the analysis to assess the costs and benefits of the existing Regulations, as well as any alternative methods to achieve the objectives or changes to the status quo that might improve the effectiveness and/or reduce the cost of the existing Regulations.

Options considered in this RIS include:

- Draft new, Victorian-specific Regulations (and potentially a Victorian-specific code)
- Remake the existing Regulations in their current form without incorporating any of the endorsed changes to the ADG Code and Model Regulations
- Remake the existing Regulations incorporating the endorsed changes to the ADG Code and Model Regulations, as well as other changes raised during the consultation process that are no longer proceeding at a national level, and
- Remake the existing Regulations incorporating the endorsed changes to the ADG Code and Model Regulations, but not any other changes raised during the consultation process that are no longer proceeding at a national level.

The first three options were not considered in detail because:

- The consultation process undertaken did not identify any specific Victorian circumstances that require or justify provisions for the transport of dangerous goods that differ from the national arrangements

- There is no evidence to suggest that the broad regulatory framework is not working effectively, and
- Stakeholders consulted strongly believe with that there are significant benefits associated with national consistency, which makes changes beyond those incorporated in the national ADG Code undesirable.

This RIS therefore considers only one option in detail: to remake the existing Regulations with changes to reflect the endorsed changes to the ADG Code and Model Regulations. These changes are brought about through existing national two yearly review process and are summarised in Table 0-1 below.

Table 0-1 Changes to the current Regulations under the proposed remade Regulations

Proposed change	Brief description
Giving legal status to empty packaging requirements currently contained in the ADG Code	This change will amend Part 7 of the Model Regulations and Part 7 of the proposed Regulations (Transport operations relating to certain dangerous goods) to permit empty containers and packagings to be transported in compliance with Chapter 7.2 of the ADG Code (Transport of empty packagings and containers). This amendment will clarify that Part 7 applies to the transport of empty dangerous goods packaging and the concessional requirements provided in Chapter 7.2 of the ADG Code. It will clarify who has duties in relation to the transport of empty dangerous goods packaging which provides clarity around compliance requirements and strengthens enforcement capability.
Exemption of mobile processing units (MPUs) if they comply with the Code of Practice: Mobile Processing Units (MPU Code)	This change will amend section 1.1.6 of the Model Regulations and Regulation 25 of the proposed Regulations (Further exemptions) to exempt MPUs from the ADG Code if they are licenced under the relevant state or territory explosives regulations to rectify inconsistencies and reduce duplication of licensing requirements and compliance checks. A definition of MPU will also be inserted into the Model Regulations and the proposed Regulations. The exemption will not extend to any trailer being towed by an MPU. The note in section 1.1.2 of the ADG Code (Exceptions to applications) will also be amended to reflect the exemption in the Model Regulations.
Further exemptions for specific types of limited quantities of dangerous goods	This change will exempt all personal care products in consumer packaging from the Model Regulations, as well as provide regulatory concessions for low risk dangerous goods such as household cleaners, due to the low risk nature of these types of products to be known as Mixed Packet (low risk dangerous goods). This change will affect the ADG Code, and no changes are required to the Model Regulations or are required to be incorporated into proposed Regulations to give effect to these changes.
Clarification of the load restraint requirements for bundles of cylinders	This change will update the ADG Code so that it provides clarity on how cylinders are to be restrained so that the ADG Code is consistent with the other guidelines such as the set out in 'Load Restraint Guide'[1]. Currently section 8.1.3.2 of the ADG Code (Open and non-rigid sided vehicles and containers) requires 'Bundles of Cylinders' to be transported using rigid sides of gates. It is proposed to amend section 8.1.3.5 of the ADG Code by including the term 'Bundles of Cylinders". This amendment will exempt "bundles of cylinders' from the requirements set out on section 8.1.3.2 if they are restrained in a manner that complies with load restraint requirements set out in 'Load Restraint Guide'.

[1] https://www.ntc.gov.au/Media/Reports/(E62BE286-4870-ED95-1914-1A70F3250782).pdf

	This change will affect the ADG Code, and no changes are required to the Model Regulations or are required to be incorporated into the proposed Regulations to give effect to these changes.
Introduce excepted quantities (EQs) exemption	This change will amend Part 5 of the Model Regulations and Part 5 of the proposed Regulations (Consignment procedures). Chapter 3 of the ADG Code will also be updated to reflect this change proposal. The change will improve the consistency between the Model Regulations and the ADG Code with international practice, by incorporating the UN provisions for EQs.
Changes made to align with UN Recommendations (UN 20)	Australia, including Victoria, will adopt the changes arising from the UN Recommendations in the ADG Code on the basis that the safety and cost considerations have been assessed at a national level. Unless there is something specific in relation to dangerous goods transport in Australia that make the cost of implementation not proportional to the safety benefits or that the change would result in a safety reduction, the changes are automatically adopted in Australia. There are a number of additional requirements relating to the new substances added to the Dangerous Goods list. There have been a number of changes in relation to special provisions and packing requirements particularly in relation to lithium ion batteries and vehicles powered by batteries and other DG Goods. Any references to 'Subsidiary Risk' in the Model Regulations and the Regulations will be replaced with 'Subsidiary Hazard' to reflect terminology made in the latest UN Regulations (UN 20). There will be no change to compliance requirements. Special provision 392, which provides some concessions for the transport of various flammable gases (provided there is compliance with applicable international standards or regulations) is not be adopted by Australia, and included in the ADG Code, until further consideration is given to impact of compliance with the European standards list as part of the next two yearly review process.

Impact analysis

The costs of compliance with the proposed Regulations (the preferred option) were estimated for this RIS from 30 responses to a survey (conducted in one-on-one consultations or completed via an online survey) following targeted contact made with 360 duty holders who transport dangerous goods and associated activities. The key costs identified relate to different requirements of the Regulations such as training, packaging, marking and labelling and placarding.

The surveys were used to determine the cost of complying with the existing Regulations, and then to determine how the proposed changes to the ADG Code and Model Regulations would affect those costs.

The estimated costs imposed by the Regulations have been estimated as being quite limited. From the analysis, the proposed Regulations would result in $6,708,912 of total costs incurred by industry per annum.

As the benefits are very difficult to quantify due to a lack of data, break-even analysis was conducted to determine the amount of benefits required to break-even with the estimated costs associated with the proposed Regulations. The Regulations would break even in terms of costs and benefits to society if they saved at least two lives per year, where the statistical value of a life is $4,436,421, based on Victorian Government guidance on the value of a statistical life[2] ($3.5 million in 2006-07[3], inflated to 2016-17 dollars[4]).

[2] Department of Treasury and Finance (2013). Economic Evaluation for Business Cases, Technical Guidelines, August 2013.

This does not capture the amount of injuries or illnesses avoided, the benefits of which would ideally be incorporated if there was sufficient data on the number of incidents and associated costs.

A summary of estimated costs and the break-even threshold is shown in Table 0-2.

This appears to be a realistic and achievable level of reduction in incidence and consequence as a result of the proposed Regulations based on historic data and currently available information.

Table 0-2 Summary analysis of the proposed Regulations[5]

Impact analysis		
Costs	**Per business (per annum)**	**Overall (per annum)**
Costs associated with interpreting the Act, should no Regulations exist	$1,221	$495,788
Incremental, ongoing costs associated with the Regulations as they currently are	$15,452	$6,273,324
Costs associated with the proposed changes to the Regulations	($1,286)	($522,200)
Costs to Government	-	$462,000[a]
Total		**$6,708,912**
	Benefits	
Lives to break even		**1.51**

Note [a] Does not include offset to reflect fee revenue collected by WorkSafe.

It is also noted that as the break-even analysis focuses on only benefits in terms of lives saved, it does not fully reflect other potential benefits, such as a reduction in:

- The risk of injury to individuals
- The risk of harm to private and public infrastructure
- The risk of harm to the environment
- The risk of productivity and economic costs.

Therefore the break-even analysis is considered to be quite conservative in the benefits that are being included in comparison to costs.

Sensitivity analysis

As with any cost-benefit analysis it is prudent to consider what the final results could be under different assumptions, a process known as sensitivity analysis. The variation considered for this cost-benefit analysis is the break-even analysis for the scenario where costs are 20% higher. Under the sensitivity analysis scenario, the Regulations would still, on average, need to prevent at least two fatalities per year to break-even.

[3] Dr Peter Abelson (2008). Establishing a Monetary Value for Lives Saved: Issues and Controversies, Working papers in cost-benefit analysis.
[4] RBA (2017). Inflation Calculator.
[5] As costs are not considered likely to change significantly across the regulatory period it is assumed that costs and benefits are the same for each year of the life of the proposed Regulations.

A summary of the break-even analysis including sensitivity analysis is provided in Table 0-3, below.

Table 0-3 Summary of breakeven analysis including sensitivity analysis

	Impact analysis	**Sensitivity analysis**
	Costs (per annum)	
Costs to businesses	$6,246,912	$7,496,294
Costs to Government [a]	$462,000	$554,400
Total	**$6,708,912**	**$8,050,694**
	Benefits	
Lives to break even	**2 (1.51)**	**2 (1.81)**

Note [a] Does not include offset to reflect fee revenue collected by WorkSafe.

Fees analysis

The proposed Regulations:

- Reduce the fee for new vehicle licences and renewals, and
- Introduce prescribed fees for other regulatory activities.

These changes are proposed to better reflect WorkSafe's costs in administering the Regulations, specifically:

- Where the cost of a regulatory activity can be adequately determined (e.g. for processing licences and applications), the fee for that activity has been set to fully recover costs, and
- Where the cost of an activity is unknown, fees have been set based on the cost of similar processes conducted by WorkSafe under the OHS Regulations (e.g. exemptions and administrative determinations).

Fees have also not been prescribed for applications currently deemed unlikely or unfeasible by WorkSafe (approvals of Type II segregation devices and disposal and transfer of licenced vehicles).

Table 0-4, below, summarises the proposed fees. Under this proposed option the cost recovery amount is expected to be over $160,000.

Table 0-4 Summary of proposed fees in 2017/18

Application type	Current fees	Fee unit*	Fees in 2017/18	Expected number of applications	Total revenue expected
Approval of design packaging (non-bulk tanker design)	-	17.93	$255.00	65	$16,575
Approval of design packaging (bulk tanker design)	-	57.10	$812.00	40	$32,480
Exemptions	-	46.20	$657.00	2	$1,314
Administrative determinations	-	46.20	$657.00	Unknown	Unknown
New drivers licence	-	5.77	$82.00	657	$53,874
Drivers licence renew	-	5.49	$78.10	425	$33,193
New/renew vehicle licence	$60	0.98	$13.90	1862	$25,882
Approvals of Type II segregation devices	-	-	-		-
Disposal and transfer of licensed vehicles	-	-	-		-
Total					**$163,317**

*Note: As per the General Gazette Number G13 dated 30 March 2017, fee units are $14.22 in 2017/18.

1 Introduction

This chapter outlines the purpose of this Regulatory Impact Assessment (RIS), the regulatory framework which forms the subject of the RIS and the methodology and structure of this RIS.

1.1 Purpose of this RIS

As the *Dangerous Goods (Transport by Road or Rail) Regulations 2008* (the Regulations) are due to sunset on December 16 2018, a RIS must be prepared for the new regulations in accordance with the Commissioner for Better Regulation's *Victorian Guide to Regulation* (the Guide to Regulation) and the *Subordinate Legislation Act 1994*. The purpose of the RIS is to facilitate Government consultation with the community on the best approach to achieve its objectives. It also provides a framework for Government to develop and explain policy advice, and provides a foundation for effective and efficient regulation.

The Guide to Regulation sets out the aims and requirement of a RIS, which are to answer the following key questions:

- Why is the Government considering action?
- What outcome is the Government aiming to achieve?
- What are the possible different courses of action that could be taken?
- What are the expected impacts of feasible options and what is the preferred option?
- What are the characteristics of the preferred option, including small business and competition impacts?
- How will the preferred option be implemented?
- When (and how) will Government evaluate the effectiveness of the preferred option in meeting the objectives?

Deloitte Access Economics has been engaged by the Victorian Government to assist in the preparation of the RIS.

We note that Victoria has adopted the national Model Subordinate Instrument on the Transport of Dangerous Goods by Road or Rail (Model Regulations). As such, when the Regulations were originally made in 2008, an exemption from the Victorian RIS requirements was granted due to the fact that a Decision Regulatory Impact Statement (DRIS) was undertaken at a national level. The Commonwealth Office of Regulation Review (now the Office of Best Practice Regulation) advised the National Transport Commission (NTC) that the DRIS met Council of Australian Governments (COAG) Principles and Guidelines, and was deemed suitable for final decision making. The Victorian Government was satisfied that the DRIS prepared by the NTC was adequate and this DRIS was used by the Government to inform final decision making. The link between the national model legislation and Victorian legislation is explained in Chapter 2.

1.2 Existing Legislative Framework

In Victoria, the transportation of dangerous goods by rail or road is subject to the relevant provisions of the *Dangerous Goods Act 1985* (the Act). The Act sets out a range of duties for the manufacture, storage, transport, transfer, sale, purchase and use of dangerous goods.

The Regulations are made under Section 52 of the Act to facilitate the Act's operation. The Regulations facilitate the operation of the Act in relation to the transport of dangerous goods, particularly through Section 31A (which prohibits the transport of goods that are too dangerous to transport) and Section 31B of the Act (which requires that dangerous goods be transported in a safe manner, so far as reasonably practicable).

Importantly, Section 10 of the Act enables any regulation made under the Act to incorporate or adopt the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) by referencing provisions within the ADG Code. As such, multiple sections of the Regulations give legal force to the ADG Code so far as they apply to the transport of dangerous goods. The ADG Code incorporates the United Nations

Recommendations on the Transport of Dangerous Goods – Model Regulations (UN Recommendations) with some Australia specific adjustments that reflect Australian dangerous goods transport practices or requirements. Similarly, all other Australian states and territories give legal force to the ADG Code through their dangerous goods transport laws.

The ADG Code is drafted and managed by the NTC. It is reviewed every two years with input from Australian dangerous goods regulators and industry. The role of the NTC and the interactions between Commonwealth Government model laws and the Victorian Government legislation are further discussed in Section 2.4.

1.3 Methodology overview and report structure

The impact assessment has been conducted through a five step approach:

Step 1 **Problem definition** **Chapters 2, 3 and 4**

The problems that may be potentially addressed through the change in regulation were defined. The problems were defined with respect to the core objectives of Government's responsibility to Victorians and their safety.

Step 2 **Options identification** **Chapter 5**

Options that could address the defined problems were identified, including both regulatory and non-regulatory options. Options which were deemed less feasible or less relevant were not pursued any further.

Step 3 **Impact analysis and preferred option** **Chapter 6**

The feasible option and base case were assessed through impact analysis. This is supported by a qualitative discussion of intangible costs and benefits from different perspectives. The feasible option is then further discussed. The implications of the preferred option for small business were also investigated.

Step 4 **Fees assessment** **Chapter 7**

The Regulations provide the ability to prescribe fees for a number of licences and applications. Three options around the fee structure were assessed through a multi-criteria analysis.

Step 5 **Implementation and evaluation strategy** **Chapter 8**

Practical issues relating to the implementation and enforcement of the preferred option were considered. A methodology for ongoing evaluation of its performance against the desired objectives is proposed.

1.4 Consultation process

The preparation of a RIS requires consultation be undertaken regarding the existing and proposed Regulations, alternative options and the costs and benefits associated with each option. Extensive consultation for this RIS has taken place with industry groups and businesses impacted by the existing Regulations and potential options for reform.

Deloitte directly contacted 360 duty holders by phone to invite them to participate in the consultation process. To support Deloitte in reaching as many potential duty holders as possible, WorkSafe also promoted the survey link on its online social media, inviting relevant business owners to participate if interested.[6]

Many of the businesses contacted declined to participate in the consultation process, including some that noted that they were no longer in the business of transporting dangerous goods. However, in respect of those businesses that agreed to participate:

[6] To ensure that this consultation process involved only business owners or representatives (rather than with the broader public and community), the first question of the survey asked participants to identify if they, or their business, was associated with the transport of dangerous goods by road or rail.

- 10 phone or in person interviews were held with businesses that hold current dangerous goods (DG) licences. We also provided a survey link to all businesses that were willing to participate.
- There were 29 total responses to the online survey, with 20 responders being associated with the transport of dangerous goods by road or rail. Participants who responded included members from industry bodies and representatives of business with current DG licences.

In addition, five phone or in person interviews were conducted with peak industry bodies, including the Mineral Councils of Australia (81 members), the National Bulk Tanker Association (60 members), Chemistry Australia (70 members), Accord (101 members) and Victorian Waste Association (130-140 members). The members of these groups include those that may be impacted by the proposed Regulations, and were invited to complete the online survey.

Consultation was also undertaken with the Metropolitan Fire Brigade (MFB), a key agency involved in the emergency response to dangerous goods incidents.

To ensure that the consultation reflected a variety of views, a cross-section of small, medium and large businesses that operate across different industries was identified (e.g. petrol, chemical, retail, horticultural). The consultation process also targeted a spread of businesses that only employ staff in Victoria, as well as other national businesses. However it became apparent that there is only a very small subset of businesses that only operate within Victoria, as many of the smaller Victorian businesses indicated that they would often transport across borders if a job arose. The cohort of businesses contacted through the RIS consultation process is further detailed in Chapter 6.

The questions asked in phone interviews with businesses were identical to the questions in the online survey, which is attached in Appendix A: Online survey questionnaire. For industry groups, we asked a subset of the questions, and did not seek detailed cost information unless offered, as industry groups did not have access to this information.

The consultation was completed between September and November 2017. We note that since the conclusion of the consultation, the scope of the proposed regulatory changes, which are reflected in this RIS, has evolved as a result of the ongoing consideration of changes at a national level. As such, the consultation questions do not reflect the entirety of the proposed changes in the RIS. However, we consider that the consultation process has provided sufficient information on potential response to regulatory changes for the purposes of this RIS.

2 Background

This chapter provides important background on dangerous goods and their regulation, and specifically the legislative framework for the transport of dangerous goods by road and rail in Victoria.

2.1 What are Dangerous Goods?

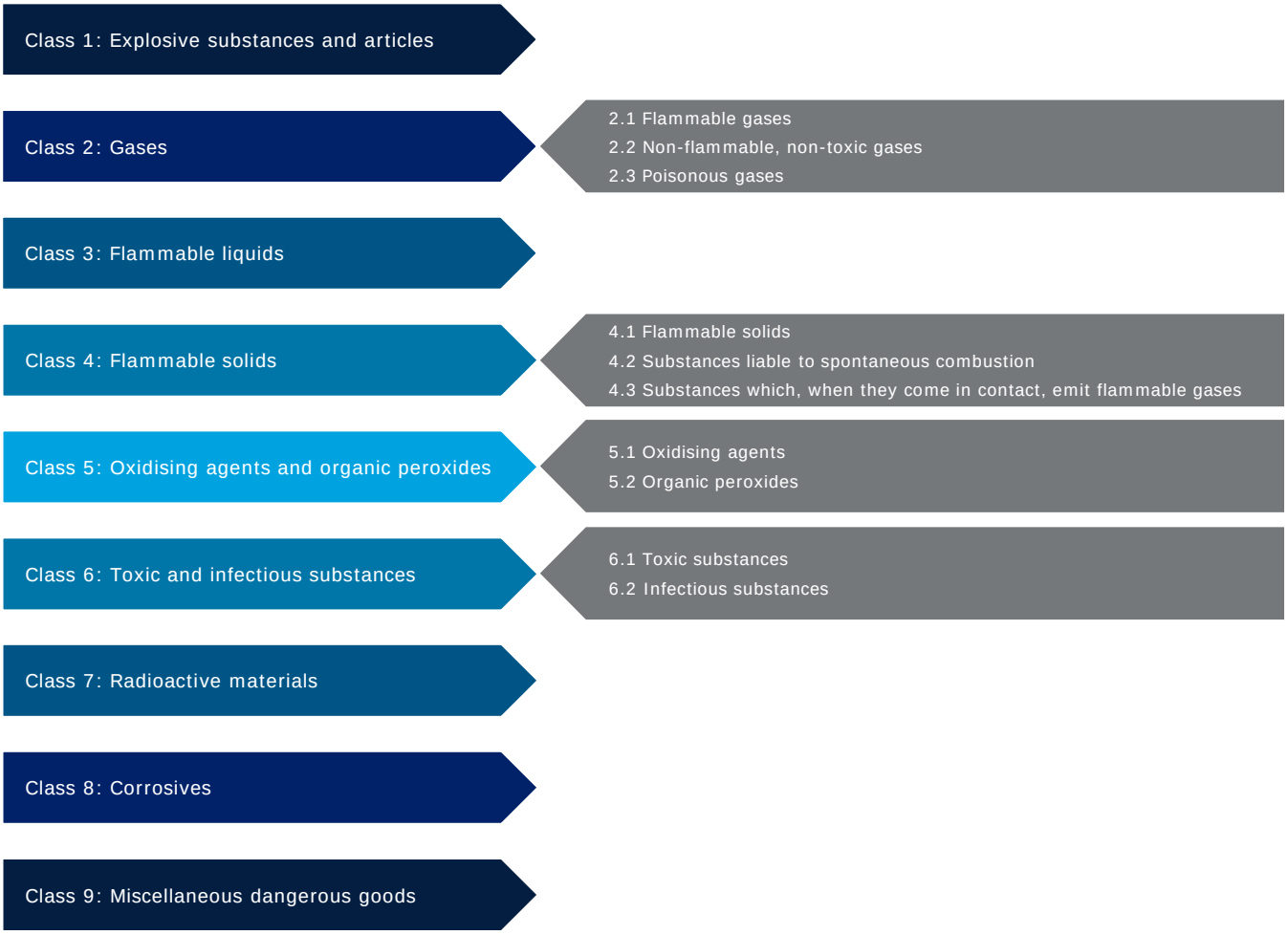
Dangerous goods are substances that pose an immediate risk to life and health and include material that are corrosive, flammable, explosive, spontaneously combustible, toxic, oxidising or water-reactive. Petrol, LPG, paints, pesticides and acids are examples of commonly used dangerous goods.

Dangerous goods can cause significant damage if they are manufactured, transported, stored or handled incorrectly. Incidents involving dangerous goods may result in explosions or fires, and have the potential to cause serious, fatal injuries or health problems (e.g. poisoning or chemical burns) as well as large-scale damage to property and the surrounding environment (e.g. air pollution).[7]

The Act sets out the legislative framework for the manufacture, storage, transport, transfer, sale and use of dangerous goods in Victoria. The Act defines dangerous goods in a similar way to the ADG Code.[8] The ADG Code classifies dangerous goods based on certain criteria regarding the hazard that items present. There are nine classes and each class has subdivisions.

[7] WorkSafe. Dangerous Goods, available at: www.WorkSafe.vic.gov.au (accessed November 2017).
[8] The Act defines dangerous goods as having the same meaning in the ADG Code except that Class 1 dangerous goods in the ADG Code are not dangerous goods for the purposes of the Act and explosives, combustible liquids having a flash point higher than 60° Celsius, high consequence dangerous goods, goods defined as too dangerous to be transported and substances declared to be dangerous goods by an Oder in Council as also dangerous goods.

Figure 2-1 Dangerous Goods Classification System in Victoria



Source: Deloitte analysis of ADG Code.

2.2 Transportation of dangerous goods in Victoria

In the Act and the Regulations, the transport of dangerous goods includes any of the following activities:

- Importing, or arranging for the importation of, dangerous goods into Australia
- Packing dangerous goods for transport
- Marking or labelling packages containing dangerous goods for transport
- Placarding containers and vehicles in which dangerous goods are transported
- Consigning dangerous goods for transport, including the preparation of transport documentation
- Loading dangerous goods onto a vehicle, or into a container that is to be put on a vehicle, for transport
- Unloading dangerous goods that have been transported
- Handling fumigated cargo transport units
- Driving a vehicle carrying dangerous goods
- Maintaining vehicles and equipment used in the transport of dangerous goods
- Following appropriate procedures such as the implementation of emergency plans in dangerous situations
- Being the consignee of dangerous goods that are transported
- Undertaking, or being responsible for, the transport of dangerous goods, otherwise than as an employee or sub-contractor

- Being involved as a director, secretary or manager of a body corporate, or other person who takes part in the management of the body corporate, that takes part in an activity included in this list.

Dangerous goods are primarily transported via road in Victoria, with rail only being used occasionally for this purpose (transport of dangerous goods by rail is much more common in some other States, notably Queensland). Dangerous goods are transported across the state every day, from petrol tankers moving thousands of litres of LPG, to local tradespeople carrying cylinders of acetylene in their vans.

To transport dangerous goods, and as specified in the Act and Regulations, a person must hold a current dangerous goods driver licence to drive a licensed vehicle to carry dangerous goods. This licence is valid for up to five years.

Currently in Victoria, there are approximately 400 businesses that hold:

- DG driver licences (5,490)
- DG vehicle licences (5,435).[9]

These duty holders represent the vast majority of those businesses that are affected by the Regulations and ADG Code. However, while the name and number of licence holders is known, there is little consolidated information available about such things as:

- The nature of the dangerous goods that are transported
- The characteristics of the businesses that hold the licences
- The relative proportion of vehicles that just transport dangerous goods within Victoria, as distinct from those that operate nationally.

2.3 The legislative framework for dangerous goods under the Act

In Victoria, a range of regulations are made under the Act. In addition to the Regulations, the following instruments regulate other aspects or types of dangerous goods:

- **Dangerous Goods (High Consequence Dangerous Goods) Regulations 2016**
  Sets out the legal requirements for access to high consequence dangerous goods and management of risks arising out of security concerns associated with explosives and high consequence dangerous goods. High consequence dangerous goods are defined as those which have the potential for misuse in a terrorist event, such as most explosives, toxic gases and some radioactive material.
- **Dangerous Goods (Storage and handling) Regulations 2012**
  Sets out the legal requirements for the storage and handling of dangerous goods, including classification and labelling, preparation of a Material Safety Data Sheet, worker consultation and training, risk assessment and review, design of new premises, plant, processes and systems of work, fire protection systems, external placarding, registers, incidents and notification of quantities in excess of manifest quantities.
- **Dangerous Goods (Explosives) Regulations 2011**
  Sets out the legal requirements for the manufacture, storage, sale, import, transport and use of explosives. Examples of explosives include fireworks, ammonium nitrate/fuel oil mixes, blasting primers, detonators, smokeless powder, fuses, rail track signals, distress flares and safety cartridges.

2.4 The national framework for the transport of dangerous goods

The Regulations are guided by a national framework for the transport of dangerous goods by road or rail which provides a single national set of laws to reduce the risks of personal injury, death, property damage and environmental harm arising from the transport of dangerous goods by road or rail.

The NTC is responsible for monitoring and managing the Transport of Dangerous Goods laws in Australia, and introduced the national framework in 2008. The national framework includes:

- The *Model Act on the Transport of Dangerous Goods* (Model Act)
- The *Model Subordinate Instrument on the Transport of Dangerous Goods by Road or Rail* (Model Regulations)

[9] Internal WorkSafe data

- The ADG Code.

The Model Act sets out, in general terms, the legal requirements for transporting dangerous goods by road and rail, and establishes the relevant regulatory framework.

The objectives the Model Act are to:

- Ensure dangerous goods are transported safely
- Ensure uniformity and consistency in technical requirements across jurisdictions for transporting dangerous goods by road and rail
- Harmonise Australian regulations with international intermodal regulations.

Its complement, the Model Regulations, sets out specific legal requirements for transporting dangerous goods by road and rail. It identifies the responsible industry duty holders in the transport of dangerous goods and imposes obligations and penalties (for failure of duty) on each of those in the land transport chain to ensure that dangerous goods are transported safely.[10]

The Model Act, Model Regulations and the ADG Code do not have legal effect in their own right, and only become law when each jurisdiction replicates them in their own regulations. For example, the Act in Victoria has adopted some provisions from the Model Act, while the Regulations are modelled on the Model Regulations. Various sections of the Regulations refer to and give legal effect to the ADG Code.

As part of its role, the NTC reviews and updates the ADG Code every two years, in collaboration with industry and representatives of each State and Territory regulatory body responsible for dangerous goods and arranges any consequential amendments to the Model Act and Model Regulations.

This helps meet international best practice and evolving user needs in Australia, and is part of an ongoing strategy to ensure consistent Australian transport requirements, and to align Australian transport requirements with international regulations covering the safe transport of dangerous goods. The NTC reports to federal government through the Transport and Infrastructure Council (TIC), which then approves the updates to the legislative framework. A brief overview of this organisation is provided in Figure 2-2, below.

Figure 2-2 Brief overview of key Commonwealth organisations involve in the regulation of dangerous goods

National Transport Commission (NTC)

The NTC is an independent advisory body that provides impartial advice and national land transport reform proposals to government through the TIC.

The NTC is funded by Commonwealth, state and territory governments. Its strategic objectives are to improve transport productivity, improve environmental outcomes, support a safe transport system and improve regulatory efficiency.

Transport and Infrastructure Council (TIC)

The TIC brings together Commonwealth, state, territory and New Zealand Ministers with responsibility for transport and infrastructure issues, as well as the Australian Local Government Association.

It was initiated in 2013 by COAG, which agreed to a new Council System to better enable COAG to focus on, and progress, nationally significant reforms.

Council of Australian Governments (COAG)

COAG is the peak intergovernmental forum in Australia.

It is chaired by the Prime Minister and other members include state and territory First Ministers and the President of the Australian Local Government Association.

COAG's agenda is very broad and focusses on improving the current and future wellbeing of all Australians.

Sources: NTC website, TIC website, COAG website.

The duties and responsibilities outlined in the Model Regulations are based on the technical requirements set out in the ADG Code, which is modelled on UN Recommendations found in the United Nations Model Regulations for the Transport of Dangerous Goods (UN Model Regulations). Background on the UN Recommendations is provided in Figure 2-3, below.

[10] NTC. ADG Code edition 7.5.

UN Recommendations on the Transport of Dangerous Goods – Model Regulations (UN Recommendations)

These recommendations were developed by the United Nations Economic and Social Council's Committee of Experts on the Transport of Dangerous Goods and aim to ensure the safety of people, infrastructure and the environment. They are addressed to governments and international organisations concerned with the regulation of the land transport of dangerous goods. It is expected that governments and organisations will conform to the principles laid down in these UN Model Regulations, inclusive of the UN Recommendations, when revising or developing regulations, and contribute to worldwide harmonisation in this field.

The UN Model Regulations covers principles of classifications and definitions of classes, listing of the principal dangerous goods, general packing requirements, testing procedures, marking, labelling or placarding, and transport documents.

Figure 2-3 Brief overview of the international guidelines for the transport of dangerous goods

Victoria has been part of a national framework since 2003 when it signed the Inter-Governmental Agreement for the Regulatory and Operational Reform in Road, Rail and Intermodal Transport (IGA) through COAG. The IGA agrees to a uniform or nationally consistent approach in regards to improving transport productivity, efficiency, environmental performance and safety.

A nationally consistent approach was established to reduce the regulatory burden for businesses in relation to the transport of dangerous goods, particularly for businesses that transport goods across multiple states, but also to improve safety and environmental outcomes, provide consistent protection for Australians. It also facilitates and encourages interstate trade which may improve economic outcomes.

2.5 Other Victorian legislation

In addition to the DG Act and DG (TRR) Regulations, a range of other Victorian legislation is also relevant to the transport of dangerous goods. The *Occupational Health and Safety Act 2004* (OHS Act) and *Occupational Health and Safety Regulations 2017* (OHS Regulations) are of particular relevance. The OHS Act and Part 4.1 of the OHS Regulations provide for regulatory control of hazardous substances. In particular there are requirements to ensure that sufficient information about hazardous substances is provided and effective control measures are implemented to protect employees. Since many dangerous goods are also classified as hazardous substances, the OHS Act and OHS Regulations will often apply in addition to the Act and the Regulations.[11]Regulation in other jurisdictions

2.5.1 Across Australia

As noted previously, each Australian jurisdiction adopts provisions from the Model Act and largely adopts the Model Regulations in their own legislation, giving legal effect to the ADG Code. Businesses must comply with the relevant State or Territory specific Act and Regulations. When a vehicle transporting dangerous goods crosses the border from, say, Victoria to NSW it is no longer subject to the Victorian Act and Regulations, and must comply with the Dangerous Goods (Road and Rail Transport) Act 2008 (NSW) and Dangerous Goods (Road and Rail Transport) Regulation 2014 (NSW).

A full list of each jurisdiction's relevant Act and Regulations is provided in Appendix B: List of Dangerous Goods Acts and Regulations across Australian jurisdictions.

[11] The difference between dangerous goods and hazardous substances is that dangerous goods are classified on the basis of immediate physical or chemical effects (e.g. fire, explosion, corrosion and poisoning) affecting people or property, while hazardous substances are classified only on the basis of health effects (whether they be immediate or long-term).

2.5.2 Internationally

Many countries have adopted the UN Recommendations and UN Model Regulations into their own regulations in relation to the transport of dangerous goods. Some examples are set out below.

New Zealand

In New Zealand, the Land Transport Rule: Dangerous Goods 2005 (the Rule) sets out the requirements for the safe transport of dangerous goods on land. The Rule covers the packaging, identification and documentation of dangerous goods, the segregation of incompatible goods, transport procedures and the training and responsibilities of those involved in the transport of dangerous goods.[12] A range of requirements apply, and most are based on international conventions and codes, such as the UN Model Regulations, to which New Zealand is a signatory.[13] The Rule has been amended three times in 2010, 2011 and most recently in 2016.

United Kingdom

In the United Kingdom (UK), the transport of dangerous goods is regulated internationally by European agreements, directives and regulations, and parallel legislation in the UK. In relation to transport by road, regulation is via the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), which is based on the UN Model Regulations. ADR sets out the requirements for the clarification, packaging, labelling and certification of dangerous goods. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (as amended) apply ADR in Great Britain.

Canada

In Canada, the Transportation of Dangerous Goods Regulations (TDG Regulations) set out the regulatory requirements for the transportation of dangerous goods (not only by road and rail but also maritime and air). Specifically, parts 9 and 10 detail the road and rail requirements respectively. The TDG Regulations are made under The Transportation of Dangerous Goods Act 1992, which sets out the general requirements that must be met, and promotes public safety during the import, handling, offering for transport and transport of dangerous goods.

Canada is involved in the development of the UN Model Regulations. As a result, the TDG Regulations are updated periodically to harmonise the TDG Regulations, to the greatest extent possible, with the UN Model Regulations in order to increase Canada's international harmonisation. The TDG Regulations incorporate by reference the UN Model Regulations for requirements such as classification, labelling and marking of means of containment, transport documentation and safety marks for dangerous goods. The TDG Regulations also specify that people involved in handling such goods must be appropriately trained to ensure they can safely handle and transport dangerous goods.

[12] NZ Transport Agency (2017). Land Transport Rule: Dangerous Goods 2005.
[13] Ministry of Transport (2008). Transporting Dangerous Goods Safely, An industry guide.

3 Nature and extent of problem

This chapter outlines the nature and extent of the problem with respect to transporting dangerous goods by road or rail, the need for government intervention, the risk of non-intervention and the objectives of government intervention.

3.1 Making the case for government regulation

The sunset of the Regulations provides an opportunity to review whether current requirements in the Regulations that are placed on individuals and businesses that transport dangerous goods are still required and appropriate in the current operating environment.

To establish this, the following questions must be answered:

- Is there a problem that needs to be addressed, and is that problem significant?
- Does government need to intervene, or will the market resolve the issue itself?
- What risks would arise if the Government chose not to intervene?
- What objectives does the Government intend to achieve through intervention?
- Will the benefits of government intervention outweigh the costs?

This section addresses the first three points. The objectives from intervention are set out in Section 4, and the options for government intervention are set out in Section 5. An assessment of whether the benefits of intervention outweigh the costs is set out in Section 6.

3.2 Nature of the problem

The properties of dangerous goods – including but not limited to their flammability, toxicity, explosiveness, corrosiveness – mean that if not transported safely, they can pose significant risks, including:

- Risk of direct harm to individuals, resulting in serious injury or death. These individuals can include:
  - Drivers of transportation of dangerous goods
  - Employees responsible for packing and loading (or unpacking and unloading) the dangerous goods onto trucks and trains
  - Emergency workers called to respond to incidents
  - Nearby bystanders or transport system users (particularly in the event of a fire or explosion)
- Risk of harm to private and public infrastructure, such as damage to transporting vehicle itself, other vehicles, public transport infrastructure (e.g. roads, rail) and other nearby infrastructure
- Risk of harm to the environment, such as air pollution or chemical spillage into sensitive environmental areas
- Risk of productivity and economic costs, such as delays to other road users due to road closure as a result of fires or chemical spills on the motorways.

Some of the harms identified above may reflect market failures such as imperfect information and economic externalities. For example, drivers, who are typically at most risk of injury or death as a result of an incident, may not have sufficient information about the dangerous goods they are transporting to make a well-informed decision about whether to undertake the driving activity, or how the goods should be transported. They may not understand or under-estimate the risks involved, and have insufficient information about dangerous goods and how to handle them safely, or how to effectively manage any incidents.

To mitigate this market failure of imperfect information, drivers of vehicles that transport dangerous goods must hold a current DG licence. This ensures that all drivers have completed appropriate training from registered training organisations, where they can be informed about how to safely handle dangerous goods and effectively manage incidents, and can demonstrate a history of safe driving.

Emergency services responding to an incident may not have adequate information about the dangerous goods involved to inform decisions about how to respond safely and effectively. Bystanders may not have enough information to determine their course of action if they witness an incident, for example whether to stay and assist or quickly leave the incident area.

There are potential externalities because incidents may pose a significant risk to third parties, such as bystanders or other transport system users, who are in no way involved in the transportation of the dangerous goods. Drivers may also not be directly in control of risk and safety decision-making if they do not work for themselves. Businesses and individuals that are directly involved and responsible for the manner in which dangerous goods are transported may under-invest in safety processes if they do not experience the full costs or benefits of their actions.

3.3 Extent and evidence of the problem

As noted previously, there are currently approximately 400 businesses that hold DG licences, registered against around 5,490 people and around 5,435 vehicles.[14] These duty holders represent the vast majority of those businesses that are affected by the Regulation and ADG Code.

Although there is data on the number of duty holders, it is difficult to obtain evidence that enables a clear quantification of the problem, particularly data that is Victorian specific. This may indicate that the current Regulations (including relevant enforcement activity) are effective in preventing harm to humans and infrastructure. However, it is difficult accurately quantify the impacts of the Regulations.

In preparing this RIS, we have also attempted to identify data on dangerous goods incidents in other states and territories; however data also appears to be limited in these jurisdictions.

Despite the data limitations, Section 3.3.1 identifies some different information that demonstrate the extent and consequences of the problem.

3.3.1 Evidence from incident data

Road

Each year there are a number of incidents in Victoria involving dangerous goods transport via road (e.g. trucks, trailers, prime movers, combination vehicles), however there is no comprehensive data source showing the number of incidents and injuries that have occurred. There is also no data available for the time prior to the Regulations being introduced in 2008 to show a point of comparison for pre and post regulation.

There is however some data that can be used to provide an insight into the type of incidents that do occur and the consequences of such incidents. This includes internal WorkSafe data about reported incidents, information collected by an industry group as well as publicly reported incidents from the MFB and Country Fire Association (CFA).

Between July 2008 and April 2017, WorkSafe was notified of 6,538 incidents that related to at least one of the following key words:

[14] Internal WorkSafe data

- Dangerous goods
- Road
- Explosion
- Fire
- Rail
- Ignition
- Truck
- Tanker
- Petrol
- Diesel
- Gases
- Corrosive
- Toxic
- Spill
- Flammable
- Environmentally hazardous
- Train

Incidents relating to the transport of dangerous goods are included in these figures, and a review of the raw data indicates that at least 100 incidents are likely to be closely related to dangerous goods, but it is difficult to determine accurate numbers. Of the 100 incidents several involved a fatality and 18 were either serious incidents or serious accidents. Incidents included:

- In December 2008, a tanker rolled over on the Great Ocean Road, causing a fatality.
- In September 2009, a truck was delivering 10 tonnes of charcoal in a 24 foot shipping container. As the container was being lifted by a hydraulic ram rod, the attachment point fractured. The ram kicked over and crushed the cabin, and the container and contents (totalling around 12 tonnes) fell off the truck. The operator was using the controls from outside the cab and was unharmed.
- In July 2013 a 39,000 litre fuel tanker rolled over at Tyabb, spilling unleaded fuel and closing the Frankston-Flinders road for several hours.[15]
- In August 2014 a trailer of fuel detached from a bulk tanker combination near Wodonga, killing three people.
- In November 2014, a fuel tanker collided with a car in Docklands, Melbourne resulting in a catastrophic tanker fire. The driver was killed.
- In May 2015, a diesel tank on a semi-trailer was damaged while it was in transit. The vehicle pulled into a roadside stop on the Western Ring Road where the leak was observed. When MFB attended the scene, the Commander noted concerns that staff did not know what to do in regards to the incident.
- In May 2016 a 60,000 litre fuel tanker rolled over and spilled approximately 20,000 litres of fuel and closing the Calder Freeway. One person was killed and emergency services worked over several hours to decant and recover the spilled fuel.[16]
- In July 2016, a B-double petrol tanker crashed and dislodged two powerlines, rolling onto its side in the front yard of a residential property, partially blocking the Calder Highway and spilling more than 40,000 litres of petrol and diesel. The incident, which resulted in the evaluation of 28 people from local homes, could have been significantly worse as a power outage prevented the ignition of the spilled fuel.[17]
- In March 2017, a leak was identified on a train by the crew. Upon arrival at the terminal, it was identified as Mineral Turpentine, a Class 3 dangerous good. Operators and emergency services were contacted immediately, and the leak was contained, isolated, cleared up and the 200L drum was fixed.
- In June 2017 a 63,000 litre LPG B-double tanker was involved in a vehicle crash at Tyabb. A significant diesel engine fire resulted in serious damage to the LPG tank and the requirement for firefighters to close Dandenong-Hastings Road and decant the LPG tank over several hours.[18]
- In September 2017 in Drysdale six fuel tankers were destroyed in a gas warehousing and storage facility fire.[19]
- In October 2017 a B-double truck carrying 45,000 litres of diesel fuel rolled over at Deep Lead, causing emergency services to shut the Western Highway in both directions a large amount of diesel spilled.[20]

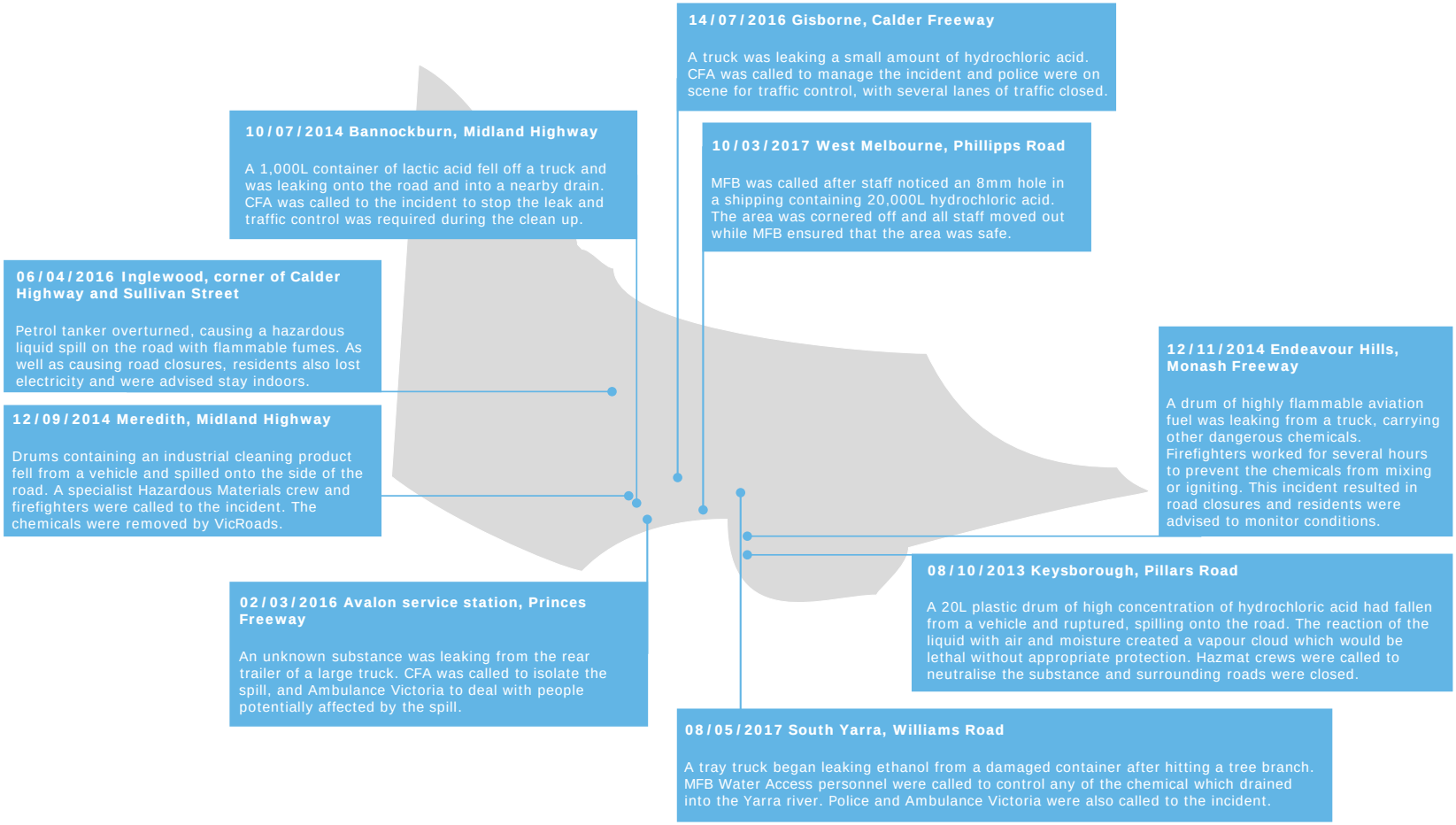
[15] CFA (2013). Fuel tanker rollover, available at: WorkSafe. Dangerous Goods, available at: http://news.cfa.vic.gov.au (accessed January 2018).
[16] MFB (2016), News Releases, Road traffic and hazmrat incident on Calder Freeway, Keilor Park, available at: http://www.mfb.vic.gov.au (accessed January 2018).
[17] CFA (2016). Inglewood petrol tanker rollover – case study, available at: http://news.cfa.vic.gov.au (accessed January 2018).
[18] Herald Sun (2017). Tanker crash at Tyabb: Dandenong-Hastings Rd smash, available at: http://www.heraldsun.com.au (accessed January 2018).
[19] ABC (2017). Drysdale fire destroys six fuel tankers, gas cylinders on Bellarine Peninsula, available at: www.abc.net.au (accessed January 2018).

Figure 3-1 below provides examples of incidents that occurred within the most recent 5 years, drawing on MFB and CFA reported incident data. These incidents were selected as the most identifiably related to the transport of dangerous goods as reported by the MFB and CFA, and all relate to the leakages of the dangerous good from either a moving vehicle or a stationary container. They demonstrate the variety in the types of dangerous goods involved in incidents, the spread of locations of incidents and the variety of mitigation actions and emergency response groups required.

It is clear that incidents relating to dangerous goods do occur. However, the lack of comprehensive data means that it is not possible to provide a full picture of the extent of the problem. In addition, information on how the number of incidents has changed over time is not available.

[20] The Courier (2017). Western Highway blocked at Deep Lead after B-double carrying diesel fuel rolls over, available at: www.thecourier.com.au (access January 2018).

Figure 3-1 Examples of recent incidents involving the transport of dangerous goods in Victoria



Source: CFA and MFB websites

One of the industry groups consulted provided a snapshot of its internal research, where it aggregated the number of tanker incidents or accidents every six months. Their view was that on average, there is one incident per week in Australia (around 50 a year). The data shows that between July 2016 and June 2017, there were 31 incidents, including:

- 14 fatalities
- 11 incidents where the vehicle rolled over
- 16 single vehicle incidents
- 16 loss of containment.

In assessing the potential consequences of accidents involving the transport of dangerous goods, a number of major accidents in Australia were identified. These cases illustrate the potential consequences of crashes involving vehicles carrying dangerous goods. It is reasonable to infer that the potential consequences of a crash may be more serious when dangerous goods are being carried. For example, vehicles may be more likely or quicker to explode into flame, or the leakage or spillage of hazardous materials may require surrounding areas to be evacuated to mitigate the potential for public injury.

In 2009, the crash of a petrol tanker in Batemans Bay, Sydney, resulted in the deaths of the driver and two child passengers in other cars. The fuel tanker crashed into three cars and burst into flames. In 2013 in Mona Value, Sydney, a fuel truck crashed in to cars, exploded in a fireball and killed the driver and a passenger in another car (photo of the accident scene shown below).

Figure 3-2 Mona Vale fuel tanker crash[21]

In August 2017, a truck carrying hydrochloric acid exploded and burst into flames on the M1 at Loganholme, south of Brisbane. The crash of the tanker caused a four hour closure of lanes on the M1. Firefighters worked

[21] The Daily Telegraph (2014). Cootes tanker cop ban threat from NSW Government, available at: http://www.dailytelegraph.com.au/news/nsw/cootes-tankers-cop-ban-threat-from-nsw-government/news-story/a164d3c35cc347d06b9268101b3efb0c (accessed November 2017).

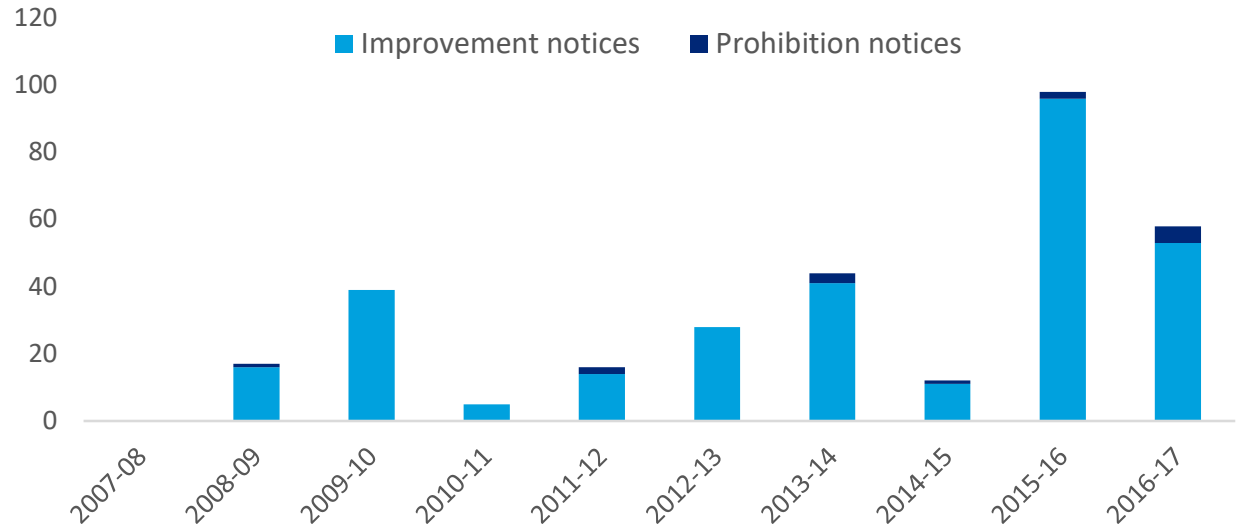
to put out the blaze, but the authorities advised nearby businesses to evacuate. Police declared an emergency situation for a one-kilometre radius of the crash site, but lifted the restrictions late Friday afternoon.[22]

Compliance

Figure 3-3 shows WorkSafe compliance data regarding the number of Improvement and Prohibition Notices issued by WorkSafe inspectors per annum in relation to dangerous goods over the period 2009-10 to 2016-17. There has been a generally increasing trend over this period. WorkSafe has advised that one reason for this was that were additional targeted compliance and enforcement projects being undertaken by WorkSafe at this time.

The majority of notices are issued in relation to section 90 of the Regulations, which states that "the owner of a vehicle must not use the vehicle, or permit it to be used, to transport dangerous goods if the vehicle or its equipment does not comply with Chapter 4.4 of the ADG Code". Chapter 4.4 of the ADG Code lists both general requirements for vehicles as well as specific requirements for different types of vehicles, e.g. a vehicle must be clean. In comparison to the number of duty holders currently in Victoria – 400 businesses that hold dangerous goods licences, registered against around 5,490 people and around 5,435 vehicles – this indicates that there is not a particularly high level of non-compliance but this can be contingent on changes in compliance and enforcement priorities for WorkSafe.

Figure 3-3 Number of Improvement and Prohibition Notices issued by WorkSafe



Source: Internal WorkSafe data

Rail

The Office of the National Rail Safety Regulator (ONRSR) notes there have been 18 notifiable occurrences in Victoria since May 2014 (around 6 per year).[23] The ONRSR defines a notifiable occurrence as one where an accident or incident associated with railway operation has, or could have, caused significant property damage, serious injury or death.[24] The ONRSR provided the following key information:

- Twelve of the incidents occurred on passenger trains. Of these, 11 were fuel spills or leaks and one was a spill of an unknown substance inside a train.
- Six of the incidents involved freight trains. Of these, one was a fuel spill, one load shift of a gas cylinder, two gas leaks, one Turpentine spill, one broken seal and one labelling issue.

[22] ABC (2017). Truck explodes next to Brisbane motorway, available at: http://www.abc.net.au/news/2017-08-04/truck-explodes-next-to-brisbane-motorway/8773894 (accessed November 2017).
[23] ONRSR. Information provided directly to WorkSafe.
[24] Office of the National Rail Safety Regulator (2017). Notifiable occurrences.

The ONRSR reports there have been no occurrences significant enough to require investigations since ONRSR began operating in Victoria in 2014. It did identify a significant derailment involving a freight train carrying dangerous goods in Queensland. The Australian Transport Safety Bureau's investigation into this report found that reporting procedures implemented by Queensland Rail and Aurizon provided insufficient guidance to the network control officer or rail traffic crew to identify and respond to potential hazards from a wet weather event.

3.4 Need for government intervention

Risk to community

There is a clear rationale for government intervention in the transport of dangerous goods to address the management of community risk. One of a government's primary responsibilities to its constituents is to provide a safe and low risk environment in which to live and work. By including strong safety provisions in the Regulations, the Victorian Government will meet this responsibility.

Generally speaking, government intervention can be justified on the basis of managing public risk. This type of intervention is referred to as 'protective regulation' and can include measures to promote public health and safety, reduce the risk of harm to vulnerable sections of the community and impose restrictions on the practice of certain occupations and professions.

In light of the various risks to drivers and members of the public outlined in Section 3.2, there is a strong case for government intervention to manage these risks. In the context of the existence of the general safety requirements in relation to the transport of dangerous goods under the Act, the specific case for regulation is the need to supplement the general requirements with a specific regulatory response, including mandating compliance with certain provisions of the ADG Code. The use of regulation can be justified if the hazard poses a significant risk to drivers, emergency personnel and the general public, the risk and means of control are well known and the benefits of the regulatory intervention outweigh the costs.

The table below outlines the potential harms associated with different classes of dangerous goods.[25]

[25] Noting that the transport of explosives, toxic and infectious substances and radioactive materials are not covered by the Regulations but are covered by the Dangerous Goods (Explosives) Regulations 2011 and the Dangerous Goods (High Consequence Dangerous Goods) Regulations 2016.

Table 3-1 Potential harms of different classes of dangerous goods

Class 1: Explosive substances and articles	• Explosives[26] are capable by chemical reaction of producing gasses at temperatures, pressures and speeds to cause catastrophic damage through force and/or produce otherwise hazardous amounts of light, heat, sound, gas or smoke.
Class 2: Gases	• Gasses are capable of posing serious hazards due to their flammability, potential as asphyxiants (reduces oxygen in the air), ability to oxidise and/or their toxicity or corrosiveness to humans and animals.
Class 3: Flammable liquids	• Flammable liquids are capable of posing serious hazards due to their volatility, combustibility and potential to cause or propagate severe fires.
Class 4: Flammable solids	• Flammable solids are capable of positing serious hazards due to their volatility, combustibility and potential to cause or propagate severe fires.
Class 5: Oxidising agents and organic peroxides	• Oxidisers, although not necessarily combustible by themselves, can yield oxygen and in doing so, cause or contribute to the combustion of other materials. Organic peroxides are thermally unstable and may exude heat in certain states. Additional, organic peroxides may be liable to explosive decomposition, burn rapidly, be sensitive to impact or friction, react dangerously with other substances or cause damage to eyes.
Class 6: Toxic and infectious substances	• Toxic and infectious substances[27] can pose significant risks (death, serious injury or harm to health) to humans and animals if swallowed, inhaled or by skin contact.
Class 7: Radioactive materials	• Whilst undergoing radioactive decay, radionuclides (an atom with an unstable nucleus) emit ionizing radiation[28], which presents potentially severe risks to human health.
Class 8: Corrosives	• Corrosive substances cause severe damage when in contact with living tissue, or, in the case of leakage, damage and destroy surrounding materials.
Class 9: Miscellaneous dangerous goods	• Miscellaneous dangerous goods present a wide array of potentially hazardous materials to human health and safety, infrastructure and transportation.

[26] Explosives are not covered in the DG (TRR) Regulations, but in other regulations under the DG Act.
[27] Infectious substances are not covered in the DG (TRR) Regulations, but in other regulations under the DG Act.
[28] Radioactive materials are not covered in the DG (TRR) Regulations, but in other regulations under the DG Act.

Non-regulatory solutions

A range of non-regulatory solutions may reduce the extent of the potential harms related to the transport of dangerous goods. These non-regulatory solutions need to be considered when identifying the need for government intervention.

First, owners and drivers of equipment used to transport dangerous goods, as well as consignors, do have incentives to ensure that transportation of dangerous goods is conducted safely. Incentives include:

- Ensuring their own, and their employees' safety
- Protecting against damage to their property and assets (including inability or difficulty in obtaining insurance)
- Maintaining their reputation, which could impact on their profits.

Another approach is to rely on market insurance or workplace compensation schemes to incentivise businesses to invest in safety improvements. However, it is not clear that insurance premiums alone provide sufficient incentives for individual businesses to reduce risks to an optimum level from a societal perspective. That is, premiums for an individual business are not considered likely to reflect the risk profile of the particular business at a level that will provide an adequate signal about the optimum level of investment in safety required.

In regard to brand reputation incentives, and the desire to ensure their own safety and their employees' safety, this does not address the externalities that exist – such as the risk to emergency services workers and bystanders if there is an accident involving dangerous goods. Further, while brand is an issue for larger transport firms, it may be less of a concern for small firms and owner/drivers.

Without Government intervention, these incentives are unlikely to be sufficient to meet community expectations and fully control the associated risks in transporting dangerous goods for Victorians. This is supported by the incident data as described above.

Risk of non-intervention

Another approach would be to rely on the general duties specified in the DG Act, supported by guidance information in the ADG Code, but with no specific regulations. The potential outcome of this approach was tested through consultation, when businesses were asked if they would operate differently if the Regulations ceased to exist (resulting in the ADG Code becoming non-mandatory in Victoria). Key findings from the consultation process included:

- 96% of businesses stated that they consider it either 'very' or 'somewhat' important that Victoria maintains national consistency in regards to the regulations around the transport of dangerous goods. The one business which stated that it was 'no, not important' stated that the (ADG) Code would still apply, even if a particular state or territory chooses to opt out. This particular business also noted that the regulations around the transport of dangerous goods should be national, and not interfered with by the states, as this leads to additional confusion and potential penalties to operators.
- 60% of businesses stated that if the Regulations expired and new Regulations were not made, it would be 'very unlikely' or 'unlikely' that they would operate their business differently, and would continue to operate consistently with the ADG Code. For the businesses that selected 'very unlikely', the main reasons were:
    - The ADG Code represents best practice for the transport of dangerous goods in Australia
    - By maintaining national consistency across all Australian jurisdictions, this simplifies and lowers internal operational and associated training costs
    - By following widely-recognised standards, this simplifies engagements and dealings with other businesses.

On the surface, this may indicate that businesses would comply with the ADG Code regardless of the existence of the Victorian regulations. However, this does not indicate a desire by industry for the Regulations to expire and not be replaced. The strong and consistent view provided during consultations was that businesses consider that it is very important that there continues to be national consistency in regards to regulations around the transport of dangerous goods. This is important for streamlined and efficient business practices, particularly when businesses operate in multiple jurisdictions.

In addition, what businesses would or would not do without the Regulations is related to a number of business, financial and behavioural factors that would influence the extent to which they comply with the ADG Code. While businesses may have the best of intentions, other influences may impact their safety investment and decision-making over time. For example, over time the responsible employees at a business may change and corporate knowledge may be lost, or financial considerations may begin to over-ride safety considerations. There is likely to be a gradual change and an increased variability in approaches across different businesses (this possibility was acknowledged by one of the large freight businesses during consultation).

Also, if there were only the general safety requirements under the Act (supplemented by the ADG Code as guidance), new entrants to the industry would be uncertain with respect to the standards required. This lack of certainty may result in under-compliance (where the requirements of the Act are under-estimated), or over-compliance (when a firm is risk averse or over estimates the requirements of the Act and hence incurs unnecessary costs). There is a risk that this may lead to adverse safety outcomes in the transport of dangerous goods. To some extent this risk is reduced because of the existence of the ADG Code as guidance. A number of businesses indicated during consultation that the ADG Code is the regulatory instrument that they look to when assessing their safety requirements. However, the ADG Code is a very long and technical document (over 1,200 pages long). It is difficult to predict how businesses, particularly new entrants to the industry, would comply with the ADG Code if the Regulations did not make compliance mandatory and directly specific reference specific ADG Code clauses. Furthermore, without the Regulations, there would not be any clear specification of who has duties under the Act (as these are currently specified in the Regulations). The highly detailed specification of requirements (and who bears these requirements) could reduce certainty for businesses, and would also decrease WorkSafe enforcement capability. On the other hand, some businesses, most likely smaller ones, might consider it too difficult to understand and implement the full range of ADG Code requirements.

Industry position

Consultation identified strong support amongst industry groups and businesses for the continued regulation of the transport of dangerous goods in Victoria through the Regulations and the ADG Code. No broad issues or significant concerns were identified with the existing Regulations. There was overwhelming support for nationally consistent arrangements with respect of the regulation of dangerous goods and national harmonisation. One industry group highlighted that the main costs of the current Regulations arise from different state regulations, inconsistent enforcement, a lack of clarity on what the regulations are aiming to achieve and state driven differences (e.g. the operation requirements for manifolds in Victoria are more stringent than in other states). One industry group also noted that the cost of compliance with the regulations (in Australia) is higher than overseas.

4 Objectives of intervention

This chapter outlines the objectives of Government intervention in the transport of dangerous goods.

Overall, the primary outcome or objective that the Victorian Government aims to achieve through the Act and the accompanying Regulations is **to reduce as far as practicable the risk of personal injury, death, property damage and environmental harm arising from the transport of dangerous goods by land**.

It is essential that information is provided to enable industry to understand the actions that need to be undertaken to achieve the primary objective.

The proposed Regulations aim to achieve this objective by:

- Clearly setting out the obligations and responsibilities of persons involved in the transport of dangerous goods by land so that they have sufficient information about how to transport dangerous goods safely and their responsibilities throughout the supply chain
- Giving effect to the ADG Code and its standards where relevant as a detailed technical source of information to ensure that dangerous goods are transported safely
- Promoting consistency between the standards, requirements and procedures applying to the land transport of dangerous goods and other modes of transport to ensure a common set of safety requirements throughout Australia and to enable economic efficiencies.

5 Options to achieve the objectives

This chapter outlines the differences between the base case and the proposed Regulations, which includes implementation of regulations in line with the endorsed national changes.

This RIS analyses the option of changing the Regulations to align with changes to the ADG Code and Model Regulations. This option is assessed against the base case: the scenario that would occur if the Regulations lapsed and were not remade. This allows the analysis to fully account for the costs and benefits of the proposed Regulations. In the base case, the Act would continue to apply, and the ADG Code would still be in place, but the provisions of the ADG Code that are referenced in the current Regulations would no longer be mandatory. Some administrative requirements set out in the Regulations that are additional to the ADG Code would no longer exist.

Other alternative options were considered at a high level, but not considered feasible. These include:

- A new, Victorian-specific set of Regulations (and potentially a Victorian-specific code).
- Remaking the existing Regulations in their current form, and not incorporating any of the endorsed changes to the ADG Code and Model Regulations.
- Implementing both the endorsed changes to the ADG Code and Model Regulations, as well as other proposed changes raised during the consultation process that are no longer proceeding at a national level.

These options were not pursued because the consultation process undertaken did not identify any specific Victorian circumstances that require or justify different provisions for the transport of dangerous goods to the national arrangements. There is also no evidence to suggest that the broad regulatory framework is not working effectively.

There is also a strongly held view by all consulted stakeholders that there are very high benefits associated with national consistency. National consistency is desired by both businesses and Government as it reduces the regulatory burden imposed on industry, particularly as it is very common in the transport industry for businesses to operate across different states. Should Victoria deviate from national consistency with its own regulations, this will likely impose significant costs on businesses to understand and comply with both the Victorian regulations and other States' regulations. As an example, this could result in circumstances where vehicles would be required to swap loads at the border, or change placards. This may hinder Victorian businesses' capability to competitively operate in other states, and for businesses located interstate, this may mean that they are no longer willing to transport into Victoria.

5.1 Base Case

As noted, the base case involves letting the current Regulations lapse. The Act, and other regulations made under the Act would continue to apply, including:

- Dangerous Goods (Explosives) Regulations 2011
- Dangerous Goods (High Consequence Dangerous Goods) Regulations 2016
- Dangerous Goods (Storage and handling) Regulations 2012.

The relevant transport of dangerous goods regulations in other Australian jurisdictions would also continue to apply and be enforced in other jurisdictions. The ADG Code would still provide technical guidance for businesses, however they would no longer have the same legal standing within Victoria.

Some administrative requirements set out in the Regulations that are additional to the ADG Code will no longer exist, so businesses would no longer be able to apply for exemptions under Part 16, able to apply for administrative determinations and approvals under Part 17, required to obtain insurance under Part. There would also not be any licensing scheme for vehicles that transport dangerous goods and their drivers. Businesses would no longer be required to pay fees associated with applications, licensing and the fees prescribed under Part 21.

The costs of the proposed Regulations are assessed against this base case as a point of comparison.

5.2 The Proposed Regulations

The proposed Regulations will effectively remake the current Regulations to be consistent with endorsed changes to the ADG Code and Model Regulations.

A number of change proposals to the ADG Code and Model Regulations were submitted by the NTC for approval by the TISOC. These were endorsed by TISOC on 23 March 2018 for submission to Transport Ministers for endorsement. The proposed amendment package was endorsed by Ministers at the TIC meeting on 18 May 2018. Jurisdictions will need to make arrangements to adopt the new model laws in the second half of 2018.

The table below provides a brief description of the proposals endorsed by TIC. More information is provided in Appendix C: Additional detail on endorsed changes.

Table 5-1 Endorsed changes to the national framework

Endorsed change	Brief description	Impact on regulatory burden
Giving legal status to empty packaging requirements currently contained in the ADG Code	This change will amend Part 7 of the Model Regulations and Part 7 of the proposed Regulations (Transport operations relating to certain dangerous goods) to permit empty containers and packagings to be transported in compliance with Chapter 7.2 of the ADG Code (Transport of empty packagings and containers). Regulations 94 – 98 of the proposed Regulations will clarify that Part 7 applies to the transport of empty dangerous goods packaging and the concessional requirements provided in Chapter 7.2 of the ADG Code in relation to the transport of empty dangerous goods packaging. The Regulations clarify who has duties in relation transport of empty dangerous goods packaging.	There will be a reduction in costs faced by transport businesses The Model Regulations also do not specify who has obligations to meet these requirements and this omission could impact enforcement capability. This is expected to result in a small decrease in costs for WorkSafe, through improvements to enforcement.
Exemption of mobile processing units (MPUs) if they comply with the Code of Practice: Mobile Processing Units (MPU Code)	This change will amend section 1.1.6 of the Model Regulations and Regulation 25 of the proposed Regulations (Further exemptions) to exempt MPUs from the ADG Code if they are licenced under the relevant state or territory explosives regulations to rectify inconsistencies and reduce duplication of licensing requirements and compliance checks. A definition of MPU will also be inserted into the Model Regulations and the proposed Regulations. The exemption will not extend to any trailer being towed by an MPU. The note in section 1.1.2 of the ADG Code (Exceptions to applications) will also be amended to reflect the exemption in the Model Regulations.	This is expected to result in a small decrease in regulatory burden for relevant businesses, as it removes inconsistency and mitigates duplication of licence requirements.
Further exemptions for	This change will exempt all personal care products in	This is expected to result in a

specific types of limited quantities of dangerous goods	consumer packaging from the Model Regulations, as well as provide regulatory concessions for low risk dangerous goods such as household cleaners, due to the low risk nature of these types of products to be known as Mixed Packet (low risk dangerous goods). No changes are required to the Model Regulations or are required to be incorporated into proposed Regulations to give effect to these changes.	decrease in costs for relevant businesses, as it removes the burden of current requirements in relation to limited quantities currently contained in the ADG Code. However, it may also result in an initial increase in regulatory burden as there is change to the packaging and consignment note - although this could be reduced through transition arrangements.
Clarification of the load restraint requirements for bundles of cylinders	This change will update the ADG Code so that it provides clarity on how cylinders are to be restrained so that the ADG Code is consistent with the other guidelines such as the set out in 'Load Restraint Guide'[29]. Currently section 8.1.3.2 of the ADG Code (Open and non-rigid sided vehicles and containers) requires 'Bundles of Cylinders' to be transported using rigid sides of gates. Section 8.1.3.5 of the ADG Code has been amended to include the term 'Bundles of Cylinders". This amendment will exempt "bundles of cylinders' from the requirements set out on section 8.1.3.2 if they are restrained in a manner that complies with load restraint requirements set out in 'Load Restraint Guide'. No changes are required to the Model Regulations or are required to be incorporated into proposed Regulations to give effect to these changes.	This is not expected to have a material impact on relevant businesses, as it is primarily a clarification and mechanical change.
Introduce excepted quantities (EQs) exemption	This change will amend Part 5 of the Model Regulations and Part 5 of the proposed Regulations (Consignment procedures). Subregulation 79(5) of the proposed Regulations provide details of the concessional marking and labelling requirements that now apply to the transport of dangerous goods in excepted quantities. Subregulation 79(6) of the proposed Regulations provides a definition of excepted quantities. Chapter 3 of the ADG Code will also be updated to reflect this change proposal. This change will improve the consistency between the Model Regulations and the ADG Code with international practice, by incorporating the UN provisions for EQ. A consequential amendment has been made to Regulation 13 of the proposed Regulations to distinguish dangerous goods in limited quantities from dangerous goods packed in excepted quantities as different compliance requirements apply.	This is expected to decrease regulatory burden for relevant businesses who transport goods in a multi-modal transport chain and overseas.

[29] https://www.ntc.gov.au/Media/Reports/(E62BE286-4870-ED95-1914-1A70F3250782).pdf

Changes made to align with UN Recommendations (UN 20)	Australia, including Victoria, adopt the changes arising from the UN Recommendations in the ADG Code on the basis the safety and cost considerations have been assessed at a national level Unless there is something specific in relation to dangerous goods transport in Australia that make the cost of implementation not proportional to the safety benefits or that the change would result in safety reduction the changes are automatically adopted in adopted in Australia. There a number additional requirements relating to the new substances added to the Dangerous Goods list. There have been a number of changes in relation to special provisions and packing requirements particularly in relation to lithium ion batteries and vehicles powered by batteries and other DG Goods. Any references to 'Subsidiary Risk' in the Model Regulations and the Regulations will be replaced with 'Subsidiary Hazard' to reflect terminology made in the latest UN Regulations (UN 20). There will be no change to compliance requirements. Special provision 392, which provides some concessions for the transport of various flammable gases (provided there is compliance with applicable international standards or regulations will not be adopted in Australia) and incorporated into the ADG Code, until further consideration is given to the impact of compliance with the European standards list as part of the next two yearly review process.	No net regulatory benefits are expected from these changes at this stage. WorkSafe is of the view that any additional compliance requirements are commensurate to the safety benefits they provide and any concessions will not result in any mitigation in safety.

At the time of consultation the NTC was still undergoing its internal consultation processes and the proposed changes had not been formally decided upon.

5.3 Other changes considered

The consultation process conducted for this RIS not only included the endorsed changes above, but also considered various other changes to specific requirements of the Regulations, which at the time were under consideration at the national level, but which are no longer being considered. These changes include:

5.3.1 Ventilation and storage requirements

This change would primarily clarify how gas cylinders, with pressure relief valves, should be stored and that the vehicle must be adequately ventilated while travelling with such items. Currently, the ADG Code and the Regulations are not explicit about how gas cylinders should be stored. By clarifying that the requirement for gas cylinders to be "upright, secure and the vehicle is adequately ventilated", this may reduce confusion around appropriate storage for both businesses and employees in the transport of dangerous goods industry, and also WorkSafe inspectors when inspecting.

If Victoria was to unilaterally implement this change, this would lead to inconsistencies across states in the regulations applying to the transport of dangerous goods. As a result, when moving gas cylinders into Victoria from another state, businesses may be required to change the ventilation and storage at the border to ensure that they meet the Victorian Regulations.

Table 5-2 Assessment of changing ventilation and storage requirements

Impact on regulatory burden	*Decision*
If implemented, this would likely increase regulatory burden, particularly for tradespeople who commonly transport gas cylinders. From the consultation, one business indicated that this change would increase its costs by $10,000 per year. Other businesses indicated no change to costs.	Not included as an option for the RIS as: • It is not consistent with proposed changes at the national level • If implemented, is expected to result in a minor and insignificant increase in regulatory burden on businesses that does not warrant full RIS analysis.

5.3.2 Exemptions from Emergency Information Panel (EIP) requirements for intermediate bulk containers (IBCs)

This change would align Victoria with international requirements in relation to EIPs on IBCs, and allow IBCs to be exempt from EIP requirements. In previous consultation (prior to the development of this RIS), one peak industry body noted that the principle of international consistency should be adopted, where practicable, or when no safety concerns could be identified. However, another peak body that represented emergency services (whose members are the key users of EIP information) contended that EIPs provide valuable information for responding to dangerous goods incidents on the road.

If Victoria was to unilaterally implement this change, this would lead to inconsistencies across states in the regulations applying to the transport of dangerous goods.

Table 5-3 Assessment of exempting EIP requirements for IBCs

Impact on regulatory burden	*Decision*
If implemented, this would likely decrease regulatory burden for relevant businesses, as it simplifies the requirements for IBCs and improves Victoria's consistency with international requirements. From the consultation, one business indicated that this change would increase administration and training costs, however seven other businesses indicated that this change would decrease costs of up to $20,000 per year.	Not included as an option for the RIS as: • It is not consistent with proposed changes at the national level • While the potential decrease in costs are fairly significant at $20,000 a year per business, there are potential costs associated with not having national consistency for transporters that cross borders. The costs associated with a reduction in national consistency are considered to outweigh the potential benefits of this change.

5.3.3 Expanding fire extinguisher requirements

This change would require an increase in the number of dry powder fire extinguishers for vehicles carrying ammonium nitrate and explosion risk loads. It was originally proposed in 2016 at the national level. At the time another State indicated that the current minimum fire extinguisher requirements were insufficient to provide an effective first response for a mechanical vehicle fire or vehicles with explosion risk. However, this change was deferred partly due to advice that dry powder extinguishers are ineffective in extinguishing mechanical fires and cannot be used on ammonium nitrate.

If Victoria was to unilaterally implement this change, this would lead to inconsistencies across states in the regulations applying to the transport of dangerous goods.

Table 5-4 Assessment of expanding fire extinguisher requirements

Impact on regulatory burden	***Decision***
If implemented, this would likely increase in regulatory burden for relevant businesses, as it requires them to additionally fit-out transporters that carry ammonium nitrate and explosion risk loads. From the consultation, five businesses identified that they would be affected by this change and would be required to fit out a total of 552 transporters to meet this change. Using cost estimates from Queensland of $2,000 per transporter, this would increase the regulatory burden on average by $220,000 per affected business[30]. If this proposal was to proceed an option is to have a transition period which would require new fire extinguishers to be fitted only when replacing old ones or when fitted to new vehicles. If this was adopted then the cost would be the cost difference between the current fire extinguisher types and the new type required, which would result in a lower cost.	Not included as an option for the RIS as: • It is not consistent with proposed changes at the national level • There is insufficient research demonstrating that dry powder fire extinguishers are effective in increasing safety

5.3.4 Notification of the transport of dangerous goods listed in Schedule 14 of the OHS Regulations

This change would require duty holders to notify emergency services before the transport of dangerous goods listed in Schedule 14 of the OHS regulations in threshold quantities. Currently, there is no such requirement in the ADG Code or the Regulations. In previous consultation (prior to the development of this RIS), emergency services had raised concerns around the potential risks of these types of dangerous goods being transported without emergency services being aware and having the capability to respond.

If Victoria was to unilaterally implement this change, this would lead to inconsistencies across states in the regulations applying to the transport of dangerous goods.

[30] 5 businesses identified a total of 552 transporters – 552*2000 is $1,104,000 – divided by 5 is $220,800.

Table 5-5 Assessment of notifying emergency services before the transport of particular dangerous goods in threshold quantities

Impact on regulatory burden	***Decision***
If implemented, this would likely increase costs for relevant businesses It may also increase the regulatory burden on emergency services, who will need to field these calls and ensure that they have the capability to respond. From the consultation, eight businesses identified that they would be affected by this change, increasing costs by around $3,000 per affected business per year. From the consultation with industry groups, three opposed this proposal as they stated that: • There are already significant controls in place • If all emergency services (e.g. MFC, CFA, Victoria State Emergency Service, Victoria Police) would need to be notified, this would likely result in further confusion • There is no real evidence of a problem • Emergency service could potentially be overloaded by notifications, which could lead to notifications being disregarded The MFB noted that high consequence dangerous goods (which fall under the Dangerous Goods (HCDG) Regulations 2016) are already tracked by mutual agreement. The MFB highlighted the importance of the Transport Emergency Response Plan and the medical plan. The MFB also noted that basic fire trucks only carry water and a limited amount of foam.	Not included as an option for the RIS as: • It is not consistent with proposed changes at the national level • This change needs further consultation with key emergency services groups to ensure that benefits can be captured and outweigh the associated costs

These issues were assessed through the consultation process, however for a number of reasons (as discussed in the tables above), these changes did not proceed for endorsement by TIC and are not further considered in the RIS analysis.

6 Impact analysis and preferred option

This chapter presents the break-even analysis that has been undertaken to compare the proposed Regulations to the base case.

6.1 Summary

The expected cost of the Regulations includes the costs to business of undertaking activities to comply with the requirements of the Regulations, plus the costs to Government of implementing and administering the Regulations. The expected benefits of the proposed Regulations relate to the reduction in the incidence of harm or hazards resulting from the transport of dangerous goods.

It has not been possible to quantify the likely size of the expected benefits, as the transport of dangerous goods is an area which has been regulated for decades in Victoria (as well as nationally and internationally). There is limited 'before and after' data to draw from in order to estimate the level of reduction in risk of dangerous goods incidents resulting from the Regulations. Also, the cost of dangerous goods incidents is difficult to estimate on an annual basis due to the variability in incidents. However, a break-even analysis has been conducted. The results show that the Regulations would, on average, need to prevent at least two fatalities per year to break-even and justify the costs of the Regulations. This is considered to be a realistic and achievable level of reduction in incidence and consequence as a result of the proposed Regulations.

Sensitivity analysis for the findings was conducted for the scenario where costs are 20% higher. Under the sensitivity analysis scenario, the Regulations would still, on average, need to prevent at least two fatalities per year to break-even.

A summary of the break-even analysis (including sensitivity analysis) is provided in Table 6-1, below.

Table 6-1 Summary of break-even analysis

	Impact analysis	**Sensitivity analysis**
	Costs per annum[31]	
Costs to businesses	$6,246,912	$7,496,294
Costs to Government [a]	$462,000	$554,400
Total	**$6,708,912**	**$8,050,694**
	Benefits	
Lives to break even	**2 (1.51)**	**2 (1.81)**

Note [a] Does not include offset to reflect fee revenue collected by WorkSafe.

As costs associated with the Regulations are not considered to be significant, even given sensitivity analysis, it is considered reasonable to not undertake further extensive research and analysis beyond this RIS.

[31] As costs are not considered likely to change significantly across the regulatory period it is assumed that costs and benefits are the same for each year of the life of the proposed Regulations.

6.2 Approach to impact analysis

This RIS uses a break-even approach to analyse the impacts of the proposed Regulations. This approach has been used as:

1. Through the consultation an estimate of the costs of the proposed Regulations relative to the base case was developed
2. There is limited data available to quantify the benefits associated with the proposed Regulations.

There are clearly positive health and safety outcomes resulting from the current Regulations and therefore, to the proposed Regulations (because the proposed Regulations make only minor changes to the current Regulations). However, the benefits – the avoidance of transport of dangerous goods incidents – is difficult to quantify. The transport of dangerous goods is an area which has been regulated for decades in Victoria (as well as nationally and even internationally). Hence there is limited 'before and after' data to draw from in order to estimate the level of reduction in risk of dangerous goods incidents resulting from the Regulations. Also, the cost of dangerous goods incidents is difficult to estimate on an annual basis due to the variability in incidents, lack of data on 'near misses' (that may have been misses and not accidents due to the existence of the Regulations) and limited records of accidents being kept. This issue is noted and addressed in the development of the Evaluation Strategy in section 8.3 of this RIS.

The break-even analysis estimates the number of fatalities that would need to be prevented for Option 1 to generate the level of benefits that would exactly offset or equal the costs of the option. A judgement is then made as to how achievable these benefits are in practice.

This RIS considers the costs and achievable benefits of the Regulations over the next 10 years (the life of the Regulations).

6.2.1 Approach to estimating costs

The analysis estimates the costs of the proposed Regulations by estimating:

- Costs to businesses of complying with the current Regulations
- Costs to the Government of implementing and administering the Regulations and,
- Changes to those costs that would arise from adopting the endorsed changes to the ADG Code and Model Regulations.

The estimated costs include those costs that are relevant and attributable to the specific Regulations in Victoria. Costs to businesses only include those costs that are in addition to what a prudent business would incur due to sound business practice or to meet industry standards (noting that this is likely to include having regard to the ADG Code as guidance even in the absence of the Regulations).

The cost estimates developed for this RIS are based on information on costs collected through consultation with relevant businesses, representative industry groups and WorkSafe. Analysis of the data has been undertaken to identify, assess and, where appropriate, correct for data issues such as outliers. The total cost was estimated by extrapolating the results across all relevant Victorian DG licence holders.

The majority of the consultation focussed on businesses which are linked to current DG licences (duty holders) and the impacts of the Regulations on this group, as duty holders are expected to bear a significant majority of the costs associated with the Regulations. As such, costs borne by other businesses, such as tradespeople, who must abide by the Regulations however are not required to obtain a DG licence, have not been quantified. This is further discussed in Section 6.3.

Costs and benefits of Option 1 are determined in reference to the base case.

In consultation with businesses, questions were asked about the costs of the current Regulations and about the possible costs associated with the potential changes. Consultation did not include significant discussion about the merits of the proposed changes. These decisions were considered to be out of the scope of the RIS, particularly as the changes are proposed, discussed and endorsed at the national level. Where businesses provided their additional views on policy changes, or the enforcement of the Regulations, these have been considered in developing the evaluation part of this RIS, and feedback was passed to WorkSafe to further consider.

The consultation with industry groups focussed on understanding the impacts of the current Regulations and the proposed changes, rather than asking industry groups to provide us with cost details. As such, the analysis in this RIS relies on the cost information provided by individual businesses, and overlays industry groups' discussion.

6.2.2 Approach to estimating benefits

The analysis assessed the benefits to society from improved health and safety outcomes as a result of the reduction in the incidence of harm or hazards resulting from the transport of dangerous goods. However, given the data limitations as already discussed in this RIS, it has not been possible to estimate quantitatively the likely size of the expected benefits and these benefits are discussed qualitatively. Case studies and examples of incidents as discussed in Chapter 3 are drawn on to analyse the incidence and consequence of incidents involving the transport of dangerous goods and inform the break-even analysis.

6.3 Approach to estimating the number of impacted businesses

To determine the number of businesses likely to be impacted by the Regulations, this RIS relies on data provided by WorkSafe which lists all duty holders. It is estimated that there are currently around **406 businesses** that hold current DG licences.[32]

There are also other businesses which are not required to hold DG licences but which are affected by the Regulations, such as plumbers and others in tools of trade, who carry dangerous goods in amounts insufficient to require a DG licence. In addition, the emergency services sector responds to dangerous goods incidents.

It is difficult to precisely quantify the number of organisations other than current duty holders that may be impacted by the Regulations, given the limited information available on these businesses. It is even more difficult to quantify the cost impact of the regulatory burden incurred, given the vast differences in business functions and resultant costs. Given that the costs associated with the Regulations are not considered to be significant, it is considered reasonable to not undertake extensive research and analysis to identify these additional costs.

Throughout the life of the Regulations, it is expected that there will be some change in the number of businesses that hold DG licences. For example, one of the industry groups noted that Victoria has seen a decline in the chemicals and manufacturing industry, so there may be a decrease in licence holders from this industry in Victoria therefore decreasing the amount of dangerous goods required to be transported in Victoria

Also, consultation with an industry group noted that there are differences between some DG approval processes in different states. For example, in certain circumstances where the Victorian design requirements are more stringent, Victorian based businesses are going to other states for approval. This could decrease the number of Victorian duty holders, however this is anecdotal and there is no additional evidence to suggest that this is happening extensively.

However, given the uncertainty around the potential growth or decline in the transport of dangerous goods industry, no change in the number of businesses is forecast.

6.4 Costs to businesses (duty holders)

To better understand the costs in the base case, where the Regulations lapse and are not re-made in any form, the costs associated with complying with the current Regulations should be understood. In this case, businesses would still face compliance costs associated with meeting their duties under the Act. Furthermore, there are other factors that would exist to encourage businesses to perform activities that support the safe transport of dangerous goods by road and rail, such as:

- Many licence holders are owner-drivers and have a personal incentive to act in a safe manner, both in respect of personal safety and potential damage to expensive assets
- Compliance with regulations and legislation in jurisdictions they are likely to travel and transport into (as businesses would likely incur additional costs by having Victorian specific practices, even if Victorian Regulations were less stringent)[33]

[32] Based on information collected through the process of contacting businesses for the consultation process, we have removed a number of duplicate businesses in this list, as well as those businesses which we believe are no longer in the operating as transporters of dangerous goods.
[33] See Appendix B: List of Dangerous Goods Acts and Regulations across Australian jurisdictions.

- Well accepted and good industry practice
- Reputational incentives
- Insurance incentives
- Compliance arrangements with existing contacts with other businesses. In particular, one industry group referred to this as the 'chain of custody', where contractors take a management perspective of the Regulations as the receiver of materials.
- The detailed guidance provided by the ADG Code, even if it is non-mandatory in the absence of the Regulations
- Obligations under other Acts and Regulations – for example the Occupational Health and Safety Act.

To determine the costs incurred by businesses arising from the current Regulations, questions were asked to understand:

1. Compliance costs associated with interpreting the Act should the Regulations expire and the ADG Code no longer have legal status in Victoria
2. Annual incremental ongoing costs attributable to complying with the Regulations that would otherwise not be incurred should the Regulations expire.

To determine the costs incurred by businesses under Option 1, questions in relation to each of the proposed changes and the associated increase or decrease in regulatory burden were also asked.

6.4.1 Costs associated with interpreting the Act

The Act includes various sections which promote the safety of persons and property in relation to the transport of dangerous goods (among other activities such as their manufacture or storage).

Costs associated with interpreting the Act should the Regulations expire include the compliance, advisory or legal costs incurred by businesses in order to address uncertainty about how to comply with the requirements of the Act. In order to estimate these costs, businesses were asked to provide an approximate figure of the hypothetical annual cost. In summary:

- 20 businesses estimated that there would be nil or insignificant costs. Some businesses noted that as they would continue to operate in accordance with the ADG Code and the (expired) Regulations, they were confident they would continue to operate consistently with the requirements in the Act. As such, these businesses considered that they would not need to incur any additional costs associated with interpreting the Act.
- 6 businesses indicated that there would be costs of $10,000 or lower associated with interpreting the Act.
- 1 business estimated that there would be $50,000 of costs associated with interpreting the Act. However, the representative of this business highlighted that they were not the decision maker for the business, so it is possible that this is not an accurate estimate. This business also answered that they were 'unsure' whether they would operate differently should the Regulations expire.
- 3 businesses indicated that they were unsure of the costs.

On average, it is estimated that the annual compliance, advisory or legal costs that will be incurred as a result of interpreting the Act should the Regulations expire is $3,028. If the business which estimated $50,000 in costs (an outlier) is excluded, the average costs of interpreting and complying with the Act should the Regulations expire is estimated to be **$1,221 per business per annum**.

In response to this consultation question, there was no evident correlation between business size, industry type and other identifying factor and businesses' stated costs associated with interpreting the Act.

6.4.2 Incremental ongoing costs

To estimate the costs of the current Regulations incurred by businesses, businesses were asked to identify the annual ongoing cost to their business of undertaking activities to comply with the key requirements of the current Regulations. Specifically, businesses were asked to provide the incremental cost incurred as a result of the Regulations (i.e. costs incurred beyond those associated with meeting the requirements of the Act and costs incurred for good business practice). Businesses were requested to include both staff time and other expenses in their cost estimates. Alternatively, if providing costs for different requirements of the Regulations was too difficult, businesses were asked to provide an aggregate figure. Businesses were requested to include both staff time and other expenses in their cost estimates. Requirements of the Regulations that businesses were asked to include a cost for include:

- Training (Part 1 Division 4)
- Packaging (Part 4)
- Marking and labelling (Part 5 Division 1)
- Placarding (Part 5 Division 2)
- Safety standards in relation to vehicles and equipment (Part 6)
- Transport operations relating to certain dangerous goods (including those too dangerous to be transported) (Part 7)
- Stowage and restraint (Part 8)
- Segregation (Part 9)
- Bulk transfer (Part 10)
- Transport documentation requirements (Part 11)
- Safety equipment (Part 12)
- Procedures during transport (for placard loads only) (Part 13)
- Emergencies (Part 14)
- (Applying for) exemptions (Part 16)
- (Applying for) administrative determinations and approvals (Part 16)
- Insurance (Part 20)

There were two large outliers in costs – one large freight business noted $655,000 in annual costs and one medium chemical business noted $267,000 in annual costs. From the consultation results, it is unclear why those two businesses would incur significantly more costs than other similar businesses, as:

- The larger sized business noted that if the Regulations expired, it is ‘very likely’ that they would operate their business differently. However, in their additional explanation around this question, they stated that contractual requirements would still govern their business compliance. From this answer, it may be inferred that should the Regulations expire, contractual arrangements would require this business to operate similarly to current standards.
- The medium sized business noted that if the Regulations expired, it is ‘very unlikely’ that they would operate their business differently.

There is therefore a strong argument to suggest that these are outliers that should be removed from the average because the costs identified are not likely to be incremental costs incurred as a result of the Regulations (i.e. costs incurred beyond those associated with meeting the requirements of the Act and costs incurred for good business practice).

By removing the two outliers, the average cost of complying with the existing Regulations is **$15,452 per business per annum** (rather than $45,155 if the outliers are included). This is shown in Figure 6-1.

Figure 6-1 Average ongoing cost per business, by size of business (adjusted)

It should be noted that there was a clear difference between the costs identified by businesses which were interviewed either in person or over the phone, versus those businesses which completed the survey independently using the online survey. Of the 10 businesses that were interviewed, eight noted that as it was 'unlikely' or 'very unlikely' that they would operate their business differently should the Regulations expire, they would attribute $0 costs to the Regulations. Of the two businesses that identified costs, both noted around $35,000 training related costs, and stated that although they would continue to provide internal training to their staff, they would no longer attend external accredited courses. However, of the 20 businesses who completed the online survey, there was a larger proportion that identified costs (eight identified costs above $20,000, 10 identified costs of $20,000 or under, and two identified $0 cost). The reason for this difference is difficult to explain, although it is possible that online respondents did not fully understand the concept of additional/incremental costs and therefore attributed other costs such as the costs of the complying with the Act or the ADG Code to the Regulations. In this case, the estimated costs are likely to over-estimate the real costs of the Regulations.

In total, 29 businesses provided costs by activities (one business provided an aggregate total of $20,000). Where businesses provided both costs by activities and an aggregate cost, the sum of costs by activities was used. Table 6-2, below summarises the costs per activity, both including and excluding the two outlier businesses.

Table 6-2 Costs of the existing Regulations by activities

	Total costs of 30 businesses	**Total costs of 28 businesses (excludes outliers)**
Training	$202,150	$142,150
Packaging	$22,500	$22,500
Marking and labelling	$127,700	$27,700
Placarding	$76,300	$16,300
Safety standards in relation to vehicles and equipment	$213,200	$13,200
Transport operations relating to certain dangerous goods	$6,000	$6,000
Stowage and restraint	$11,600	$6,600
Segregation	$30,000	$0
Bulk transfer	$3,000	$0
Transport documentation requirements	$58,700	$28,700
Safety equipment	$80,000	28,000
Procedures during transport	$26,000	$6,000
Emergencies	$106,600	$5,600
Applying for exemptions	$20,893	$20,893
Administrative determinations and approvals	$1,000	$0
Insurance	$349,000	$89,000
Business which provided aggregate costs	$20,000	$20,000
Total from consultation sample	**$1,354,643**	**$432,643**
Average cost impact per business	**$45,155**	**$15,452**
Overall industry cost impact	**$18,332,835**	**$6,273,324**

6.4.3 Costs associated with the proposed Regulations

To estimate the costs associated with the proposed Regulations, an estimate of the costs associated with the change proposal under consideration with the national model legislative framework is included.

As outlined in Section 5.2, there are a number of change proposals under consideration at the national level. These changes are intended to be incorporated into the proposed Regulations. To estimate the costs associated with these changes, businesses were asked for each proposed change to identify whether the change was relevant and would impact their decision making, and if so, to estimate what the regulatory impact would be.

For each of the proposed changes, businesses were asked to select from a range of answers, broadly including:

No change in burden	• My business already meets the requirements under the proposed changes • My business will update its practices in line with the updated ADG Code, regardless of whether or not these requirements are specified in the DG (TRR) Regulations • My business will not face a change in regulatory burden due to the proposed changes • This change is not relevant to the functions of my business
Change in burden	• My business will only update its practices if these requirements are specified in the DG (TRR) Regulations • My business will face a reduction in regulatory burden due to the proposed changes • My business will face an increase in regulatory burden due to the proposed changes

Where businesses indicated that they would update their practices in line with an updated ADG Code, costs were not attributed to the Regulations, as it is considered that these businesses would implement the proposed changes regardless of whether or not these changes were made mandatory through the Regulations.

29 businesses provided cost information around the proposed changes, from which total industry costs have been extrapolated. The aggregate impact of the proposed changes is expected to decrease the regulatory burden for businesses, with an average cost saving of at least **$1,286** per year per business. A summary of the impact of the proposed changes is provided in Table 6-3, below.

From the consultations, although quantitative figures on the change to regulatory burden were not obtained, there was a view that it is expected that there would be significant savings associated with administration costs to businesses. There may also be savings to enforcement costs for Government as the clarified definition will reduce the need and time required for individual officers to make subjective judgements.

Table 6-3 Cost impacts of proposed changes

Change	**Increase in burden**		**Decrease in burden**		**Overall cost impact**
	Number of businesses	*Total cost impact from sample*	*Number of businesses*	*Total cost impact from sample*	*Total cost impact on industry*
Empty packaging requirements in the ADG Code	3	$13,700	0	-	**$13,700**
Exemption of MPUs	0	-	0	-	**$0**
Further limited quantity exemption	2	Insignificant	5	$50,000	**($50,000)**
Clarification of the load restraint requirements for cylinders	0	-	0	-	**$0**
Excepted quantities exemption	1	Insignificant	2	$1,000	**($1,000)**
Aligning with UN Recommendations (UN 20)	0	Did not consult	0		**Expected to be positive**
Total from consultation sample				Sum	**($37,300)**
Average cost impact per business				Divide by 29	**($1,286)**
Total estimated cost impact on industry				Multiply by 406	**($522,200)**

A brief summary of the responses to each proposed change is shown in Figure 6-2. We note that consultation was not conducted on the change in relation to the 'exemption of MPUs' as based on advice from WorkSafe, this question was removed from the consultation because there are only 18 businesses which own and use MPUs.

Figure 6-2 Summary of consultation responses to proposed changes

6.5 Costs to Government

If the Regulations expire and are not re-made in any form, the Victorian Government – WorkSafe in particular – will continue to bear the costs of administering the Act. Maintaining a similar level of safety in the transport of dangerous goods, in the absence of Regulations would likely require increased activity such as inspector visits, provision of additional information and guidance and education programs. If the Regulations lapsed it would also make WorkSafe's enforcement function more difficult and costly to carry out. In the absence of clear instructions on how to comply with the Act as currently provided in the Regulations, it is possible that there would be an increased number of penalties against employers for failing to uphold their duties under the Act tested in the courts. However, it is acknowledged that the ADG Code does provide guidance on what is considered appropriate to meet safe transport requirements.

However, it is difficult to quantify the extent of such increased activity under this counterfactual scenario. As such, it is difficult to estimate the increase in costs to Government associated with administering the current Regulations against the base case. Instead, the current costs associated with the administration and enforcement of the Regulations have been used, as provided by WorkSafe. This is a conservative estimate as it includes the Government's full costs associated with the proposed Regulations, rather than the marginal increase in costs from the base case.

This estimate is also used for the costs to Government under Option 1, as it is not considered that integration of the endorsed changes with the current Regulations will result in any substantive changes in the costs incurred by WorkSafe in administering the current Regulations. This is also a conservative estimate which is likely to slightly over-estimate the costs of the Regulations.

Based on advice from WorkSafe, the total cost for the WorkSafe Dangerous Goods team to administer the Dangerous Goods Act and associated Regulations is approximately $1,243,750. About 30% of WorkSafe's Dangerous Goods team's time is utilised to administer the Regulations which is approximately $462,000. This cost reflects costs to government before any collected fees revenue (estimated at $162,000). Cost recovery arrangements are discussed in Chapter 7 of this RIS.

6.6 Benefits to society and businesses

There are clear benefits to health and safety outcomes associated with the safe transport of dangerous goods. As discussed throughout Chapter 3, incidents involving dangerous goods can result in fatalities and serious accidents particularly to drivers, as well as broader safety concerns for nearby drivers, pedestrians and residents. Also, by reducing the number of dangerous goods incidents, emergency service response units are able to allocate crucial resources towards other types of emergency incidents.

Beyond broader benefits to society, these Regulations also benefit relevant business owners and employees. One business noted that should Victoria not remake any regulations, it would likely no longer participate in this industry as without the Regulations there is insufficient guidance around best practice transport of dangerous goods.

Consultation with industry showed there was overwhelmingly strong support for national consistency with regard to transport of dangerous goods regulation. Although there is national model legislation which all Australian jurisdictions and territories utilise, many businesses and industry groups were concerned about inconsistent interpretation of the Regulations and ADG Code across Australian jurisdictions and territories, and even within Victoria with different inspectors. One industry group highlighted the importance of international consistency as many of their members operate through widespread supply chains.

Different interpretations of the Regulations and equivalent regulations across Australia are a significant source of uncertainty, and cost, for businesses – particularly those that operate across state borders or nationally. We understand that significantly more issues would arise should Victoria, or any other state, not elect to follow the national model legislation or regulations. Despite some interpretation irregularities, the Regulations provide current and new businesses (including employers and employees) with needed certainty and consistency, and confidence that they are adhering to best practice transport of dangerous goods by road or rail.

The Regulations, along with other regulations under the Act, work together to ensure that Victorians are appropriately protected from the potential harms, hazards and risks associated with dangerous goods.

For the break-even analysis, the statistical value of life has been used to calculate the benefits required to break-even with costs. This is a commonly accepted method to benchmark social costs. This analysis uses an estimated cost of a fatality of **$4,436,421**, based on Victorian Government guidance on the value of a statistical life[34] ($3.5 million in 2006-07[35], inflated to 2016-17 dollars[36]).

[34] Department of Treasury and Finance (2013). Economic Evaluation for Business Cases, Technical Guidelines, August 2013.
[35] Dr Peter Abelson (2008). Establishing a Monetary Value for Lives Saved: Issues and Controversies, Working papers in cost-benefit analysis.
[36] RBA (2017). Inflation Calculator.

6.7 Analysis of preferred proposed Regulations

6.7.1 Costs to industry

The costs imposed by the Regulations are estimated as being quite limited. From the analysis, the proposed Regulations would result in $6,246,912 of total costs incurred by industry per annum, as shown in Table 6-4.

Table 6-4 Proposed Regulations – costs to businesses

Costs	Impact analysis	
	Per business (per annum)	**Overall (per annum)**
Costs associated with interpreting the Act, should no Regulations exist	$1,221	$495,788
Incremental, ongoing costs associated with the Regulations as they currently are	$15,452	$6,273,324
Costs associated with the proposed changes to the Regulations	($1,286)	($522,200)
Total	$15,386	**$6,246,912**

Notes: Calculations in table may not add due to rounding of figures.

To calculate overall costs, the cost per business was multiplied by 406, which is the current estimated number of duty holders. As it is not considered that this number will change significantly across the regulatory period, these costs are considered likely to remain relatively stable and it is therefore assumed that costs and benefits are the same for each year of the life of the proposed Regulations. A potential issue is that the businesses that were consulted and which provided estimated costs of the Regulations, may not be representative of the make-up of the overall pool of duty holders (e.g. in terms of industry or size), and that scaling up the results may therefore over or under estimate the actual costs. However, for the purpose of this RIS, this issue is not considered a significant risk because of the uniformity of views and costs identified, both by individual businesses and industry groups. The strong prevailing view was that costs of the Regulations are quite low, regardless of the characteristics of the business.

6.7.2 Costs to Government

From the analysis, the proposed Regulations would result in costs to Government of $462,000 per annum.

6.7.3 Total costs

In summary, it is estimated that the proposed Regulations would result in total costs of $6,708,912 per annum as shown in Table 6-5.

As with any cost-benefit analysis it is prudent to consider what the final results could be under different assumptions, a process known as sensitivity analysis. The variation considered for this CBA is the break-even analysis for the scenario where costs are 20% higher. These costs are also shown in Table 6-6. Additional variations could be modelled, however are not considered necessary given the relatively low cost impact being considered in this RIS.

Table 6-5 Preferred option – total costs (including sensitivity analysis) (per annum)

Total costs	Impact analysis	Sensitivity analysis (+20%)
Costs to businesses	$6,246,912	$7,496,294
Costs to Government [a]	$462,000[a]	$554,400
Total	**$6,708,912**	**$8,050,694**

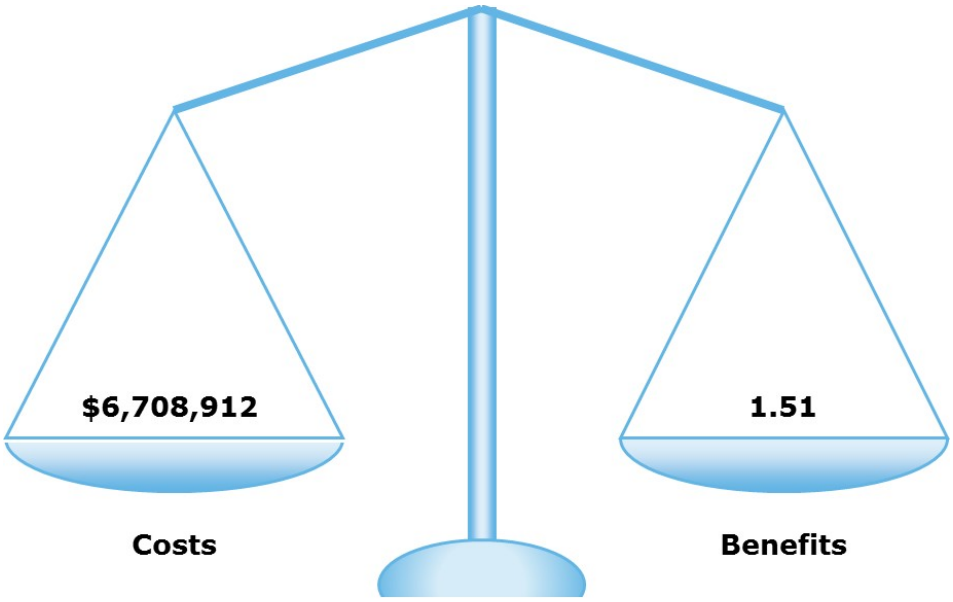
Note [a] Does not include offset to reflect fee revenue collected by WorkSafe.

6.7.4 Break-even analysis

These costs are not considered significant in relation to the potential harms associated with the transport of dangerous goods. The Regulations would break even in terms of costs and benefits to society if they result in at least two lives saved per year, where the statistical value of a life is $4,436,421. This is shown in Figure 6-3.

Under the sensitivity analysis, for the Regulations to break even, this would require at least two lives per year to be saved.

Figure 6-3 Preferred option – benefits required to break-even



It is noted that as the break-even analysis focuses on only benefits in terms of lives saved, it does not reflect other potential benefits, such as a reduction in:

- The risk of injury to individuals
- The risk of damage to private and public infrastructure
- The risk of harm to the environment
- The risk of productivity and economic costs.

Therefore the break-even analysis is quite conservative in the benefits that are being included in comparison to costs.

6.7.5 Evaluation of the likelihood that benefits will be achieved

Although there are data limitations in terms of quantifying the lives saved from the current Regulations and proposed Regulations, it is considered fairly likely that in the absence of the Regulations, there will be an increase in the incidence and risk of harms resulting from the transport of dangerous goods. WorkSafe's view is that the information provided regarding the safe transportation of, and other technical matters relating to, dangerous goods can reasonably be expected to save at least two lives per year, by prescribing for industry the actions that need to be undertaken to reduce as far as practicable the risk of personal injury, death, property damage and environmental harm arising from the transport of dangerous goods by land.

The likelihood that the benefits of the proposed Regulations offset or outweigh the costs is further strengthened by the fact that there are other benefits expected to be achieved in addition to expected lives saved, as identified above. In summary, the conclusion of this report is that the benefits of the proposed Regulations are likely to be larger than the costs.

6.8 Impact on small business

A significant number of duty holders are small businesses. It is also likely that businesses affected by the Regulations but not required to hold a DG licence (e.g. tradespeople and plumbers) also fall under the category of small businesses.

However, from the consultation, there is unlikely to be a disproportionate impact on small businesses as a result of these proposals, due to the overall low cost of the Regulations and the private incentives to comply with best-practice transport of dangerous goods as outlined in the ADG Code.

Also, a majority of the provisions do not apply to those that are not required to hold a DG licence, lessening the burden and impact on these businesses.

7 Fees analysis

This chapter proposes new fee arrangements to increase cost recovery and reflectivity.

7.1 Summary

Currently, the Regulations prescribe one fee of $60 for dangerous goods vehicle licences and renewals. Although the Regulations provide the ability to prescribe fees for seven other various licences and application types in the Regulations (for example, fees for DG drivers' licences), these were not prescribed in 2008 as at the time as WorkSafe was unable to estimate the resources required for processing and assessing the applications in order to determine the appropriate fee. Since the making of the Regulations in 2008 no further fees have been prescribed.

WorkSafe currently collects total fees on average of $111,720 per annum from applications for new and renewal of dangerous goods vehicle licences. Recent WorkSafe analysis shows that this exceeds WorkSafe's costs of processing and assessing applications for dangerous goods vehicle licences and renewals but recovers less than WorkSafe's total costs of processing and assessing all applications.

The proposed fee arrangements will involve full cost recovery for all application types for which costs can be adequately determined. Where costs are unknown (as very little applications have been received in the last two years), fees are proposed to be prescribed at the same level as similar applications prescribed under the OHS Regulations.[37] Fees have also not been prescribed for applications currently deemed not warranted[38] by WorkSafe. In addition to the prescription of fees for various applications and licences, fees will be specified in fee units rather than dollar value to ensure that the value of the fee is indexed over time. A summary of the proposed fees is shown in Table 7-1.

[37] WorkSafe has not received any administrative determination applications in the last two years and has only received two exemption applications in the past two years. Given the diverse subject matter required for these types of applications WorkSafe has indicated that it is difficult to estimate the cost on such a small sample.

[38] For example, applications for approvals of Type II segregation are rare. WorkSafe has not received one of these applications within the last two years. Most jurisdictions also do not prescribe fees for this application type. Another example is that WorkSafe's policy is not to permit transfer of licensed vehicles within Victoria. As such prescription of a fee for this is not warranted.

Table 7-1 Summary of proposed fees

Application type	Fee unit* – Option 1	Fees in 2017/18 – Option 1	Current
Approval of design packaging (non-bulk tanker design)	17.93	$255.00	
Approval of design packaging (bulk tanker design)	57.10	$812.00	-
Exemptions	46.20	$657.00	-
Admin determinations	46.20	$657.00	-
New drivers licence	5.77	$82.00	-
Drivers licence renew	5.49	$78.10	-
New/renew vehicle licence	0.98	$13.90	$60
Approvals of Type II segregation devices	-	-	-
Disposal and transfer of licensed vehicles	-	-	-

*Note: Per the General Gazette Number G13 dated 30 March 2017, fee units are $14.22 in 2017/18.

The proposed arrangements better align fees for applications and licences with the principles of cost recovery as set out in the Victorian Government's *Cost Recovery Guidelines*. In particular, they result in close to full recovery of the costs of assessing and processing applications (see further discussion below). They recover costs from businesses that are making different types of applications and giving rise to the cost of regulation. The proposed fee structure will also better align Victoria's fees with those in other Australian jurisdictions (see Appendix D).

Only one fee option has been identified for analysis in this RIS.[39] A brief summary the assessment of this option is outlined in Table 7-2.

Table 7-2 Summary analysis of fee option

	Indexation of fees to inflation	Application of full cost recovery
Option 1 – full cost recovery*		

*Note: Full cost recovery where appropriate and costs were able to be adequately determined.

[39] Per advice from OCBR, this RIS does not assess maintaining the current fee structure as this option is considered to be infeasible and not reflective of the *Cost Recovery Guidelines*. This is further explored in Section 7.3.

7.2 Background

There is capacity in the current Regulations to prescribe fees for the eight licence and application types. These include:

- Dangerous goods vehicle licences and renewals (Regulation 209(4))
- Dangerous goods drivers' licences (Regulation 195(2)(f))
- Renewals of dangerous goods drivers' licences (Regulation 201(2)(f))
- Disposal and transfer of licensed vehicles (Regulation 215 (6))
- Approval of packaging design (which includes bulk tanker design) – Regulation 55(3)(i))
- Approvals of Type II segregation devices (Regulation 115(1)(b))
- Exemptions (Regulation 171(1)(l))
- Administrative determinations and approvals (Regulations 175(2)(b)).

However, when the Regulations were made in 2008, only one fee was prescribed (being a fee for dangerous goods vehicle licence applications (new and renewals)). It is understood that fees for most application types were not prescribed as at the time WorkSafe was unable to estimate the resources required for processing the applications in order to determine the appropriate fee.

Any amendments made to the current Regulations to date have been focused on amendments to maintain consistency with the consequential amendments to the National Model Regulations to give effect to changes to the ADG Code. The remake review requires the Regulations to be reviewed in their totality and consider any relevant government policy. This has led to the prescription of fees being considered at this time to ensure that the Regulations meet Victorian government requirements.

The fees from applications for new and renewal of dangerous goods vehicle licences raised $113,400 in revenue in 2015/2016 and $110,040 in 2016/2017. As WorkSafe's 'cost recovery' for its operations partly occurs through its premium scheme, revenue shortfalls from under-recovery of dangerous goods-related licence and application activities are recovered from the general business community.

7.3 Key issues with current fee structure

The fee for processing applications for a new or renewal of a dangerous goods vehicle licence is currently prescribed as a fixed fee of $60 (and not indexed). The fee was prescribed in 2008 based on the understanding of the time and resources necessary to process this type of application.

The Legislation, Policy and Information Services Division (LPIS), in collaboration with the Health and Safety Business Unit (HSBU) in WorkSafe[40] have since undertaken an assessment of the resources used and time taken to processes each application type under the existing Regulations to determine the current cost to WorkSafe.

The process undertaken for the assessment of fees by LPIS and HSBU was as follows:[41]

- Identify the persons responsible for assessing applications (across Licensing Branch and Specialist Services) and their classification;
- Identify the estimated time taken to assess each application (based on information provided by Licensing Branch and Specialist Services)
- Base wages of persons assessing applications on the median salary point between the 2015/2016 and 2016/2017 financial years
- Include WorkSafe "oncosts" (currently 23.6% of the base salary) and WorkSafe's operating costs.

The assessment found that:

- The fee prescribed for the dangerous goods vehicle licence now exceeds WorkSafe's costs of assessing that application

[40] Representatives from Licensing Branch and Specialist Services within HSBU assisted in the review.
[41] The calculation for full cost recovery was undertaken by converting resource wages, WorkSafe's oncosts and operating costs to a per-minute processing cost based on a 7.6 hour workday for 5 days per week over 48 weeks per year. This unit cost was then multiplied by the actual license processing application time, and further multiplied by the actual number of applications processed per annum to reach a full cost per application type per annum.

- WorkSafe's costs of assessing all applications currently exceeds revenue from dangerous goods vehicle licences by approximately $50,000.

The over-recovery of fees for one type of application and non-prescription of fees for other application types is inconsistent with Government policy, which states that regulatory fees and user charges should be set on a full cost recovery basis to ensure both efficiency and equity objectives. Full cost recovery represents the value of all resources used or consumed in the provision of an output or activity.[42]

It is proposed to prescribe fees for most application types within the Regulations and prescribe fee amounts enabling full cost recovery of the costs of assessing and processing applications where costs can be adequately determined[43]. Where costs are unknown, it is proposed to prescribe fees that are the same as those prescribed under the OHS Regulations for similar application.

It is also proposed that any fees prescribed in the Regulations be expressed as fee units rather than dollar amounts. Under this approach the fees will be automatically indexed in accordance with the *Monetary Units Act 2004*. By prescribing fees in fee units, this will allow an indexation approach to be applied, ensuring ongoing cost recovery alignment.

While there is a risk under this approach that WorkSafe could in the future over-recover costs if the fee increases are greater than the cost of collecting the fee, this risk can be addressed by conducting a cost recovery review every two years and making any necessary adjustments to fee levels. Table 7- sets out the full cost recovery of fees as calculated by WorkSafe. The fees have been rounded to the nearest 10 cents, which is also the approach applied to the prescribed fees in the OHS Regulations. This is the preferred approach as it can be consistently applied, and makes the payment of the licence fee simpler for the applicant and for WorkSafe licensing systems.

[42] The Guide to Regulation also suggests consistency with the Department of Treasury and Finance's Cost Recovery Guidelines, which supports Government's general policy which is for regulatory costs to be recovered directly and fully through regulatory fees and for the fee amount to be automatically indexed each year (by prescribing fees in 'fee units') so that the value of those fees and fines is maintained over time.

[43] Note specifically that this means full cost recovery of the costs of assessing and processing applications only. Other costs, such as the costs of enforcement and compliance, are funded mostly by the WorkSafe Premium Scheme.

Table 7-3 Fee Option 1 fee structure

Application type	Proposed fee units	2017/18 equivalent cost	Total anticipated fees in 2017/18
New/renew vehicle licence	0.98	$13.90	$25,882
New drivers licence	5.77	$82	$53,874
Drivers licence renewal	5.49	$78.10	$33,193
Design packaging (non-bulk tanker design)	17.93	$255	$16,575
Design packaging (bulk tanker design)	57.10	$812	$32,480
Approvals of Type II segregation devices	-	-	-
Admin determinations and approvals	46.20	$657	Unknown
Exemptions	46.20	$657	$1,314
Disposal and transfer of licensed vehicles	-	-	-
Total			**$163,317**

Under this proposed option the cost recovery amount is expected to be over $160,000.

The following application types have proposed fees that enable full cost recovery:

- New DG drivers licence
- Renewal DG drivers licence
- New and renewal of DG vehicle licences
- Design packaging approvals (both tanker and non-tanker design approvals)

As the costs are unknown for the following application types, it is proposed to prescribe fees that are the same as those prescribed under the OHS Regulations for similar application types:

- Administrative determinations and approvals
- Exemptions.

While it is unlikely that these will reflect the exact cost of activities undertaken in administering these aspects of the Dangerous Goods Regulations, they provide a reasonable estimate and WorkSafe will review these costs over the next two years (see the Evaluation section below).

It is proposed that fees would not be prescribed for the following application types:

- Type II segregation device approvals (WorkSafe did not receive any applications in the last two years and most jurisdictions do not prescribe fees for this application type)
- Disposal and transfer of licensed vehicles (applications are not accepted or processed based on Licensing Branch policy).

We note that the proposed approach in relation to fees will better align WorkSafe to other jurisdictions' approach to the prescription of fees for the transport of dangerous goods. Appendix D provides a comparison of fees between different Australian States and Territories.

7.3.1 Impact on small business

There are a significant number of duty holders that are small businesses. However, because fees paid will be largely based on the size of the business (as reflected in number of vehicles, number of drivers), small businesses will not be competitively disadvantaged. More generally, total annual fees of $163,317 across the entire industry does not represent a major impost compared to overall operating costs.

8 Implementation, enforcement and evaluation strategy

This chapter discusses key issues to be considered in the implementation, enforcement and evaluation of the Regulations

8.1 Implementation plan

8.1.1 Finalise proposed Regulations

The release of the proposed Regulations and the RIS for a 28 day public comment period will provide key stakeholders and members of the public the opportunity to consider the Regulations and provide feedback. At the conclusion of the public comment period the Victorian Government will review and consider each submission, and take account of the feedback on both the proposed Regulations and the RIS in finalising the Regulations.

On behalf of the Victorian Government, WorkSafe will prepare a formal Response to Public Comment document which will detail the comments provided in the Public Comment submissions and a response to those comments.

The Office of Chief Parliamentary Council (OCPC) will review and settle the Regulations which will then be submitted to the Minister for Finance for approval as the Minister responsible for the Dangerous Goods (Transport by Road or Rail) Regulations.

8.1.2 Implementation of the Regulations

As the proposed Regulations constitute a relatively minor update of the current Regulations, it is expected that existing approaches to implement and enforce the Regulations will continue. WorkSafe is responsible for administering the proposed Regulations and the Regulations will continue to be enforced by WorkSafe inspectors consistent with current arrangements.

Communication

As discussed above, the Regulations have historically been updated every two years at a national level, and well established processes are in place, both on behalf of WorkSafe (in Victoria) and the NTC (at a national level) to communicate changes. It is proposed that similar arrangements will be followed in this case.

WorkSafe will communicate information about the new Regulations to a broad range of stakeholders, including employers, employees, their representatives and the Victorian community.

Once the new Regulations are in place, WorkSafe will undertake some communication activities to assist stakeholders and the general public to understand and comply with the new Regulations. This will include:

- Using formal communications (e.g. the Victorian Government Gazette and a state-wide newspaper) to notify the public about new Regulations channels
- Developing accessible information that explains the changes introduced by the new Regulations
- Updating existing guidance and developing of new guidance to support the new Regulations, where required.

WorkSafe will continue to undertake a range of compliance and enforcement activities, in accordance with its *Compliance and Enforcement Policy*. This includes the provision of information and guidance to assist duty holders to comply, and inspections and investigations, where appropriate, to ensure compliance with the new Regulations. The preparation for implementation will include updating relevant WorkSafe policies and procedures, information technology systems where required, forms and provision of training and/or information sessions to equip all relevant WorkSafe employees with the necessary knowledge of the new

Regulations and their impact on operational and legal requirements and stakeholders. However, as noted already, the minor nature of changes means that changes will not be extensive.

8.2 Enforcement strategy

WorkSafe's existing enforcement strategy will continue to be applied to the new Regulations. An overview of key parts of this strategy, as they apply to dangerous goods, is provided below

8.2.1 Inspection activity

Inspectors are authorised under the DG Act to enter places[44] where the inspector reasonably believes there are dangerous goods.[45] Inspectors are also authorised to enter places where they believe there are containers, equipment, fittings, piping, appliances or other things that have been used, or are likely to be used, in connection with the manufacture, supply transfer, storage, transport, sale or use of dangerous goods; or for the import into Victoria of explosives. The DG Act provides inspectors with the power to inspect vehicles. An inspector may stop, detain, inspect, examine or move to a suitable place to inspect and examine any vehicle, ship or boat used, or that the inspector believes on reasonable grounds is being, or is likely to be, used for the transport of dangerous goods.

If there has been a breach of the DG Act or regulations, inspectors take action to ensure compliance. Action can include issuing improvement notices and non–disturbance notices and giving directions. In situations of immediate risk, inspectors issue prohibition notices to stop a dangerous activity until the risk is remedied (for more details on notices, see 'Notices by inspectors' on the next page). Inspectors also refer serious breaches for investigation by WorkSafe investigators that can lead to duty holders being prosecuted.

WorkSafe employs a number of dangerous goods related inspectors who are involved in the enforcement of the Act and its regulations. As discussed below, over the past decade, 317 enforcement notices were issued in total, with the vast majority being 'improvement notices'.

8.2.2 Compliance and enforcement

WorkSafe aims to improve workplace health and safety in Victoria through a combination of initiatives that balance 'encouragement' and 'deterrence'. These initiatives, such as a visible inspector presence and the risk of detection and, where necessary, provision of practical advice and information to help workplaces with compliance, are explained in WorkSafe's compliance and enforcement policy (available at WorkSafe.vic.gov.au).

WorkSafe inspectors are trained and instructed to provide practical advice and information to help workplaces with compliance. All inspectors have attained competency qualifications.

Notices by inspectors

Once an inspector has entered a place, they may issue three types of notices (outlined below) to help enforce compliance with the DG Act and its Regulations. WorkSafe's compliance approach is that if an inspector observes a breach of the DG Act or Regulations then, unless the risk can be controlled on the spot, a notice will be issued.

Improvement notice

An improvement notice may be issued if an inspector reasonably believes there has been a contravention or that a contravention may continue or be repeated. The notice must specify prescribed matters, including the basis for the inspector's belief; the provision of the DG Act (or the Regulations) that has been, or is likely to be, contravened and a deadline for remedial action. An improvement notice may also include directions about how to remedy the breach. In the past decade, 303 improvement notices have been issued in relation to the Regulations.

[44] Places is defined in Section 3 of the Act as including a vehicle, ship or boat. Under the Regulations, only vehicles would be relevant.

[45] The power to enter places is limited in respect of a part of a place that is used only for residential purposes. Under section 16 of the DG Act, the powers of an inspector in relation to entering a place are not exercisable in respect of any part of a place that is used only for residential purposes except with the consent of the occupier for the time being of the place; or under the authority of a search warrant.

Prohibition notice
This notice is issued when an inspector reasonably believes there is an activity that may be an immediate risk. It prohibits the activity from continuing or being carried out in a specific way and may include directions on how to remedy the risk. It remains in place until an inspector has certified that the matters that give, or that will give, rise to the risk have been remedied. A prohibition notice must specify prescribed matters, including the basis for the inspector's belief; the activity the inspector believes involves (or will involve) the risk and the matters that give (or will give) rise to the risk; if the inspector believes that the activity involves a contravention (or likely contravention); the provision of the Act or the regulations; and a deadline for remedial action. In the past decade, 14 prohibition notices have been issued in relation to the Regulations.

Non-disturbance notices
Non-disturbance notices are not relevant to the Regulations and as such are not further discussed in this RIS.

8.3 Evaluation strategy

A comprehensive framework is in place for evaluation of the current Regulations, both at both the national level and the state level. It is proposed to maintain this evaluation framework going forward.

8.3.1 National-based review

As discussed in Chapter 2, the NTC produces model legislation which guides regulations in the states and territories.

As part of its role, the NTC reviews and updates the ADG Code every two years to ensure that it remains current (i.e. meets international best-practice and evolving user needs in Australia) and effective, and arranges any consequential amendments to the Model Act and Model Regulations.

This helps meet international best practice and evolving user needs in Australia, and is part of an ongoing strategy to ensure consistent Australian transport requirements, and to align Australian transport requirements with international regulations covering the safe transport of dangerous goods. The NTC reports to federal government through the TIC, which then approves the updates to the legislative framework.

The NTC is advised by the Transport of Dangerous Goods Maintenance Advisory Group. This consists of the NTC, the relevant authority in each state and territory for the transport of dangerous goods, the Commonwealth Department of Infrastructure and Regional Development, and industry representatives. The Group advises the NTC on requests for changes to the Australian Dangerous Goods Code or the model laws that support the Code.

As part of the bi-annual process, the NTC consults broadly with key stakeholders. As part of the process, the NTC requests that interested stakeholders provide Australian specific issues for consideration. All issues are then considered by the Maintenance Advisory Group for the transportation of dangerous goods prior to public consultation.

State-based review

In addition to participation in the NTC review process, WorkSafe undertakes its own evaluation processes.

WorkSafe's Stakeholder Engagement Framework sets out WorkSafe's approach to stakeholder engagement, its values and guiding principles for engagement.

The framework sets out the principles, processes and methods WorkSafe will use to engage with its stakeholders. The framework:

- Ensures a coherent and consistent approach to stakeholder engagement across WorkSafe
- Commits to a set of clear guiding principles for all stakeholder engagement activity
- Builds capacity for WorkSafe staff to effectively manage stakeholder relationships
- Strengthens oversight and accountability measures to ensure the framework is implemented
- Confirms WorkSafe's commitment to and principles for engaging with stakeholders.

This Stakeholder Engagement Strategy is a key part of the evaluation framework because it sets out an approach to stakeholder engagement that is open, flexible, effective, and that will meet the needs of stakeholders and the organisation. It includes a model for selecting the best level and methods of engagement. This enables WorkSafe to engage with key industry stakeholders and receive feedback on the performance of the Regulations.

It is acknowledged that aspects of the way in which the Regulations are evaluated could be improved, for example there is limited data available to fully inform an assessment of the costs and benefits of the Regulations. Therefore WorkSafe has a very strong focus on engaging closely with key stakeholders to ensure that any concerns about the Regulations are fully understood and able to be assessed.

WorkSafe will continue to review its data collection options and look at practical solutions involved in addressing this issue.

8.3.2 Evaluation of the fee structure

As the proposed fee structure only fully recovers costs where costs are known, WorkSafe will undertake an evaluation of the fee arrangements every two years to coincide with the national Model framework change proposal review process or earlier if there are any significant cost savings arising as part of WorkSafe 2030.

9 Statement of compliance with National Competition Policy

The National Competition Policy Agreements set out specific requirements with regard to all new legislation adopted by jurisdictions that are party to the agreements. Clause 5(1) of the Competition Principles Agreement sets out the basic principle that must be applied to both existing legislation, under the legislative review process, and to proposed legislation:

> *The guiding principle is that legislation (including Acts, enactments, Ordinances or Regulations) should not restrict competition unless it can be demonstrated that:*
>
> *(a) The benefits of the restriction to the community as a whole outweigh the costs; and*
>
> *(b) The objectives of the regulation can only be achieved by restricting competition.*

Clause 5(5) provides a specific obligation on parties to the agreement with regard to newly proposed legislation:

> *Each party will require proposals for new legislation that restricts competition to be accompanied by evidence that the restriction is consistent with the principle set out in sub-clause (1).*[46]

Therefore, all RIS must provide evidence that the proposed regulatory instrument is consistent with these National Competition Policy obligations. The OECD Competition Assessment Toolkit[47] provides a checklist for identifying potentially significant negative impact on competition in the RIA context. This is based on the following four questions:

- Does the proposed regulation limit the number or range of suppliers?
- Does the proposed regulation limit the ability of suppliers to compete?
- Does the proposed regulation limit to the incentives for suppliers to compete?
- Does the proposed regulation limit the choices and information available to consumers?

According to the OECD, if all four of these questions can be answered in the negative, it is unlikely that the proposed Regulations will have any significant negative impact on competition and further investigation of competition impacts is not likely to be warranted.

The proposed Regulations do not limit the number of range of suppliers, the ability of suppliers to compete or the incentives for suppliers to compete vigorously. The proposed Regulations also do not limit the choices and information available to consumers.

Consequently, the proposed Regulations are not believed to have any material anti-competitive impact and be fully compliant with the National Competition Policy.

[46] Competition Principles Agreement, Clause 5. 1995, available at: www.ncc.gov.au (accessed November 2017).
[47] See OECD (2011) Competition Assessment Toolkit. Volume 1: Principles, pp 8-9. OECD, Paris, 2011.

Appendix A: Online survey questionnaire

Introduction text

As you may know, the Victorian Dangerous Goods (Transport by Road and Rail) Regulations (DG (TRR) Regulations) will expire in December 2018. These regulations essentially replicate the National Model laws on the Transport of Dangerous Goods by Road and Rail (Model Regulations).

WorkSafe Victoria (WorkSafe) is required to complete a comprehensive review of the impact of impact of the Victorian DG (TRR) Regulations on Victorian businesses in the lead up to the Regulations being remade by this date.

As part of this review, Deloitte has been engaged by the Victorian Government to develop a Regulatory Impact Statement (RIS) to estimate the current impact of the DG (TRR) Regulations and any costs to businesses resulting from any potential changes. As part of this process, Deloitte is undertaking consultations with selected Victorian businesses.

This is a great opportunity to contribute to a process that will inform government decisions about the DG (TRR) Regulations that are being developed and will be in place for the next 10 years.

We will be seeking information from you on the costs to your organisation in relation to the DG (TRR) Regulations and any impacts of potential changes, but will not seek your input on the merits of the proposed changes themselves. An opportunity to provide feedback on the proposed changes may be provided as part of a public comment process that is anticipated to occur in 2018.

Some of the questions we will ask relate to changes being considered at this point in time. Any proposed changes will eventually be subject to public comment and ministerial approval.

This survey is expected to take 30 to 45 minutes. The information you provide will be treated in a confidential manner and will only be used to inform our assessment of the current impact and impact of any potential changes to the DG (TRR) Regulations for the purpose of developing the Regulatory Impact Statement. The information will be combined with information from other organisations and will be reported in such a way that anything relating specifically to your company will not be identified separately.

Qn. No.	Question	Possible answers	Additional info
	Questions about the business		
1	Are you or your business associated with the transport of dangerous goods by road or rail? This may include but is not limited to transport, packaging, loading, consigning and transport of dangerous goods as tools of trade (e.g. plumbing), package design, emergency response	a) Yes b) No	If 'No' was selected, the survey would immediately end.
2	Where does your business primarily operate? If Other, please specify.	a) Within Victoria b) Around Australia c) Globally	

		d) Other _____	
3	Is your business involved in any of the following activities in Victoria? If Other, please specify.	☐ Transport of dangerous goods ☐ Packaging of dangerous goods for road transport ☐ Consigning of dangerous goods ☐ Designer of transport equipment for dangerous goods ☐ Designer of packaging for dangerous goods ☐ Emergency response ☐ Tradesperson (transporting dangerous goods as tools of trade – e.g. gas cylinders) ☐ Other _____	Ability to pick multiple answers
4	Which industry does your business primarily operate in Victoria? If Other, please specify.	☐ General chemical industry ☐ Cosmetic industry ☐ Retail industry ☐ Petrochemical industry ☐ Petrol industry ☐ Biogas industry ☐ Construction industry ☐ General dangerous goods freight ☐ Other _____	Ability to pick multiple answers
5	Under the Australian Dangerous Goods Code, substances and articles subject to the Code are assigned to different classes according to the hazard they present. Can you tell me which of the following classes your business is associated with in Victoria? If Other, please specify.	☐ Gases, Class 2 ☐ Flammable liquids, Class 3 ☐ Flammable solids, self-reactive and desensitized explosives, Division 4.1 ☐ Substances liable to spontaneous combust, Division 4.2 ☐ Substances dangerous if wet, Division 4.3 ☐ Oxidizing substances, Division 5.1 ☐ Organic peroxides, Division 5.2 ☐ Toxic substances, Division 6.1 ☐ Infectious substances, Division 6.2(*) ☐ Corrosive substances, Class 8 ☐ Miscellaneous dangerous substances and articles and environmentally hazardous substances, Class 9.	Ability to pick multiple answers

		☐ Other _____	
6	Does your business transport the following types of loads in Victoria? If Other, please specify.	☐ Transport Limited quantities ☐ Transport Placard loads ☐ Transport in mixed loads ☐ Package and bulk transport ☐ Concessional and limited ☐ Consolidated loads ☐ Other _____	Ability to pick multiple answers
7	Please indicate the number of dangerous goods vehicle licences your business holds, and for what type of transport, in Victoria. If Other, please specify. *Note: although there are no train licences, we are still interested in understanding the number of trains that your business owns that transport dangerous goods so please provide an indicative figure if relevant.	☐ None ☐ Truck [number] ☐ Tank vehicle [number] ☐ Rigid vehicle [number] ☐ Trailers [number] ☐ Prime movers [number] ☐ Semi-trailer [number] ☐ Combination vehicle (B – double or truck & dog) [number] ☐ Other – please specify ☐ Train* [number] ☐ + ability to add others	Ability to pick multiple answers
8	Approximately how many staff (full time equivalents) does your business employ in Victoria and in Australia?	[number] in Victoria [number] in Australia	
8A	What proportion of staff work with the transport of dangerous goods in Australia	___%	
9	Does your business use labour outside of employees in Victoria? (e.g. sub-contractors or labour-hire) If yes, approximately how many full time equivalent non-employees?	☐ Yes, sub-contractors [number] ☐ Yes, labour-hire [number] ☐ Yes, other [free text] [number] ☐ No	Ability to pick multiple answers
10	What activities does your business currently undertake to transport dangerous goods, to comply with the current Regulations in Victoria?	☐ Training ☐ Packaging ☐ Marking and labelling ☐ Placarding ☐ Safety standards in relation to vehicles and equipment ☐ Transport operations relating to certain dangerous goods (including those too dangerous to be transported) ☐ Stowage and restraint ☐ Segregation	Ability to pick multiple answers

		☐ Bulk transfer ☐ Transport documentation requirements ☐ Safety equipment ☐ Procedures during transport (for placard loads) ☐ Emergencies ☐ (Applying for) Exemptions ☐ (Applying for) Administrative determinations and approvals ☐ Insurance	

Questions about the Regulations

We would like to understand the annual ongoing cost to your business of complying with the current regulations relating to the transport of dangerous goods (via road and rail). Specifically, we are interested in the incremental cost incurred as a result of the regulations (i.e. costs incurred beyond those associated with meeting the requirements of the Dangerous Goods Act and costs incurred for good business practice).

Please provide cost estimates broken down by the areas in the previous question. Please pick N/A for the areas that are irrelevant to your business.

If this is too difficult to calculate, you may provide an aggregate figure at the end.

However, we will be able to better use your information if you are able to provide us with individual costs.

Note: costs include staff time and any other expenses

Note: we are interested in the incremental costs associated with meeting the requirements of the Regulations, rather than costs you would otherwise incur for good business practices or meeting the requirements of the Act.

11	**Training costs** For example: • Time spent on internal training delivered by businesses • Time spent on externally provided tests and courses • Financial cost of attending a course or undertaking a test	a) $[number] b) N/A	Question only appeared if 'Training' was selected in Q10
12	**Packaging costs** For example: • Financial cost of using packaging that meet compliance requirements • Cost of ensuring that packaging is suitable for the transport • Cost of ensuring overpack requirements are met • Approval of overpacks	a) $[number] b) N/A	Question only appeared if 'Packaging' was selected in Q10
13	**Marking and labelling costs** For example: • Cost of ensuring that dangerous goods are appropriately labelled and marked	a) $[number] b) N/A	Question only appeared if 'Marking and labelling' was selected in Q10

	• Financial cost of printing labels • Cost of time spent attaching, removing or reattaching labels or marks		
14	**Placarding costs** For example: • Financial cost of time spent obtaining, affixing, stencilling, or placing a placard and/or an emergency information panel on transport	c) $[number] d) N/A	Question only appeared if 'Placarding' was selected in Q10
15	**Safety standards costs** For example: • Additional financial cost equipping a vehicle and equipment so that it meets the compliance requirements for the transport for the type of dangerous good	e) $[number] f) N/A	Question only appeared if 'Safety standards' was selected in Q10
16	**Transport operations relating to certain dangerous goods (including those too dangerous to be transported)** For example: • Cost of time taken to understand and meet requirements Note: this only applies to the dangerous goods specified in Regulation 95	a) $[$[number] b) N/A	Question only appeared if 'Transport operations relating to certain dangerous goods (including those too dangerous to be transported)' was selected in Q10
17	**Stowage and restraint costs** For example: • Cost of understanding and meeting different requirements for placard and non-placard loads • Financial cost of meeting stowage, loading and restraint requirements	a) $[number] b) N/A	Question only appeared if 'Stowage and restraint' was selected in Q10
18	**Segregation costs** For example: • Additional costs of segmenting loads (e.g. two trucks instead of one, segregation within vehicles) • Approval of Type II segregation devices • Approval of methods of segregation	a) $[number] b) N/A	Question only appeared if 'Segregation' was selected in Q10
19	**Bulk transfer costs** For example: • Financial cost of meeting hose assembly standards (approved equipment and testing) • Cost of meeting bulk transfer compliance requirements • Financial cost and time spent meeting standards when there are spills, leaks, escapes of goods	a) $[number] b) N/A	Question only appeared if 'Bulk transfer' was selected in Q10
20	**Transport documentation requirement costs**	a) $[number]	Question only appeared if

	For example: • Financial cost of compiling and printing transport documents • Cost of time spent compiling documentation into transport manifests • Costs of displaying emergency information and meeting compliance requirements	b)	N/A	'Transport documentation requirement' was selected in Q10
21	**Safety equipment costs** For example: • Financial cost of equipping vehicles for placard loads with required safety equipment	a) b)	$[number] N/A	Question only appeared if 'Safety equipment' was selected in Q10
22	**Procedures during transport costs (for placard loads)** For example: • Financial cost of meeting requirements when a vehicle transporting dangerous goods breaks down and is a traffic hazard	a) b)	$[number] N/A	Question only appeared if 'Procedures during transport (for placard loads) costs' was selected in Q10
23	**Costs of emergencies** Requirements apply to all goods, with additional requirements for placard loads. For example: • Time spent by driver on notifying required people if there is an emergency (additional requirements for placard loads) • Financial cost of requirements if food is in the vicinity of emergency • Time spent developing an emergency plan for placard loads • Time spent and cost of responding to an emergency prior to emergency service arrival • Time and costs of assisting inspectors at an incident	a) b)	$[number] N/A	Question only appeared if 'Emergencies' was selected in Q10
24	**Cost of exemptions** For example: • Financial cost of applying for exemptions	a) b)	$[number] N/A	Question only appeared if '(Applying for) Exemptions' was selected in Q10
25	**Administrative determinations and approvals costs** For example: • Financial cost of applying for administrative determinations and approvals	a) b)	$[number] N/A	Question only appeared if '(Applying for) Administrative determinations and approvals' was selected in Q10
26	**Insurance costs**	a)	$[number]	Question only appeared if

	For example: • The additional cost of insurance premiums as a result of the regulations	b) N/A	'Insurance' was selected in Q10
27	**Aggregate cost** If you were unable to provide cost estimates broken down by areas, please provide an approximate aggregate cost per year here (i.e. the total costs to your business, across all areas, of meeting the requirements of the Regulations, beyond those associated with meeting the requirements of the Dangerous Goods Act and costs incurred for good business practice). If you have provided cost estimates by area, please pick N/A.	a) $[number] b) N/A	
28a	If the Victorian Dangerous Goods Transport by Road or Rail Regulations expired and new Regulations were not made, the ADG Code would no longer have legal status in Victoria. If this happened, would you operate your business differently?	a) Very likely b) Likely c) Unlikely d) Very unlikely e) Unsure	
28b	Why or why not would you operate your business differently? [free text box]		
29	If the Victorian Dangerous Goods Transport by Road or Rail Regulations expired and new Regulations were not made, the ADG Code would no longer have legal status in Victoria. If this happened, what is an estimate of the compliance, advisory and legal costs incurred to interpret the DG Act and ensure consistency with the Act?	a) $[number] b) Insignificant	
30	All Australian jurisdictions have adopted the national model legislative framework for the transport of dangerous goods. Do you consider it important that Victoria maintains national consistency in regards to the regulations around the transport of dangerous goods?	a) Yes, very important b) Yes, somewhat important c) No, not important	

Questions about if the Regulations change

There are a number of proposals currently being considered as part of the two yearly review of the national model legislative framework for the transport of dangerous goods.

The Victorian Government is considering whether it should remake the regulations to allow continued alignment with the national model legislative framework for the transport of dangerous goods.

As such, we may need to understand the costs that your business would incur under any potential new requirements.

31	**Ventilation and storage requirements for Class 2 dangerous goods.** *Current requirements:* The current tools of trade requirements in the DG (TRR) Regulations are not explicit about how gas cylinders containing Class 2.1 and 2.3 gases, with pressure relief valves, should be stored. The Regulations require that if class 2.1 and 2.3 gases of	a) My business already meets the requirements under the proposed changes b) My business will update its practices in line with the updated Code, regardless of whether or not these requirements are	

	more than 50l/kg are transported then the vehicle in which it is transported must be sufficiently ventilated. *Proposal under consideration:* Consideration is being given to make it explicit in the Regulations that gas cylinders covered by this provision need to be stored upright and securely with specific exemptions (e.g. cylinders designed to be placed horizontally). It is also being considered that storage and ventilation requirements be extended to class 2.2 gases and that the vehicle must be sufficiently ventilated for class 2.1, 2.2 and 2.3 gases of any capacity (removal of the 50l/kg exemption). Please select the sentence that best applies to your business. If the proposed changes are implemented:	specified in the DG (TRR) Regulations c) My business will only update its practices if these requirements are specified in the DG (TRR) Regulations d) This change is not relevant to the current functions of my business	
32	Please provide an estimate of the annual costs associated with meeting this proposed change	a) $[number] b) Insignificant	Question only displayed if c) was selected in Q31
33	**Transport of empty packagings and containers** *Current requirements:* Chapter 7.2 of the ADG Code details the current requirements in relation to empty packagings. Chapter 7.2 contains Australian specific special provisions for the transports of pre-labelled packaging, intermediate bulk containers (IBCS) and cylinders, transport of nominally empty receptacles and storage vessels. *Proposal under consideration:* These requirements may be incorporated into the DG (TRR) Regulations as the DG (TRR) Regulations does not currently specify who has obligations to meet these requirements in the ADG Code. In practice, this proposal will: a) give legal force to the exemptions in chapter 7.2. b) explicitly require the new and unused packagings to display signage that clearly identifies that the transport is carrying empty, as yet unused dangerous goods pre-labelled packagings, IBCs and cylinders, cl. 7.2.5 c) explicitly require that nominally empty receptacles comply with cl.7.2.6 d) explicitly require that empty vessels comply with cl. 7.2.7. Please select the sentence that best applies to your business. If the proposed changes are implemented:	a) My business already meets the requirements under the proposed changes (i.e. my business already meets the requirements in the ADG Code) b) My business will only update its practices if these requirements are specified in the DG (TRR) Regulations c) This change is not relevant to the current functions of my business (my business is not involved in the transport of empty packagings or containers)	

34	Please provide an estimate of the annual costs associated with meeting this proposed change	a) b)	$[number] Insignificant	Question only displayed if b) was selected in Q33.

35	**Load restraint of bundles of cylinders** *Current requirements:* Section 1.2.1.1 of ADG Code 7.5 provides specific definitions of the terms “Cylinders” and “Bundles of Cylinders”. e) **‘Bundles of cylinders’** are assemblies of cylinders that are fastened together and which are interconnected by a manifold and transported as a unit. The total water capacity must not exceed 3000 litres except that bundles intended for the transport of gases of Division 2.3 must be limited to 1000 litres water capacity. f) **‘Cylinders’** are transportable pressure receptacles of a water capacity not exceeding 150 litres Clause 8.1.3.5 allows IBCs, large packagings, segregation devices, pressure drums or multi-element gas containers (MEGC) to be transported on an open vehicle without the requirement to have rigid sides or gates provided that the IBCs, large packaging, segregation device, pressure drum or MEGC is restrained in compliance with the load restraint guidelines. Clause 8.1.3.6 of the ADG Code allows multi-element gas containers (MEGC) which can comprise of multimodal bundles of cylinders interconnected by a manifold and assemblies of cylinders to be transported on an open vehicle without the requirement to have rigid sides or gates provided they are restrained in compliance with the load restraint guidelines. The ADG Code is not explicit on how ‘bundles of cylinders’ that do not fit into these categories (such as manifolded gas cylinders) are to be restrained therefore they would need to be transported in a vehicle with rigid sides or gates. This provides an unintended inconsistency. *Proposal under consideration:* Consideration is being given to adding the term “bundle of cylinders” to Clause 8.1.3.5 of the Code. The “bundles of cylinders” will be treated in the same manner as a stillage of cylinders, a pressure drum, a MEGC, an IBC or a large packaging. It will provide clarity that “bundles of cylinders” can be transported on an open vehicle without the requirement to have rigid sides or gates provided they are restrained in compliance with the load restraint guidelines. Please select the sentence that best applies to your business. If the proposed changes are implemented:	a) b) c) d)	My business already meets the requirements under the proposed changes My business will update its practices in line with the updated Code, regardless of whether or not these requirements are specified in the DG (TRR) Regulations My business will only update its practices if these requirements are specified in the DG (TRR) Regulations This change is not relevant to the current functions of my business (my business is not associated with the transport or packaging of bundles of cylinders)

36	Please provide an estimate of the annual costs associated with meeting this proposed change	a) $[number] b) Insignificant	Question only displayed if c) was selected in Q35.

37	**Further limited quantity exemption** *Current regulations:* In the last ADG Code amendment which was approved by the Standing Council on Transport and Infrastructure and came into effect on 1 March 2017, a number of specified limited quantity dangerous goods were defined as concessional limited quantities which provide concessions on documentation and placarding requirements. ***Concessional limited quantities*** The following dangerous goods can be transported using the Concessional Limited Quantities Transport Document: a) a limited quantity dangerous good (1.2.1.2.5) that is of a kind generally used for personal care or household purposes (other than UN 2067, UN 2071 and UN 1942); or b) a domestic consumable dangerous good (defined in 1.2.1). c) Domestic consumable dangerous goods: Domestic consumable dangerous good means party poppers; sparklers and bon-bons (UN0337), domestic smoke detectors (UN 2911), lighters and lighter refills (UN1057) or portable fire extinguishers with compressed or liquefied gas up to 23kg gross weight) (UN 1044). Further exemptions for the transport of small consignments of limited quantity dangerous goods was deferred for consideration in the two yearly review of the national model legislative framework for the transport of dangerous goods. **Proposal under consideration** Consideration is being given to two new sub-categories of limited quantity dangerous goods be established to provide further concessions that are commensurate with the low risk nature of these products. These are categories are: • Personal care products in consumer packaging • Low risk dangerous goods package (household cleaners and aerosols (excluding Div 2.3 – toxic gases and pool and spa cleaners) ***Proposal - Personal care products in consumer packaging*** The personal products in consumer packaging proposal would exempt dangerous goods transported in limited quantities which meet the criteria of personal care products in consumer	a) My business will face a reduction in regulatory burden due to the proposed changes. b) My business will face an increase in regulatory burden due to the proposed changes. c) This change is not relevant to the current functions of my business	

packaging from the regulations and these products could be transported as general freight. The definition for personal products would align with the Poisons Standard of cosmetics.

The exemption would require changes to:

- the ADG Code cl. 1.1.1.2 – Exemptions to application
- the Regulations (Regs 25/ 1.1.6 – Further exemptions)

Poisons standard definition:

A substance or preparation intended for placement in contact with any external part of human body, including:

- the mucous membranes of the oral cavity; and
- the teeth;

with a view to:

- altering the odours of the body; or
- changing its appearance; or
- cleansing it; or
- maintaining it in good condition; or
- perfuming it; or
- protecting it.

Proposal - Low risk dangerous goods package

Consideration is being given to allowing documentation and placarding concessions for dangerous goods transported in limited quantities which meet the criteria of the low risk dangerous goods package.

The proposed criteria for the low risk dangerous good package is as follows:

- substances that include limited quantity amounts of household cleaners and aerosols (excluding Div 2.3 – toxic gases and pool and spa cleaners)
- maximum outer package gross weight of 10kg
- maximum of 5kg dangerous goods products

Concessions

- Dangerous goods transported in limited quantities that meet the criteria included placard load calculations and will require reduced documentation requirements – the extent of the documentation concessional are yet to be

determined.

Other information

- The change proposes that a new 'low risk dangerous goods package label' be introduced

LOW RISK DANGEORUS GOODS PACKAGE Road and Rail transport only 10kg maximum, majority non dangerous goods Warning take care in the event of a leak

- packaging requirements the same as all limited quantities

Please select the sentence that best applies to your business.

If the proposed changes are implemented:

38	Please provide an estimate of the annual cost associated with this proposed change	a) b) c) d)	$[number] additional cost Insignificant additional cost Insignificant cost saving $[number] cost saving	Question only displayed if a) or b) was selected in Q37.
39	**Excepted Quantities (EQ)** *Current regulations:* Currently an EQ package that comes into Australia by air or sea, labelled with the EQ labels and marks, must be relabelled or have the labels if it needs to be further transported via road or rail, as there is no EQ requirement in the DG (TRR) Regulations. Also, some export packages are being transported under full regulations when they could have travelled by air or sea under the less onerous EQ regulations. *Proposal under consideration:* Consideration is being given to amending the transporting dangerous goods legislation to incorporate the United Nations provisions for EQs (Chapter 3.5 Dangerous Goods packed in Excepted Quantities). Please select the sentence that best applies to your business. If the proposed changes are implemented:	a) b) c) d)	My business will face a reduction in regulatory burden due to the proposed changes. My business will face an increase in regulatory burden due to the proposed changes. My business will not face a change in regulatory burden due to the proposed changes This change is not relevant to the current functions of my business	
40	Please provide an estimate of the annual cost associated with this proposed change	a) b) c) d)	$[number] additional cost Insignificant additional cost Insignificant cost saving $[number] cost saving	Question only displayed if a) or b) was selected in Q39.
41	**Minimum fire extinguisher requirements** *Current regulations:* Part 12 of the Code includes minimum requirements for fire	a)	My business already uses vehicles that carry water and foam fire-fighting systems when it transports ammonium	

	extinguishers. The number and size of fire extinguishers are based on the types of dangerous goods load and also the number of trailers. The current requirements are predominantly for dry powder fire extinguishers. *Proposal under consideration :* Consideration is being given to reviewing this minimum fire extinguisher requirement to increase the minimum fire extinguisher requirements for "explosion risk" dangerous goods from 30B to 60B. Explosion risk dangerous goods include: • Ammonium nitrate of UN 1942/2067; • Ammonium nitrate emulsions or suspensions or gels, intermediate for blasting explosives of UN 3375; and • Calcium hypochlorite of UN 3485/3486/3487; • Ammonium nitrate liquid (hot concentrated solution) of UN 2426; A further proposal also being considered is to update the Code to require providing additional water and firefighting foam on vehicles carrying ammonium nitrate. Please select the sentence that best applies to your business. If the proposed changes are implemented:	nitrate b) My business will update its practices in line with the updated Code, regardless of whether or not these requirements are specified in the DG (TRR) Regulations c) My business will only update its practices if these requirements are specified in the DG (TRR) Regulations d) This change is not relevant to the current functions of my business (my business is not involved in the transport of ammonium nitrate)	
42	How many ammonium nitrate transporters would you have to fit out with water and firefighting foam? Please provide an estimate.	[number]	Question only displayed if c) was selected in Q41
43	Please provide a brief answer about whether there are likely to be cross-border implications as a result of the proposed change. If none, please type N/A	[box for free text]	Question only displayed if c) was selected in Q41
44	Would your business be able to better manage the costs associated with meeting the proposed change if a 5 year transitional period was provided?	a) Yes b) No	Question only displayed if c) was selected in Q41
45	**Transport of dangerous goods listed in Schedule 14 of the OHS Regulations** *Current regulations:* There is currently no requirement in the Regulations or the ADG Code for duty holders to notify emergency services before transport of dangerous goods listed in Schedule 14 of	a) My business will face an increase in regulatory burden due to the proposed changes. b) My business will not face an increase in regulatory burden as we already notify	

	the OHS Regulations in the threshold quantities. *Proposal under consideration:* Concerns of the potential risks of these types of dangerous goods being transported without emergency services being aware and having the capability to respond has been raised. Consideration is being given to requiring duty holders to notify emergency services before transport of such dangerous is commenced so that preparations can be made should an incident occur, as the transport of dangerous goods in Schedule 14 of the OHS Regulations in the threshold quantities make it essentially a Major Hazard Facility (MHF) on wheels. Please select the sentence that best applies to your business. If the proposed changes are implemented:	emergency services before transport of such dangerous goods c) This change is not relevant to the current functions of my business.	
46	If your business does not currently notify emergency services before transport of such dangerous goods, please provide an estimate of the annual cost associated with the proposed change. If your business already notifies emergency services before transport of such dangerous goods, please provide an estimate of the current annual cost associated with this.	$[number]	Question only displayed if a) or b) was selected in Q39.
47	**Exemption from Emergency Information Panel (EIP) requirements for IBCs** *Current regulations:* Currently in Australia, IBCs are required to have an EIP. *Proposal under consideration:* Consideration is being given to Australia aligning with international requirements in relation to emergency information panels on IBCs, and an exemption from EIP requirements is provided for IBCs. Please select the sentence that best applies to your business. If the proposed changes are implemented:	a) My business will face a decrease in regulatory burden due to the proposed changes. b) My business will not face a decrease in regulatory burden due to the proposed changes c) My business will face an increase in regulatory burden due to the proposed changes d) This change is not relevant to the current functions of my business (my business does not use IBCs).	
48	Please provide an estimate of the current annual cost associated with the current EIP requirements for IBCs	a) $[number] b) Insignificant	Question only displayed if a) or c) was selected in Q47.

End of survey

Thank you for your participation in this survey. As noted at the beginning of this consultation, the information you have provided will contribute to a process that will inform government decisions about the DG (TRR) Regulations that are being developed and will be in place for the next 10 years. The Regulatory Impact Statement will be made

available for public comment in the first half of next year.

Appendix B: List of Dangerous Goods Acts and Regulations across Australian jurisdictions

Table 9-1 List of Dangerous Goods Acts and Regulations across Australian jurisdictions

State / Territory	Act	Regulation
Australian Capital Territory	Dangerous Goods (Road Transport) Act 2009	Dangerous Goods (Road Transport) Regulations 2010
New South Wales	Dangerous Goods (Road and Rail Transport) Act 2008	Dangerous Goods (Road and Rail Transport) Regulation 2014
Northern Territory	Transport of Dangerous Goods By Road and Rail (National Uniform Legislation) Act	Transport of Dangerous Goods By Road and Rail (National Uniform Legislation) Regulations
Queensland (road)	Transport Operations (Road Use Management) Act 1995	Transport Operations (Road Use Management-Dangerous Goods) Regulation 2008
Queensland (rail)	Transport Infrastructure Act 1994 – Chapter 14	Transport Infrastructure (Dangerous Goods by Rail) Regulation 2008
South Australia	Dangerous Substances Act 1979	Dangerous Substances (Dangerous Goods Transport) Regulations 2008
Tasmania	Dangerous Goods (Road and Rail Transport) Act 2010	Dangerous Goods (Road and Rail Transport) Regulations 2010
Western Australia	Dangerous Goods Safety Act 2004	Dangerous Goods Safety Regulations Amendment (No. 2) 2015 (Dangerous Goods Safety Regulations 2007)

Appendix C: Additional detail on endorsed national change proposals

Giving legal status to empty packaging requirements in ADG Code

It is proposed that the requirements in relation to empty packagings currently contained in Chapter 7.2 of the ADG Code be incorporated into the Model Regulations and therefore the proposed Regulations. The proposed Regulations do not specify who has obligations to meet these requirements in the ADG Code and such an omission may impact enforcement capability.

Chapter 7.2 contains Australian specific special provisions for the transports of pre-labelled packaging, intermediate bulk containers (IBCs) and cylinders, transport of nominally empty receptacles and storage vessels.

The transport of pre-labelled packagings, IBCs and cylinders, requires unused packagings to indicate that dangerous goods are not present.

The transport of nominally empty receptacles reduces the burden for receptacles that are empty, but not cleaned and as such are still considered to contain dangerous goods.

The transport of nominally empty storage vessels, enables storage vessels (e.g. storage tanks or hops) to be moved on public roads in limited circumstances. These vessels are designed for storage purposes, not transport purposes, and therefore do not comply with Sections 4 or 6 of the ADG Code in relation to packaging requirement. This section 7.2.7 allows for these vessels to be transported as long as they are structurally sound and drained of dangerous goods as much as possible.

All packagings must be included on the transport documentation, as per Chapter 11.1 of the ADG Code.

Proposal

It is proposed to amend Part 7 of the Model Regulations (Transport operations relating to certain dangerous goods) to permit empty containers and packagings to be transported in compliance with Chapter 7.2 of the ADG Code (Transport of empty packagings and containers).

Regulations 94 – 98 of the proposed Regulations will clarify that Part 7 applies to the transport of empty dangerous goods packaging and the concessional requirements provided in Chapter 7.2 of the ADG Code in relation to the transport of empty dangerous goods packaging. The Regulations clarify who has duties in relation to transport of empty dangerous goods packaging.

Exemption of MPUs if they comply with the MPU Code

It is proposed that the ADG Code be revised to exempt MPUs from the ADG Code if they are licensed under the relevant state or territory explosives regulations to rectify inconsistencies and reduce duplication of licensing requirements and compliance checks.

MPUs are special purpose vehicles that manufacture and deliver explosives directly into the blast-holes at mine sites, quarries and large construction sites. The vehicles also transport the component dangerous goods to the blast site. The introduction of MPUs over 40 years ago has effectively eliminated the need to store and transport millions of Class 1 explosives each year.

There are around 500 MPUs in Australia. The MPU industry is run by a small number of professional, competent and safety conscious operators, including international explosives companies Orica and Dyno Nobel Asia Pacific. The MPU drivers are specifically trained and also operate the explosives manufacture and use.

MPUs operate in remote areas to mine sites, with only around 10% of the vehicle kilometres being on public roads. MPUs operate in urban and rural areas for transport to quarries and road work sites, where around

95% of the MPUs vehicle kilometres would be on public roads, and averaging 3 to 4 hours a day. Indications from Qld DNRM indicate that around 90% of Queensland MPUs operate out of mine sites.

The transport of the dangerous goods on public roads in Victoria is covered by the Act, the Regulations and the ADG Code. The manufacture and use of the explosives is covered by the Dangerous Goods (Explosives) Regulations 2011 (Explosives Regulations).

The MPU Code of Practice (MPU Code) was developed in 2002 by the Australian Explosives Industry and Safety Group Inc. (AESIG) in conjunction with regulators. The MPU Code provides information on regulatory (explosives, DG, transport, work health and safety), insurance, transport and explosives manufacturing. It also provides a solution to the gaps in the ADG Code.

In Australia, except for Queensland and South Australia, the MPU Code is not consistent with the ADG Code in some areas which may result in uncertainty and compliance requirements which might not provide a commensurate safety benefit.

Depending on the jurisdiction, MPUs and their drivers require licences under both the explosives and transport of dangerous goods legislation. This is a requirement in Victoria and imposes a duplication in licensing requirements.

Proposal

It is proposed to amend the Regulation 1.1.6 of the Model Regulations and therefore Regulation 25 of the proposed Regulations to provide an exemption from the application of the Regulations regarding the transport of dangerous goods by a MPU, which is authorised under a law of the jurisdiction that it is operating in, to transport explosives. This exemption will not extend to any trailer being towed by a MPU.

It is also proposed to amend section 1.1.1.2 (Exemptions to application) of the ADG Code to reflect the amendments to the Regulations.

Exemptions for specific types of limited quantities (LQ) of dangerous goods

Problems related to LQs were identified in the *2015 Transporting Limited Quantities of Dangerous Goods Regulatory Impact Statement* and include unnecessary regulatory burden, lack of a risk based approach, inconsistency with international standards and unnecessary regulatory complexity.

The requirements for transporting very low risk consumer packaged personal care / cosmetics products and small packages of household cleaners (excluding pool and spa cleaners) and aerosols (excluding Div 2.3) remain too high and are not commensurate with very low risk of these products and are not consistent with international requirements.

It is noted that the UN does not require any documentation for all limited quantity dangerous goods. Australia has concessional documentation requirements for some ‘concessional LQs’.

In 2015 the TIC approved the development of changes to LQs requirements, including the introduction of a retail distribution package (RDP) for small packages of household and personal care and domestic consumables dangerous goods products. The change was proposed to reflect the very low risk of these products and improve productivity from reduced regulatory burden with no change to safety.

Overall Proposal

Chapter 3.4 of the ADG Code sets out requirements for dangerous goods packed in limited quantities. It is proposed to amend the Code by inserting two new sections (3.4.11. and 3.4.12) that will allow ‘Mixed Packet’ (low risk dangerous goods) and personal care products packed in consumer packaging to be transported with concessional compliance requirements compared to other dangerous goods packed in limited quantities in recognition of their lower risk nature and volume. No changes are required to the Model Regulations and therefore there is no requirement for changes to be made to the proposed Regulations to effect this change proposal.

The packages have the same requirements as a single package or an over packed pallet of packages.

The provisions of Part 11- documentation requirements - do not apply to the transport of dangerous goods packed in limited quantities (1.2.1.2.5) that are part of these packages.

The packages will not be included in the placard load calculations. This is because the regulatory burden of calculating the actual weight of dangerous goods for all of these packages would be significant and not in line with their very low risk.

Person care products in consumer packaging

Personal care products in consumer packaging, excluding those in an aerosol, would be exempt from the Model Regulations and could be transported as general freight. The definition for these products would align with the Poisons Standard definition of cosmetics as follows:

A substance or preparation intended for placement in contact with any external part of human body, including:

- the mucous membranes of the oral cavity; and
- the teeth;
- with a view to:
  - altering the odours of the body; or
  - changing its appearance; or
  - cleansing it; or
  - maintaining it in good condition; or
  - perfuming it; or
  - protecting it.

'Mixed Packet' (Low risk dangerous good package)

This package applies to dangerous goods packed in limited quantities (other than dangerous goods that are pool or spa cleaners or Division 2.3 dangerous goods) that are dangerous goods:

- of a kind marketed, labelled, packaged or otherwise clearly intended for use as a household cleaner
- is in a package that weighs no more than 10kg containing at least 50% non-dangerous goods (by volume) and contains no food[48].

To ensure these packages will be put together safely:

- packing will comply with the LQ packing requirements (as per Code cl. 3.4.2)
- segregation within the package will comply with the LQ requirements (as per Code cl. 3.4.3).
- the majority non-dangerous goods ensures there is adequate packaging and dilution effect
- it will be clear that these packages are low risk dangerous goods to facilitate safe-working practices and ensure they are not sent by air or sea:
- the consignment note will include "low risk dangerous goods". This will be kept with the package not the driver. Duty holders do not have to comply with the transport documentation requirements of Chapter 11 of the ADG Code.

The following standard label would be required on each outer package, or the words would need to be written on the outer package:

LOW RISK DANGEROUS GOODS PACKAGE Road and Rail transport only 10kg maximum, at least 50% non-dangerous goods (by volume) Warning – households cleaners - take care in the event of a leak

[48] We note that since the conclusion of consultations for the RIS, the exclusion has been amended so that the exclusion does not apply to mixed packet loads that contain food. As such, the proposed change considered during consultations did not reflect the entirety of the proposed change considered in the RIS.

Clarification of the load restraint requirements for bundles of cylinders

The load restraint guide provides guidance on how 'cylinders' when transported on an open vehicle, should be stowed and restrained.

In a "Bundle of Cylinders" the cylinder elements are permanently restrained within a frame whereas for cylinders in a stillage, the cylinder elements are temporarily restrained within the frame of the stillage. A 'bundle of cylinders' requires the open vehicle to be fitted with gates, whilst cylinders in the stillage do not require the vehicle to be fitted with gates.

Section 1.2.1.1 of ADG Code 7.5 provides specific definitions of the terms "Cylinders" and "Bundles of Cylinders".

- ***'Bundles of cylinders'*** are assemblies of cylinders that are fastened together and which are interconnected by a manifold and transported as a unit. The total water capacity must not exceed 3000 litres except that bundles intended for the transport of gases of Division 2.3 must be limited to 1000 litres water capacity.
- ***'Cylinders'*** are transportable pressure receptacles of a water capacity not exceeding 150 litres

Clause 8.1.3.4 allows gas cylinders to be transported in cylinder stillages, on an open vehicle without the requirement to have rigid sides or gates, provided that the stillage is restrained in compliance with the load restraint guidelines.

Clause 8.1.3.5 allows IBCs, large packagings, segregation devices, pressure drums or multiple-element gas container (MEGC)[49] to be transported on an open vehicle without the requirement to have rigid sides or gates provided that the IBCs, large packaging, segregation device, pressure drum or MEGC is restrained in compliance with the load restraint guidelines.

Proposal

It is proposed to amend section 8.1.3.5 of the Code by including the term 'bundles of cylinders'. This amendment will exempt 'bundles of cylinders' from the requirements from the requirements set out is section 8.1.3.2 if they are restrained in a manner that complies with the load restraint guide.

Introduce excepted quantities exemption

The lack of an excepted quantities (EQ) requirement in the Model Regulations is out of step with international practice and imposes a regulatory burden on some members of industry, particularly those who transport goods in a multi-modal transport chain and overseas.

Currently an EQ package that comes into Australia by air or sea, labelled with the EQ labels and marks, is compliant for the first leg of their Australian journey. Thereafter they must be relabelled or have the labels removed. In addition, some export packages are being transported under full regulations when they could have travelled by air or sea under the less onerous EQ regulations. Both scenarios increase the regulatory burden on industry.

Proposal

It is proposed to adopt UN 20 Chapter 3.5 (excepted quantities) into the ADG Code. Chapter 3.5 sets out requirements for dangerous goods packed in excepted quantities. Adopting Chapter 3.5 will better align the ADG Code with international practices and reduce the regulatory burden for some members of industry, particularly those who transport goods in a multi-modal transport chain and overseas.

This will require a consequential amendment to Part 5 of the Model Regulations and Part 5 of the proposed Regulations (Consignment procedures). Subregulation 79(5) of the proposed Regulations provide details of the concessional marking and labelling requirements that now apply to the transport of dangerous goods in excepted quantities. Subregulation 79(6) of the proposed Regulations provides a definition of excepted quantities.

Regulation 13 of the proposed Regulations to distinguish dangerous goods in limited quantities from dangerous goods packed in excepted quantities as different compliance requirements apply.

[49] A multiple-element gas container comprises of: (a) multimodal assemblies of cylinders, tubes or bundles of cylinders that are interconnected by a manifold and assembled within a framework; and (b) service and structural equipment necessary for the transport of gases.

Changes made to align with UN Recommendations (UN 20)

Australia, including Victoria, adopt the changes arising from the UN Recommendations in the ADG Code on the basis the safety and cost considerations have been assessed at a national level

Unless there is something specific in relation to dangerous goods transport in Australia that make the cost of implementation not proportional to the safety benefits or that the change would result in safety reduction the changes are automatically adopted in adopted in Australia.

There a number additional requirements relating to the new substances added to the Dangerous Goods list.

There have been a number of changes in relation to special provisions and packing requirements particularly in relation to lithium ion batteries and vehicles powered by batteries and other DG Goods.

More specifically any references to ‘Subsidiary Risk’ in the Model Regulations and the Regulations will be replaced with ‘Subsidiary Hazard’ to reflect terminology made in the latest UN Regulations (UN 20). There will be no change to compliance requirements.

To reduce the impact on operators with regard to transport documentation, an IT platforms used to generate transport documentation that currently refer to ‘Subsidiary Risk’ the following amendments are proposed to the Code:

- Amend Chapter 1.2 (Interpretation, Definitions, Units of Measurements and reference) by inserting a new section that clarifies for the purposes of Compliance with the ADG Code the words ‘Subsidiary Risk’ have the same meaning as the words ‘Subsidiary Hazard’
- Amend the note in the definition of subsidiary hazard to clarify that for the purpose of the ADG Code the words the words ’Subsidiary Risk’ have the same meaning as the words ‘Subsidiary Hazard’
- Insert a definition of ‘Subsidiary Risk that clarifies that subsidiary risk means subsidiary hazard.
- It is proposed that special provision 392, which provides some concessions for the transport of various flammable gases (provided there is compliance with applicable international standards or regulations) is not to be adopted until further consideration is given to impact of compliance with the European standards list as part of the next two yearly review process.

Appendix D: Jurisdictional comparison of fees

Comparison of fees between different Australian states and territories

Application Type	VIC (Current)	NSW	QLD	SA	NT	WA	ACT	TAS
Applications for dangerous goods vehicle licences and renewals	**$60**	**$87**	<8t **$69.3** >8t **$138.85**	Between **$154** and **$462** depending on length of licence	**$86**	**$670**	**$216** + **$57** for each additional vehicle	**$155**
Applications for dangerous goods drivers licences	-	**$57**	**$54.20**	Between **$25.50** and **$77** depending on length of licence	**$60**	**$107.50**	**$81**	**$77.50**
Disposal and transfer of licensed vehicles	-	**$11** - transfer	-	-	**$86**	-	-	**$155**
Applications for approval of packaging design	-	**$105**	Tank **$206.25** IBC **$52.05**		-	**$280**	**$426**	**$155**
Approvals of Type II segregation devices	-	-	-	-	-	-	**$426**	**$155**
Applications for exemptions	-	-	-	**$334**	**$265**	-	**$426**	**$155**
Applications for administrative determinations and approvals	-	-	-	**$334**	**$265**	-	**$426**	**$155**

Source: WorkSafe internal data

Limitation of our work

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