



THE AUDIT OFFICE
NEW SOUTH WALES



THE AUDIT OFFICE
OF NEW SOUTH WALES

New South Wales
Auditor-General's Report

Performance Audit

Transport of Dangerous Goods

Office of Environment & Heritage
WorkCover NSW

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In accordance with section 38E of the *Public Finance and Audit Act 1983*, I present a report titled **Transport of Dangerous Goods: Office of Environment & Heritage, WorkCover NSW**.

A handwritten signature in black ink, reading 'Peter Achterstraat'.

Peter Achterstraat
Auditor-General
May 2011

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Executive summary

Background

This audit looks at how well the Office of Environment and Heritage (OEH) (formerly the Department of Environment, Climate Change and Water) and WorkCover NSW discharge their regulatory responsibilities in relation the transport of dangerous goods.

An inter-agency agreement dated 2008 describes the different roles of the two agencies. In broad terms:

- OEH has the prime responsibility for regulating on-road and on-rail transport (excluding road rules generally applying to heavy vehicles, which are regulated by the Roads and Traffic Authority (RTA)) and NSW Police
- OEH delegates certain of its responsibilities for rail transport to the Independent Transport Safety Regulator (ITSR). References in this report to OEH should include ITSR where appropriate for rail
- within work premises, WorkCover is responsible for regulating the classification, packaging and labelling, which are an integral part of the transport of dangerous goods. It administers its responsibilities for dangerous goods largely through the *Occupational Health and Safety Act 2000*
- WorkCover also has responsibility for all aspects of explosives, including transport.

Dangerous goods are substances such as explosives, flammable liquids and gases, and oxidising agents, with the potential to harm people, property and the environment. The control of dangerous goods is essential for the protection of public safety.

Dangerous goods constitute approximately 10-15 per cent of domestic freight. The high level of economic activity in sections of the Australian economy means more goods - including dangerous goods - on our increasingly integrated road and rail networks. The Bureau of Infrastructure, Transport and Regional Economics estimates that by 2030 the tonnage moved on the NSW road network will have increased by around 80 per cent on today's figures. We can similarly expect to see big increases in goods moved by rail.

The audit focuses on the efforts of the two agencies and the associated regulatory requirements, particularly the *Dangerous Goods (Road and Rail Transport) Act 2008* and its Regulation 2009 which:

- set out the obligations of persons involved in the transport of dangerous goods by road and rail
- establish a system of standards and licensing for the transport of dangerous goods by road and rail
- apply the Australian Code for the Transport of Dangerous Goods by Road and Rail to such transport.

The audit follows on from our audit report on *Improving Road Safety, Roads and Traffic Authority*, May 2009, which assessed how well the RTA manages on-road enforcement to reduce the number and severity of crashes involving heavy vehicles.

Conclusion

The number of crashes of heavy trucks carrying some of the more common types of dangerous goods has been gradually decreasing, in line with general improvements in the safety of heavy trucks. Nevertheless, the transport of dangerous goods involves movements in and around highly populated areas. It continues to carry with it the risk of high-consequence events – involving significant loss of life, injury, environmental damage, or property risk.

This requires a continuing effort on the part of all those involved in handling dangerous goods. OEH's share of this task is to help ensure that dangerous goods are properly labelled and packaged, road and rail vehicles are safely loaded and operated, and systems are in place to support emergency services responding to incidents. WorkCover is responsible for the classification, packaging and labelling of dangerous goods within work premises and the transport of explosives.

OEH strengthened its regulatory program recently. In the latter half of 2010 it mounted a state-wide campaign of roadside inspections and completed its own internal review. These are positive steps.

Although some information is available through licensing of drivers and vehicles, we found no clear picture of what dangerous goods are being transported on our roads and rail lines and where the risks to human life and the environment are greatest. Such information would assist agencies such as OEH, its delegate ITSr, and WorkCover in targeting their compliance activities in the highest risk areas.

We concluded that the effectiveness of the regulatory arrangements could be improved, through a more explicit risk based approach. There is scope to further improve the effectiveness of the regulatory program by:

- strengthening monitoring and control, particularly of high risk movements of dangerous goods
- further strengthening the inspection and compliance program, by focusing on the most dangerous situations and the most dangerous operators
- improving the integrity of licensing processes to ensure the risk of fraud and corrupt conduct is minimised.

Supporting findings

Is relevant information identified and monitored?

We found a lack of information on the transport of dangerous goods, much of which is outside the ability of any single agency alone to collect. We found some information was held on vehicle operators, on the extent to which regulations are complied with, and on reported dangerous goods incidents. Very little information is held on dangerous goods movements, and very little information is shared between the agencies. Such information would assist the agencies to obtain a clear picture of where the risks are greatest and provide assurance that their control and regulatory efforts are adequate.

Are legislative requirements monitored and as necessary enforced?

The agencies have active compliance programs. In the latter half of 2010, OEH conducted a state-wide campaign of roadside inspections. This resulted in the inspection of around 300 trucks carrying dangerous goods. Of these, almost half were found to be not fully compliant with the regulation. In the same year, WorkCover visited 444 dangerous goods sites and issued over a thousand improvement notices. We see scope to strengthen those programs with better targeting and better coordination of effort. For example, we found little evidence that agencies were focusing on key risk areas, such as loading in goods yards and transport through tunnels. We found no evidence of spot checks on what is going through the tunnels. We found that the ITSr had provided no information to OEH on the enforcement of dangerous goods regulatory requirements for rail transport.

Are risks to public safety, environment identified and minimised?

The transport of dangerous goods is a high risk activity involving heavy vehicles on the public road and rail network. We found no documented risk assessments and no clear picture of where the risks to human life and the environment are greatest. Both a lack of data and a lack of consolidated, shared information place constraints on undertaking risk assessments. As a result, it is difficult to demonstrate that the agencies' powers and scarce resources are being used most effectively to promote the safe transport of dangerous goods.

Are corruption risks identified and minimised?

Applicants for dangerous goods licences are required to submit evidence of competency, driver history and a medical certificate. However, the authenticity of the documentation is not routinely checked. Overall, we found that the integrity of the existing dangerous goods licensing function could be put at risk. OEH's systems and processes need to be improved to provide assurance that licenses are only issued to suitable applicants. It issues its own dangerous goods licences, to an extent duplicating an RTA function. It uses laminated licences that can be fraudulently re-produced.

Is regulatory performance monitored and benchmarked?

We sought assistance from the NSW Centre for Road Safety and found that the number of crashes of heavy trucks carrying some of the more common types of dangerous goods has been decreasing – this despite increasing amounts of dangerous goods being carried. This improvement is to be welcomed. This seems likely to be attributable to a general trend of improving road safety of heavy vehicles. We were unable to find any comparable analysis for other types of dangerous goods, or trends of incidents arising directly from the transport of dangerous goods. Aside from this, we found no performance measures that could tell us about the efficiency and effectiveness of the regulatory program for the transport of dangerous goods.

Recommendations

1. OEH and WorkCover need to establish by June 2012 mechanisms for gathering and sharing meaningful and reliable information on the transport of dangerous goods with key agencies, and with the road and rail transport industry (page 17).
2. OEH and WorkCover by December 2011 need to strengthen the inspection and compliance program by working closely together, focusing on the most dangerous situations and the most dangerous operators and the places where their inspections can be done most expeditiously and effectively (page 20).
3. OEH and WorkCover need to conduct by June 2012 awareness raising programs that target areas of high risk for the transport of dangerous goods. They need to talk to industry associations about how to most effectively accomplish this (page 21).
4. OEH needs to clearly identify with WorkCover by December 2011 the areas of high risk and ensure that risk assessments are consistently used to more effectively guide its regulatory efforts in transport of dangerous goods (page 22).
5. OEH and WorkCover need to continue to monitor developments in security risk assessment, and incorporate this into their overall risk assessment (page 22).
6. OEH needs to improve by December 2011 the controls on its licensing and training processes to ensure the risk of fraud and corrupt conduct occurring and remaining undetected is minimised (page 24).
7. OEH should also examine by September 2011 the feasibility of having RTA issue dangerous goods licences on its behalf (page 24).
8. OEH and WorkCover need to establish by June 2012 safety goals and performance measures for the transport of dangerous goods regulatory program (page 26).

Response from the Office of Environment and Heritage

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NSW Auditor-General's Report
Transport of Dangerous Goods
EXECUTIVE SUMMARY



Office of
Environment
& Heritage



Our reference: ED11/409
Contact: Greg Sullivan, (02) 9995 5400

Mr Peter Achterstraat
Auditor General
The Audit Office of NSW
GPO Box 12
SYDNEY NSW 2001

18 APR 2011


Dear Mr Achterstraat

I refer to your letter dated 21 March 2011 in relation to the NSW Auditor-General's Performance Audit Final Report – Transport of Dangerous Goods and invitation to formally respond to the audit report.

The Office of Environment and Heritage (OEH), is committed to undertake its broad regulatory activities in a credible and transparent manner, concentrating on finding and fixing the most important environmental problems. OEH is one of a number of agencies with responsibilities that collectively aim to achieve the safe transport of dangerous goods.

This audit focuses on the responsibilities of OEH and WorkCover which primarily relate to ensuring compliance with the *Australian Dangerous Goods Code, 7th Edition*. I understand the audit builds on the May 2008 audit, Improving Road Safety, Roads and Traffic Authority (RTA), which dealt with on-road enforcement by RTA to reduce the number and severity of crashes involving heavy vehicles, including those carrying dangerous goods.

I appreciate the opportunity to respond to the audit report. The current audit has confirmed that OEH has an active dangerous goods regulatory program. It also notes that the number of accidents involving vehicles carrying dangerous goods has been decreasing, reflecting the overall effectiveness of programs run by a number of agencies, including OEH, to improve road safety including the transport of dangerous goods.

The audit makes a number of recommendations for areas where OEH and WorkCover can further improve their dangerous goods regulatory programs. These recommendations align well with an internal review undertaken by OEH of its dangerous goods regulatory program in 2010. OEH supports the audit recommendations and does not anticipate any difficulties in implementing them within the specified timeframes.

OEH confirms discussions with the Audit Office with respect to information gathering on the transport of dangerous goods (recommendation 1). The focus of this recommendation is on gathering strategic information from existing sources to target regulatory programs, not on introducing major new reporting requirements for industry.

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OEH also notes that, while it does target its regulatory programs towards areas of highest risk, the audit did not find documentation relating to such risk assessments for dangerous goods transport and so could not assess how effectively regulatory programs were being targeted. OEH will implement measures to ensure that future risk assessments are properly documented (recommendation 4).

Please take this letter and the enclosed more detailed information as our formal response to the audit and its recommendations.

If you have any queries regarding this matter, please do not hesitate to contact me or have your staff contact Mr Greg Sullivan, Deputy Chief Executive, Environment Protection and Regulation Group, on (02) 9995 5400.

Yours sincerely



LISA CORBYN
Chief Executive
Office of Environment and Heritage
Department of Premier and Cabinet

DETAILED RESPONSE

The Office of Environment and Heritage (OEH) within the Department of Premier and Cabinet appreciates the opportunity to make a formal response to the performance audit report on how OEH and WorkCover undertake their regulatory responsibilities related to the transport of dangerous goods.

OEH notes that the audit acknowledges the mix of measures needed to achieve the safe transport of dangerous goods and that such measures can only be delivered through the work of a number of agencies. In particular, broader road safety matters are critical and include the condition of the road network, vehicle roadworthiness and driver behaviour. These matters are primarily the responsibility of the Roads & Traffic Authority (RTA) and Police. In the event of an accident involving dangerous goods, effective emergency response, which is primarily the responsibility of Fire & Rescue NSW, is essential to protecting public safety and the environment.

WorkCover and OEH have joint responsibility for ensuring compliance with the *Dangerous Goods (Road & Rail Transport) Act 2008* and the *Australian Dangerous Goods Code, 7th Edition* (ADG 7). OEH is responsible for on-road compliance with the legislation. Requirements of the legislation include dangerous goods classification, packaging, placarding during transport, emergency response plans and safety equipment. These requirements are designed to minimise the risk of leakage or chemical reactions occurring during transport. In the event of an accident, the requirements are designed to provide information to assist emergency services responding to the accident and to ensure systems and equipment are available to minimise the adverse impact of any dangerous goods released into the environment. OEH also manages the dangerous goods vehicle and driver licensing program.

OEH already has in place mechanisms for consulting with other agencies with responsibilities for dangerous goods transport including the Memorandum of Understanding on the Management of Road and Traffic Incidents with emergency service agencies, the Interagency Dangerous Goods Working Group, chaired by the RTA, the Hazardous Materials Incident Review Group, chaired by OEH and regular executive level meetings with the RTA and WorkCover. OEH welcomes the importance given to such consultation in the audit report and is looking to strengthen further the existing consultation mechanisms. In particular, OEH and WorkCover have established a project team to implement the recommendations of the audit report.

During 2010, OEH undertook an internal review of its dangerous goods program and identified a number of measures to improve the effectiveness of the existing dangerous goods regulatory program. These measures align well with the recommendations of the audit report and OEH has already started implementing them. OEH does not anticipate any difficulties in implementing the audit report recommendations within the given time frames.

With respect to specific recommendations:

1. OEH and WorkCover establish by June 2012 better mechanisms for gathering and sharing meaningful and reliable information on the transport of dangerous goods with key agencies, and with the road and rail transport industry

OEH, jointly with WorkCover, will work through existing consultation mechanisms to access information related to the transport of dangerous goods held by other government agencies. OEH and WorkCover will approach industry with the aim of establishing formal consultation arrangements. As well as improving exchange of information, these arrangements will also be

used to progress other audit recommendations, where appropriate. OEH is also introducing a new workflow management system which will improve the quality of information about regulatory activities available to OEH.

2. OEH and WorkCover by December 2011 strengthen the inspection and compliance program by working more closely together, focusing on the most dangerous situations and the most dangerous operators and the places where their inspections can be done most expeditiously and effectively

As identified in the audit, both WorkCover and OEH have existing compliance programs focusing on on-site and on-road compliance respectively. The interface between the two, i.e. the point of loading, has been identified as an area where compliance programs can reduce the risk of dangerous situations occurring by targeting important matters such as correct classification and packaging. Classification and packaging problems are best addressed at the first point of loading for dangerous goods and OEH and WorkCover will undertake a compliance campaign targeting these sites. OEH is also reviewing the recent dangerous goods compliance campaigns to identify priority areas for future campaigns. Poorly performing operators are also being identified and strategies are being developed to deal with the risks posed by these operators. Information gathered through the mechanisms outlined under recommendation 1 will help to further improve targeting of regulatory programs at the most dangerous situations.

3. OEH and WorkCover conduct by June 2012 awareness raising programs that target areas of high risk for the transport of dangerous goods. They need to talk to industry associations about how to most effectively accomplish this

OEH will work with WorkCover to implement an awareness raising program targeting areas of high risk for the transport of dangerous goods. The consultative mechanisms developed in response to recommendation 1 will be used both to develop effective communication programs and to assist in their delivery. OEH will support these programs by upgrading its website and by using established mechanisms, such as dangerous goods driver training courses, to disseminate information. Compliance campaigns already have an awareness raising component. OEH will use information gathered during the recent round of compliance campaigns to strengthen and focus future awareness raising activities.

4. OEH clearly identifies with WorkCover by December 2011 the areas of high risk and ensures that risk assessments are consistently used to more effectively guide its regulatory efforts in transport of dangerous goods

OEH already undertakes risk assessments to target regulatory activities but acknowledges risk assessments undertaken in relation to dangerous goods in the past needs to be better documented. OEH will ensure that future risk assessments are more properly documented. Information obtained during the recent state wide campaign and information obtained in response to recommendation 1 will be used to refine risk assessments so that compliance activities target highest risk areas.

5. OEH and WorkCover continue to monitor developments in security risk assessment, and incorporate this into their overall risk assessment

OEH participates in the NSW Chemicals of Security Concern Advisory Group which collates input from NSW agencies and disseminates information from the National Chemicals of Security Concern Committee. OEH will continue to participate actively in the Advisory Group and will liaise

as necessary with agencies such as WorkCover to monitor and incorporate developments in security risk assessment.

6. OEH improves by December 2011 the controls on its licensing and training processes to ensure the risk of fraud and corrupt conduct occurring and remaining undetected is minimised

OEH already has a series of primary checks to minimise the risk of fraud and corruption in relation to licensing and training processes. These include the requirement to provide copies of driving records, medical certificates, driver training results and photographs of compliance plates. While some checks of the validity of documents provided are undertaken, these are not done as part of a systematic audit program. OEH is developing a systematic audit program for its licensing processes to reduce further the risk of fraud or corruption. With respect to driver training, OEH is upgrading its driver training approval processes to reflect recent developments nationally and will incorporate appropriate fraud and corruption prevention measures into the processes. The upgraded processes will include field inspections of driver training and audits of driver training certifications.

7. OEH examines by September 2011 the feasibility of having RTA issue dangerous goods licences on its behalf.

OEH supports the proposal to have the RTA issue dangerous goods licences on its behalf and has commenced negotiations with the RTA to implement this recommendation. Data management and transfer between the RTA system and the Government Licensing System (GLS) used by OEH for dangerous goods licences is the main consideration in determining the feasibility of the RTA issuing dangerous goods licences.

8. OEH and WorkCover establish by June 2012 safety goals and performance measures for the transport of dangerous goods regulatory program.

OEH will work with WorkCover to establish safety goals and performance measures. These goals and performance measures must be measurable and so the information gathered in response to recommendation 1 will be critical to the successful implementation of this recommendation.

Response from WorkCover NSW



Ref: WC 00443/11

Mr Peter Achterstraat
Auditor-General
The Audit Office of NSW
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Dear Mr Achterstraat

Thank you for the opportunity to formally respond to your performance audit on the transport of dangerous goods which was conducted by The Audit Office of New South Wales.

It is encouraging to note that the number of serious incidents involving trucks transporting dangerous goods in New South Wales continues to decrease. I also welcome the auditors' observations regarding WorkCover's active dangerous goods compliance programs and further improvement opportunities to achieve even better safety outcomes for the NSW community.

As acknowledged in the report the Office of Environment and Heritage is responsible for the *Dangerous Goods (Road and Rail) Act 2008* and regulation as far as they relate to the on-road and on-rail transport of dangerous good, including licensing of dangerous goods vehicles and drivers. WorkCover as a co-regulator is responsible for the classification, packaging and labelling of dangerous goods within work premises, and in preparation for transport. WorkCover is also responsible for the transport of explosives under the *Explosives Act 2003* and regulation.

The following responses to the report recommendations are set out below.

- 1. Office of Environment and Heritage (OEH) and WorkCover need to establish by June 2012 mechanisms for gathering and sharing meaningful and reliable information on the transport of dangerous goods with key agencies, and with the road and rail transport industry.***

Recommendation one is supported. WorkCover will work with OEH to clarify existing mechanisms and identify other consultation arrangements with key agencies and the road and rail transport industry. Those arrangements will aim specifically at sharing information about the safe transport of dangerous goods. WorkCover is currently reviewing its internal dangerous goods data to improve its usefulness in targeting priority issues for compliance and prevention programs.



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WorkCover will now incorporate information provided by OEH from on-road investigations and inspections to better inform WorkCover's workplace risk-based compliance verification activities.

WorkCover and OEH are members of the National Competent Authorities Panel (CAP) formed under the *Australian Dangerous Goods Code for the Transport of Dangerous Goods via Road and Rail*. This panel meets on a biannual basis. At the 23 March 2011 meeting the CAP agreed to include emerging dangerous goods transport issues and recent significant incidents as a standing agenda item for discussion.

2. OEH and WorkCover by December 2011 need to strengthen the inspection and compliance program by working more closely together, focusing on the most dangerous situations and the most dangerous operators and the places where their inspections can be done most expeditiously and effectively.

Recommendation two is supported. WorkCover will work with the OEH on a pilot "point of first loading" dangerous goods compliance program. First loading is the point at which a dangerous goods package enters the transport system. In most cases this would be the point at which a supplier, manufacturer or importer first consigns the dangerous goods and where the regulators can effect changes to ensure that the packaging / loading are in accordance with regulatory requirements.

WorkCover will collate information from the pilot to identify which manufacturers, suppliers and importers are consigning dangerous goods for transport in an unsafe manner. Relevant information will be shared with OEH so that both agencies can better target their compliance activities.

WorkCover will continue to undertake joint compliance visits with the Independent Transport Safety Regulator for the transport of explosives.

WorkCover recently initiated a meeting with OEH to identify opportunities to undertake joint compliance activities. The agencies will continue to meet regularly to identify further opportunities for the two agencies to work together.

3. OEH and WorkCover by June 2012 need to conduct awareness raising programs that target areas of high risk for the transport of dangerous goods. They need to talk to industry associations about how to most effectively accomplish this.

Recommendation three is supported. In consultation with OEH, WorkCover will strengthen consultation arrangements with the road and rail transport industry aimed specifically at sharing information about the safe transport of dangerous goods and to disseminate information gathered from the joint WorkCover / OEH "point of first loading" compliance program.

WorkCover will continue to be an active participant in post incident dangerous goods reviews with NSW Fire and Rescue, NSW Police Force and OEH through the Hazardous Materials Incident Review Committee formed as a working group under the State Emergency Management Committee.

WorkCover will continue to identify opportunities for awareness raising in relation to the transport of explosives and is currently working with NSW Police Force, manufacturers and suppliers on minimising risk associated with the transport of fireworks.

As part of the joint pilot compliance program on "point of first loading" WorkCover will develop a communications plan to promote lessons learned to the industry.

4. OEH needs to clearly identify with WorkCover by December 2011 the areas of high risk and ensure that risk assessments are consistently used to more effectively guide its regulatory efforts in transport of dangerous goods.

Recommendation four is supported. WorkCover, subject to any statutory prohibitions, will make information, such as that notified through existing verification activities and the WorkCover complaints handling system, available to OEH to assist both agencies to identify priority areas of highest risk. WorkCover recognises that the risks associated with non-compliance are most effectively dealt with by working with those in control of the risks. This includes suppliers, manufacturers, importers and consigners of dangerous goods. WorkCover will focus its compliance activities on high risk tasks arising from the "point of first loading" compliance program and from other operational intelligence.

5. OEH and WorkCover need to continue to monitor developments in security risk assessment, and incorporate this into their overall risk assessment.

Recommendation five is supported. WorkCover has a representative on the national Chemical Security Risk Assessment Technical Working Group. This allows WorkCover to monitor and provide input to national initiatives in relation to the security of all hazardous chemicals including dangerous goods and explosives. WorkCover conducts joint visits with co-regulators in relation to explosives and chemicals of security concern. Information gathered from a range of sources, including The Australian Customs and Border Protection Service and the manufacturers / suppliers of explosives, is to be integrated into WorkCover's overall risk assessments when determining what compliance activities should be undertaken. In addition, WorkCover has an ongoing verification program aimed at compliance with legislation related to security sensitive ammonium nitrate.

6. OEH needs to improve by December 2011 the controls on its licensing and training processes to ensure the risk of fraud and corrupt conduct occurring and remaining undetected is minimised.

Recommendation six relates to the OEH.

7. OEH should also examine by September 2011 the feasibility of having RTA issue dangerous goods licences on its behalf.

Recommendation seven relates to the OEH.

8. OEH and WorkCover need to establish by June 2012 safety goals and performance measures for the transport of dangerous goods regulatory program.

Recommendation eight is supported. WorkCover will work with OEH to develop safety goals and performance measures. WorkCover's area of focus is measures for work-based activities for general dangerous goods transport in-line with WorkCover's regulatory responsibility. WorkCover's existing safety goals and performance measures for the transport of explosives will be reviewed to meet this recommendation.

I would like to thank your staff on their efforts in preparing the performance audit report. WorkCover supports all of the recommendations, as they relate to WorkCover. The report will greatly assist WorkCover to better target reductions in injury and illness through a collaborative risk-based compliance approach in conjunction with the OEH and the Independent Transport Safety Regulator.

Yours Sincerely



LISA HUNT
CHIEF EXECUTIVE OFFICER
19 April 2011

Audit findings

1. Introduction

The Office of Environment and Heritage (OEH) (formerly the Department of Environment, Climate Change and Water) and WorkCover NSW regulate the transport of dangerous goods. Transport is defined broadly and it includes packing, loading and unloading of dangerous goods and the transfer to and from a vehicle for the purpose of their transport.

The *Dangerous Goods (Road and Rail Transport) Act 2008* and its Regulation 2009:

- set out the obligations of persons involved in the transport of dangerous goods
- establish a system of standards and licensing
- apply the Australian Code for the Transport of Dangerous Goods by Road and Rail, which is based on a United Nations code. It classifies dangerous goods as follows:

Class	Description	Examples
1	explosives	dynamite
2	gases	natural gas
3	flammable liquids	petrol
4	flammable solids	phosphorous
5	oxidising substances	ammonium nitrate
6	toxic and infectious substances	pesticides
7	radioactive materials	medical isotopes
8	corrosive substances	acids
9	environmentally hazardous substances	asbestos

Source: Australian Dangerous Goods Code 2009

The legislation refers to a 'competent authority', and identifies OEH and WorkCover as competent authorities. It outlines the responsibilities of the competent authority in general terms, without distinguishing those of OEH from those of WorkCover.

The NSW Government's *Allocation of the Administration of Acts* allocates the *Dangerous Goods (Road and Rail Transport) Act 2008* to the Minister for the Environment and the administration of OEH, so far as it relates to the on-road and on-rail transport of dangerous goods by road or rail. The remainder of the Act is allocated to the Minister of Finance and Services and administered by WorkCover.

An inter-agency agreement dated 2008 describes the different roles of the two agencies. In broad terms:

- OEH has the prime responsibility for regulating on-road and on-rail transport (excluding road rules generally applying to heavy vehicles, which are regulated by the RTA and Police)
- OEH delegates certain of its responsibilities for rail transport to the Independent Transport Safety Regulator (ITSR). References in this report to OEH should include ITSR where appropriate for rail
- within work premises, WorkCover is responsible for regulating classification, packaging and labelling, which are an integral part of the transport of dangerous goods. It administers its responsibilities for dangerous goods largely through the *Occupational Health and Safety Act 2000*
- WorkCover also has responsibility for all aspects of explosives, including transport.

Responsibility
shared

Other key agencies include:

- Roads and Traffic Authority (which has responsibilities for road safety, such as seeing that trucks are correctly laden)
- NSW Police
- Fire and Rescue NSW (which responds to dangerous goods incidents).

In the latter half of 2010, OEH completed its own review of its dangerous goods regulatory program. In our report we identify relevant recommendations from that review and indicate whether we support them.

2. Is relevant information identified and monitored?

We looked to see if OEH and WorkCover have a clear picture of what the agencies are endeavouring to regulate and where the risks are greatest.

We found limited information on:

- vehicle operators: bulk tankers and other vehicles carrying large loads of dangerous goods need to be licensed. OEH has issued 434 dangerous goods vehicle licences, covering 5907 vehicles. However, in line with national requirements, vehicles carrying smaller loads of dangerous goods (such as in receptacles with a capacity of less than 500 litres) do not need to be licensed. Additionally, a large number of trucks on NSW roads are licensed by other states. There is no information held on these vehicles
- regulatory compliance: OEH collects information as a result of its compliance inspection activity, which has increased markedly (and is discussed in the next section), but this represents a very small proportion of vehicle movements. Some of the best places to check compliance are likely to be loading points and final delivery points. WorkCover already inspects such places for workplace safety. We found no compliance information shared between WorkCover and OEH
- the movements of dangerous goods: which operators are transporting which types of chemicals, over which routes at which times. (An exception is where dangerous goods are also hazardous waste, where OEH has an online waste tracking system.) We found no data on the extensive movement of packaged dangerous goods by general freight operators. We found no information on the movements of dangerous goods by rail
- dangerous goods incidents: see the figure below. Dangerous goods regulations require all accidents involving the transport of dangerous goods to be reported to OEH. However, as we show later, the number of crashes involving heavy trucks carrying common types of dangerous goods is around five times bigger than the number of incidents notified to OEH (as summarised in the figure below for the last four years). If one adds to this the number of incidents that do not involve crashes, and the number for other types of dangerous goods, the proportion actually being notified to OEH is very small.

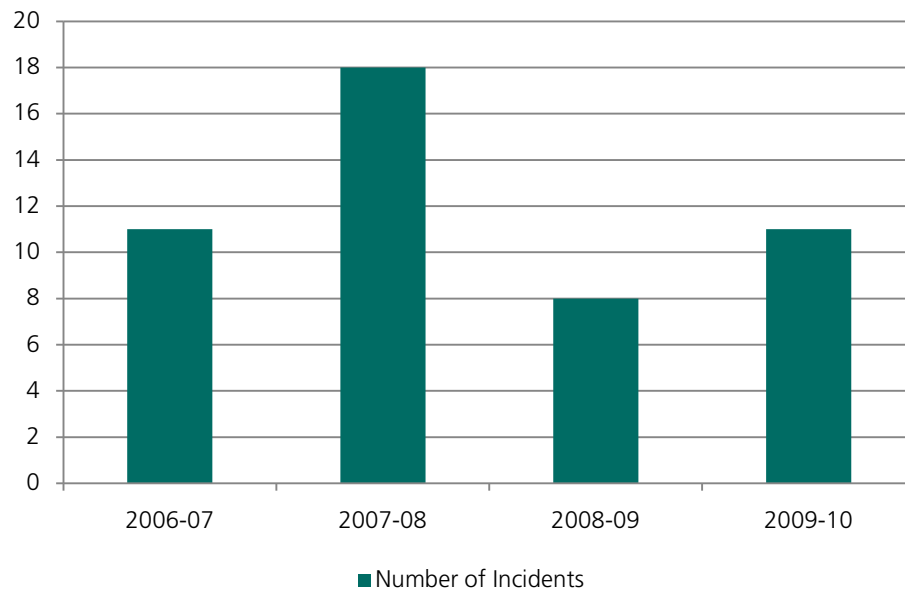
Limited information on operators and movements and little shared between agencies

Number of crashes is five times bigger than number of incidents notified to OEH

A new case management system is being introduced to improve information gathering and sharing

Difficult to get a clear picture of where the risks are greatest

Number of transport incidents involving dangerous goods notified to OEH



Source: OEH 2010

We found no shared database on dangerous goods control and regulatory activities within OEH. Data has been collected and interpreted differently by different parts of OEH and by different agencies, and not routinely shared. OEH has had no history file on individual transport operators. It is now introducing a case management system. This is intended to provide a centralised record of vehicle inspections and outcomes, so that past history can be accessed readily whenever non-compliances are identified.

Although there are memorandums of understanding and strategic liaison meetings between agencies, we looked for, but did not find, information routinely shared between the agencies (including RTA, Fire and Rescue, and Police) on matters such as:

- incident investigation reports and findings for significant incidents
- post-incident alerts to industry
- emerging or systemic issues
- public safety issues.

RTA, in particular, is likely to have relevant information. Those operators that fail to comply with transport of dangerous goods regulations may well be non-compliant with other transport regulations. RTA targets individual organisations and has a relatively large number of inspectors. OEH's roadside enforcement programs have involved RTA. We also found that OEH regional staff have conducted some awareness sessions for RTA inspectors. In our view there is potential for OEH to work more closely with RTA, more effectively targeting their efforts and making more effective use of RTA's inspection staff.

We found no shared database at a national level. OEH and WorkCover are joint NSW representatives on a national 'competent authorities panel', which meets twice a year to ensure national consistency on approvals or exemptions to regulatory requirements. The panel has been assigned no role in relation to regulatory activities such as surveillance, compliance, enforcement, and licensing.

Without good information agencies are poorly placed to:

- obtain a clear picture of where the risks are greatest
- determine causal factors so that tailored education, promotion and enforcement strategies can be developed
- provide assurance that its control and regulatory efforts are adequate
- verify that the resources it has allocated to the regulatory task are sufficient.

Recommendation

OEH and WorkCover need to establish by June 2012 mechanisms for gathering and sharing meaningful and reliable information on the transport of dangerous goods with key agencies, and with the road and rail transport industry.

3. Are legislative requirements monitored and as necessary enforced?

OEH's checks

OEH conducts inspections to make sure transport operators are meeting the required safety standards and are operating in accordance with the regulation. These inspections have focused on licences, correct placarding, documentation, stowage and loading restraints. Some checks have been as a result of incidents being brought to OEH's attention by others, such as RTA.



Non-compliance example – Vehicle carrying flammable and corrosive liquids with no placards, fire extinguishers or safety equipment. Vehicle detained for over five hours.

We found that coverage was limited, patchy and not risk based. Very few checks had been conducted in the four years prior to 2010. In the four years prior to 2010 there were no inspections conducted in the metropolitan area. Port Botany, for example, handles around 50,000 containers (TEUs) of dangerous goods a year. Eighty five per cent of containers originate from or are bound for a destination within 40 kilometres of Port Botany. We found no evidence of spot checks on what is going through the tunnels.

In the latter half of 2010 OEH conducted a state-wide campaign of roadside inspections, which previously they had been only regionally based. This resulted in the inspection of around 300 trucks carrying dangerous goods. See the figure below.

Compliance checks of road vehicles carrying dangerous goods

Region	2006	2007	2008	2009	2010
North West	16	38	26	18	62
South	2	2	2	2	137
North East	7	3	3	0	29
Metropolitan	0	0	0	0	75
Total	25	43	31	20	303

Source: OEH 2010

A map of OEH regions is included at Appendix 2.

Very few checks conducted in the four years prior to 2010 with no inspections in the metropolitan area

44 per cent of
road vehicles not
fully compliant

In 2010, 44 per cent of the road vehicles were found to be not fully compliant with the regulations. Inspections in 2009 found 55 per cent to be not fully compliant.

The most common offences are:

- vehicles without fire extinguishers, warning devices, and other equipment
- vehicles not appropriately placarded
- failure to supply dangerous goods shipping documents.

An example of enforcement action is described in Appendix 3.

The table below shows the level of penalties and prosecutions each year. Penalty notices issued over the last five years average around \$1,500. Prosecutions have ranged from around \$500 to \$75,000. Penalties are expected to increase significantly as a result of the recent inspection activity. Maximum penalty notice offences are \$2,000 for an individual, or \$10,000 for a corporation. Maximum penalties from prosecution are \$110,000 or four years imprisonment for individuals, and \$550,000 for corporations.

Penalties and prosecutions

Financial year	Number of penalties issued	Total value \$	Number of prosecutions	Total value \$
2006-07	35	46,900	2	79,000
2007-08	14	20,700	19	28,100
2008-09	28	39,400	1	5,000
2009-10	2	3,300	0	0
2010-11	21	53,900	0	0

Source: OEH and Annual Reports
Note: 2010-11 is part year only

The limited information available for examination precluded an assessment of the consistency of enforcement practices taken in response to observed instances of non-compliance. Factors can include the number of non-compliances on a single vehicle, its previous history, whether the offence has led to a serious incident, or the need for a timely enforcement action. However, we found no guidance to staff on the use of penalties as part of a graduated enforcement response, reflecting the risk that non-compliance poses. The lack of graduated responses can increase the risk that inappropriate and inconsistent enforcement action will occur.

OEH has not focused on checking correct packaging, labelling and classification. This is difficult to undertake on a roadside and, for this, OEH relies on WorkCover to do it before the vehicle leaves the goods yard.



Operation Truckstop – Joint OEH & RTA Compliance Campaign 2010-2011

WorkCover's checks

WorkCover's inspection program is focused on workplace safety. Its responsibility in terms of the transport of dangerous goods is limited to the correct packaging, labelling, classification and loading of goods within premises. Additionally, it is responsible for all aspects of explosives – including transport.

WorkCover plans to visit all explosives and ammonium nitrate manufacturers, transporters, importers, and suppliers once a year. It also has plans to visit other dangerous goods operators.

Inspections generally focus on correct signage and placarding, documentation, chemical register, spillage containment, storage locations and access control. The table below shows an increase in inspection activity conducted on dangerous goods in recent years.

Inspection activity on dangerous goods

Type	2006	2007	2008	2009	2010
Complaints	286	634	562	648	812
Incidents	38	48	54	86	85
Prevention visits, audits, verification checks	100	308	281	568	444
Total	424	990	897	1302	1341

Source: WorkCover 2011

The next table shows the number of improvement notices (mandatory notices which the person must comply with within a nominated timeframe), penalty notices (on-the-spot fines) and prohibition notices. A prohibition notice stops work on an activity that involves an immediate risk to health and safety, but no monetary penalty is applied. If a notice is breached, the matter goes to court.

Enforcement actions on dangerous goods

Type	2006	2007	2008	2009	2010
Improvement notices	416	973	887	1290	1310
Penalties	2	3	4	1	8
Prohibitions	4	13	4	7	14

Source: WorkCover 2011

However, as records of inspection activity do not directly link back to its plans for dangerous goods, we were unable to assess the extent to which WorkCover's plans were being achieved.

When targeting a particular operator, or group of operators, it is clearly more efficient and effective to inspect the subject goods yard than to rely on random roadside checks. It is also likely to result in a safer outcome, if a problem can be identified and fixed before a vehicle commences its journey. Despite this, we found little evidence that either agency was inspecting goods yards to check correct loading, unloading, packaging and labelling of dangerous goods.

ITSR's checks

The inter-agency agreement requires ITSR to report annually to OEHS on action taken in relation to dangerous goods enforcement activities - including number of inspections undertaken, number of prohibition and improvement notices issued, and number of investigations undertaken. This has not been happening.

WorkCover increased inspection activity

Little evidence that either agency was inspecting goods yards

No reporting on rail enforcement activities

ITSR advised us that it reviews all reported incidents to determine what further action may be taken. A review of records since the beginning of 2009 showed:

- there has not been a major incident reported involving dangerous goods
- there has been no investigation commenced due to a dangerous goods incident
- it followed up with an operator on 3 minor incidents to obtain more information. However, none of these incidents resulted in regulatory action
- as a result of receiving an allegation in relation to the transport of dangerous goods, it conducted 5 separate inspections specifically targeting the transport of dangerous goods. None of these inspections resulted in regulatory action.

The above does not include the number of compliance inspections that would have been conducted when ITSR officers observe rail operations for a range of other purposes. Some of these inspections would have included observations of freight trains taking note of positioning of any dangerous goods sighted. However, as no non-compliances had been detected, there was no documentation of these particular inspections.

Coordination

In our view OEH and WorkCover should closely coordinate, and agree on, the audit list of items to be checked, the frequency of inspections, reporting and analysis of results, reporting and analysis of incidents. OEH also needs to be able to monitor the performance of ITSR. Without this, there is little assurance that enough is being done to ensure compliance with the legislation and reduce the risks of serious incidents occurring.

Recommendation

OEH and WorkCover by December 2011 need to strengthen the inspection and compliance program by working closely together, focusing on the most dangerous situations and the most dangerous operators and the places where their inspections can be done most expeditiously and effectively.

Awareness

The relatively high level of non-compliance, identified from OEH's checks of truck operators, demonstrates the need to increase operator awareness of the regulatory requirements.

OEH has produced information brochures and has information posted on its website, and in the past has communicated directly with transport companies to raise awareness. However, the brochures are currently out of date, the website is difficult to navigate and there are gaps in the information provided. OEH's internal review recommended that it review and update dangerous goods brochures, website and other communications strategies. We support the recommendation.

WorkCover has a range of information on its website related to the storage and handling of dangerous goods, including explosives.

WorkCover also has extensive relationships with industry as a result of its regulation of workplace safety. WorkCover has a Transport and Storage Industry Reference Group that usually meets five times a year and includes representation from the Australian Road Transport Industrial Organisation, Australian Trucking Association, National Transport Operators Association and the Transport Workers Union. Such mechanisms provide a ready means of communicating with particular industries.

We found that OEH had relatively little contact with industry associations in relation to transport of dangerous goods. We found little information on what is being done (or not done) by transport operators and transport groups to self-regulate.

In the past OEH has used local media in conjunction with its roadside inspections to increase industry awareness of requirements. OEH's internal review recommended that it undertake an awareness raising campaign for packaged dangerous goods transport, with involvement from WorkCover as appropriate. We support the OEH recommendation, as part of an on-going program.

OEH information
gaps on website
and brochures
out of date

OEH keeps registers of trainers and licence holders, but there is no system for routinely communicating with them, or with major industry associations, such as by email. WorkCover do not communicate by email with operators, but they issue safety alerts on their website and communicate with the Australian Industry Safety Group. We found examples of other dangerous goods regulators issuing safety alerts to operators.

Recommendation

OEH and WorkCover need to conduct by June 2012 awareness raising programs that target areas of high risk for the transport of dangerous goods. They need to talk to industry associations about how to most effectively accomplish this.

4. Are risks to public safety, environment and security identified and minimised?

Risk assessments

The transport of dangerous goods is a high risk activity involving heavy vehicles on the public road and rail network. It combines the risks associated with the use of heavy transport vehicles with the risks of explosions, release of toxic gas or volatile liquids, and fires.

Examples of traffic accidents involving dangerous goods

A truck carrying five tonnes of ammonium nitrate collided with two cars near Cessnock, spilling two tonnes. NSW Fire Brigades and Hazmat crews worked for eight hours to clean up the road. Ammonium nitrate is most commonly used in artificial fertilisers, but can be highly explosive when mixed with other substances. (2008)

On the Hume Highway north of Tarcutta, a tanker carrying 16,000 litres of ferric chloride solution, which contains hydrochloric acid, leaked 5,500 litres onto the road causing detours for around six hours. (2009)

A flatbed truck collided with the back of a B-double petrol tanker carrying 43,000 litres of fuel closing all three northbound lanes on the F3 and causing delays lasting nearly 12 hours. (2010)

The Dangerous Goods (Road and Rail Transport) Regulation 2009 aims to reduce as far as practicable the risks of personal injury, death, property damage and environmental harm arising from the transport of dangerous goods by land transport.

For example, there is a general requirement in the Australian Code for the Transport of Dangerous Goods by Road and Rail that routes should wherever practicable avoid heavily populated or environmentally sensitive areas, congested crossings, tunnels, narrow streets, alleys, or sites where there may be a concentration of people.

RTA has issued a restriction that prevents all dangerous goods, irrespective of size, nature or risk, from being transported at any time through tunnels in NSW. A serious incident involving dangerous goods in a tunnel could be extremely costly in terms of loss of human lives, tunnel damage and transport disruption. On the other hand, needlessly banning dangerous goods from tunnels can create unnecessary costs. But the restriction may force operators to use more dangerous routes, such as densely populated areas, and could increase the overall risk.

WorkCover has established route restrictions for the transport of explosives, prohibiting unauthorised transport in central business districts, bridges and tunnels.

We found that no other restrictions have been applied to the transport of dangerous goods, such as in relation to critical transport routes, bridges, busy or congested routes, or routes passing through residential areas.

OEH's internal review recommended that it undertake a campaign, with the assistance of relevant agencies, targeting heavy vehicles potentially transporting dangerous goods along prohibited routes. We support the OEH recommendation, as part of an on-going program.

No clear picture of
where risks are
greatest

Operators are required to have an emergency response plan for dealing with any dangerous situation arising from the transport of dangerous goods by road or rail. OEH does not check the availability or adequacy of these plans. OEH's internal review recommended it check compliance with the requirement to have an emergency plan as part of the follow-up to the current inspection campaigns. We support the OEH recommendation.

We expected to find procedures for the identification and assessment of risks. The requirement for the assessment of risks includes an assessment of the likelihood, consequence and ranking of risks. The purpose of risk assessment is to provide the necessary information to make decisions regarding the acceptability of the risk and the reasonable practicability of the commitment of resources to accident prevention and reduction. For further information see HB 436:2004 Risk Management Guidelines, companion to AS/NZS 4360:2004.

We found no documented risk assessments and no clear picture of where the risks to human life and the environment are greatest – such as in relation to:

- targeting high risk and high consequence activities
- dangerous goods entering NSW ports
- transport of dangerous goods by rail versus road
- transport of infectious substances from hospitals
- transport of dangerous goods through tunnels
- transport of dangerous goods on critical transport corridors
- determination of safe routes to avoid heavily populated or environmentally sensitive areas
- controlled access zones for the movement of dangerous goods in and around highly populated areas.

The lack of information outlined earlier, much of which is outside the ability of any single agency alone to collect, places constraints on undertaking risk assessments.

However, as a result, it is difficult to demonstrate that the agencies' powers and scarce resources are being used most effectively to promote the safe transport of dangerous goods.

Recommendation

OEH needs to clearly identify with WorkCover by December 2011 the areas of high risk and ensure that risk assessments are consistently used to more effectively guide its regulatory efforts in transport of dangerous goods.

Security assessments

State dangerous goods legislation is primarily about establishing a safety regime. Exceptions to this are OEH's radioactive substances legislation. Recent amendments introduced requirements for transport plans and security plans for radioactive substances. Operators of 'major hazard facilities' also must prepare security risk assessments. Similar requirements could in future be applied to such areas as clinical waste, explosives, and other dangerous goods.

WorkCover's explosives legislation requires WorkCover to regulate the transport of Security Sensitive Dangerous Substances, which at present includes only ammonium nitrate.

Council of Australian Governments (COAG) has identified a number of chemicals of potential security concern. A national security group, operating out of Attorney General's Department in Canberra, is engaged in a program of national security risk assessments for chemicals that could be used to make home-made explosives. Department of Premier and Cabinet is leading the development of counter measures in NSW. Our understanding is that these measures are likely to be more about raising awareness and industry codes of practice, than adding to OEH's regulatory requirements.

Recommendation

OEH and WorkCover need to continue to monitor developments in security risk assessment, and incorporate this into their overall risk assessment.

5. Are corruption risks identified and minimised?

Drivers need a dangerous goods licence to drive bulk tankers and other vehicles carrying large loads of dangerous goods. OEH issues drivers' licences, approves training courses, and issues vehicle licences. The system of licensing helps ensure that persons involved in transporting dangerous goods are in a position to comply with safety legislation, regulations and standards.

Regulatory agencies are often exposed to risks associated with corruption and fraudulent behaviour. Independent Commission Against Corruption (ICAC) has identified four areas of particular risk:

- identifying applicants
- assessing work experience
- authenticating educational qualifications
- testing or assessing licence applicants.

Overall, we found that the integrity of the existing dangerous goods licensing function could be put at risk. OEH does not have effective systems and processes in place to provide assurance that licenses are only issued to suitable applicants. As a result, the protection of the public from unskilled or unsuitable drivers and vehicles could be compromised.

Dangerous goods drivers' licences

There are around 6000 dangerous goods drivers' licences. The licence, which currently costs \$57, requires that the applicant complete a dangerous goods training course, pass a medical and demonstrate a satisfactory driving record.

An unsatisfactory driving history includes:

- Any driver who has had any driving licence (issued in NSW or elsewhere) suspended or cancelled or who has been disqualified from driving, (apart from a loss of licence relating to the non-payment of fines) more than once during the last five years
- Any driver who has had any such driving licence suspended or cancelled or if they have been disqualified from driving once during the last five years, as a result of a traffic conviction (in a court of law) such as:
 - dangerous driving
 - negligent driving
 - drug and or alcohol related offences
 - any other offence considered relevant.

These licences were valid for three years, but this has recently been increased to five years.

OEH's internal review reported potential risks, as it:

- has one person issuing all drivers' licences, with another issuing all vehicle licences
- does not verify the doctors signing the medical certificates
- does not check that the photo of the individual is genuine
- does not check RTA 'certification' of an individual's driving record.

OEH's internal review recommended it undertake a campaign to check the authenticity of supporting documentation for driver licence applications. We support the recommendation, as part of an on-going program. OEH does not receive any continuing advice from RTA concerning an individual's driving history or the validity of his licence.

Integrity of
licensing
function needs
to be improved

OEH dangerous goods licences can be fraudulently re-produced

We found that OEH issues its own dangerous goods licences, to an extent duplicating an RTA function. It issues laminated licences that can be fraudulently re-produced. (The technology to print tamper-proof cards is readily available.) RTA already has the individual's photo and driving history. RTA can more readily monitor driving history and notify OEH of poor driving incidents. Instead of issuing a separate dangerous goods licence, OEH could do the checks and ask RTA to issue the card, or just mark-up the existing RTA issued licence. For example, RTA now issues boating licences at its registries.

Training courses

A driver must have satisfactorily undertaken approved dangerous goods training before being issued with a licence. Inadequate training or corruption in certifying that drivers have satisfactorily achieved competency standards increases the risk of harm being caused during transport.

OEH approves training courses as part of the NSW (soon to be National) Vocational Education and Training Accreditation Board approval process for registering training organisations. OEH does not oversight or audit the delivery of training. While we found no allegations of corruption in relation to the delivery of training, there is a risk - especially in the certification that competency standards have been achieved.

OEH's internal review recommended that it undertake a campaign focusing on the delivery of driver training and the integrity of the competency certification process. We support the recommendation, as part of an on-going program.

Dangerous goods vehicle licences

Licences are issued for each vehicle, such as a trailer, a rigid vehicle, a B-double trailer or a road train trailer, carrying dangerous goods. One licence is issued for each transport organisation and details of each vehicle are included in that licence. The licence is valid for one year. Applicants need to provide information about the vehicle, hold an insurance policy, and pay the application fee, currently \$87 per vehicle.

We found that OEH issues vehicle licences, but few checks are conducted in the process. For example, there is a risk that a licence could pass from truck to truck (or trailer), including to vehicles that are not roadworthy, and registration plates could be swapped.

Interstate Licences

A large number of drivers and trucks on NSW roads are licensed by other states. OEH currently has no procedures in place with the other states to discuss and address the risk of drivers and vehicles improperly obtaining a licence interstate and using it in NSW.

Recommendation

OEH needs to improve by December 2011 the controls on its licensing and training processes to ensure the risk of fraud and corrupt conduct occurring and remaining undetected is minimised.

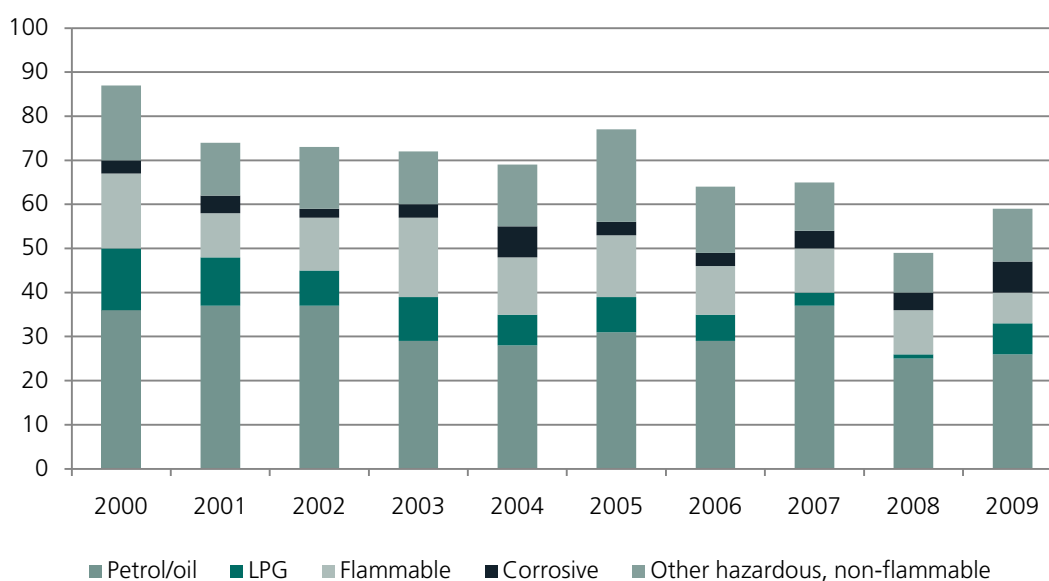
OEH should also examine by September 2011 the feasibility of having RTA issue dangerous goods licences on its behalf.

6. Is regulatory performance monitored and benchmarked?

We found no measures being used that could tell us whether the transport of dangerous goods was improving, or otherwise, and whether the regulatory program was effective.

We sought assistance from the NSW Centre for Road Safety and found that the number of crashes of heavy trucks carrying some of the more common types of dangerous goods has been decreasing – this despite increasing amounts of dangerous goods being carried. See the figure below.

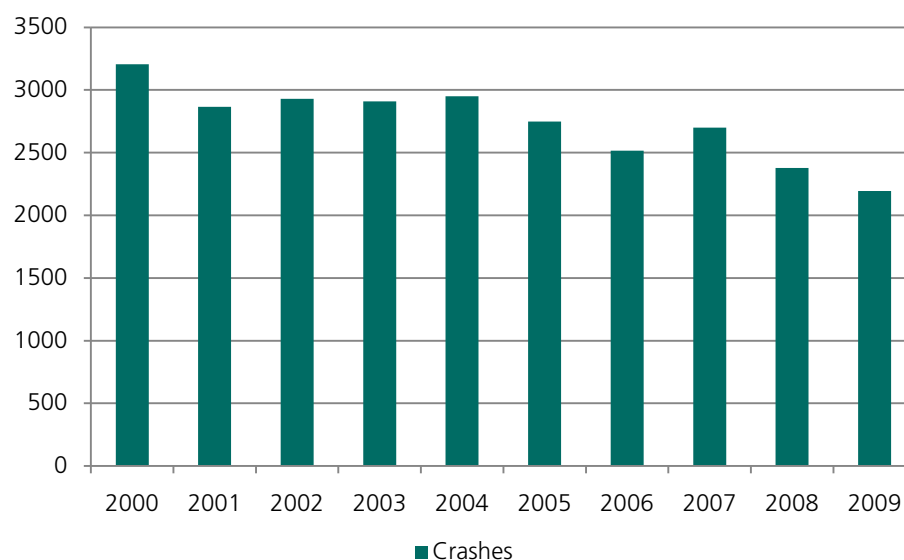
Number of heavy trucks involved in crashes carrying common dangerous goods, 2000-2009



Source: NSW Centre for Road Safety, 2010

It seems likely to be attributable to a general trend of improving road safety of heavy vehicles. The figure below shows that there has been a general decline in crashes for trucks carrying all goods – not just dangerous goods.

Total number of heavy trucks involved in crashes, 2000-2009



Source: NSW Centre for Road Safety, 2010

No measures being used to tell whether the transport of dangerous goods was improving, or not

General trend of improving road safety

Limited
performance
indicators for the
dangerous goods
regulatory
program

The NSW Centre for Road Safety attributes this general improvement to:

- safer roads – including upgrades of major freight routes and motorways, and rest areas
- safer vehicles – including speed limiters, roadworthiness surveys, and new safety systems
- safer people – including marketing campaigns on fatigue and speed, and roadside drug testing
- enforcement and compliance – including fatigue and speed compliance, police enforcement
- coordination with heavy truck stakeholders.

We were unable to find any comparable analysis for other types of dangerous goods (not covered in the above crash statistics), or trends of incidents arising directly from the transport of dangerous goods.

OEH tracks the number of environment line complaints and incident reports. However, there are currently no additional performance indicators for the dangerous goods regulatory program.

Performance measures can help to assess the success of agency efforts in relation to the transport of dangerous goods. Key performance indicators would be expected to describe the safety performance of transport of dangerous goods. They need to focus on stated goals, performance outcomes, efficiency and effectiveness.

OEH's internal review recommended that it undertake a project to identify performance indicators for dangerous goods regulation. This is to enable better management control of the dangerous goods regulatory program and to assess its effectiveness and priorities. We support the OEH recommendation.

As noted earlier, achieving safe transport of dangerous goods relies on the combined efforts of a number of agencies. To monitor performance effectively, all agencies involved need to contribute to the establishment and monitoring of performance measures.

Drawing on our research of practice overseas (including U.S Department of Transportation and Transport Canada), performance goals and measures for the transport of dangerous goods could include:

- Improve the compliance of operators with regulatory requirements
 - proportion of operators found fully compliant on first inspection
 - number of persistent offenders
- Reduce the risk of harm to people due to the transport of (dangerous goods)
 - number of incidents involving death or injury
 - number of high consequence events
- Reduce the risk of harm to the environment
 - number of releases of dangerous goods into environmentally sensitive areas
 - amount spilled
 - number of high consequence events
- Help maintain the reliability of transport systems
 - number of interruptions to the transport system
 - capacity lost due to incidents
 - number of high consequence events
 - time to return the system to normal after an incident.

Recommendation

OEH and WorkCover need to establish by June 2012 safety goals and performance measures for the transport of dangerous goods regulatory program.

Appendix 1: About the Audit

Audit objective

The audit has examined how well the Office of Environment and Heritage (OEH) (formerly the Department of Environment, Climate Change and Water) and WorkCover NSW undertake their licensing and regulatory functions to ensure the safe transport of dangerous goods.

Audit criteria

In reaching our opinion against the audit objective, we used the following audit criteria (the 'what should be') to judge performance. We based these standards on our research of current thinking and guidance on better practice. They have been discussed and agreed with those we are auditing:

- Is relevant information identified and monitored?
- Are legislative requirements monitored and as necessary enforced?
- Are risks to public safety, environment identified and minimised?
- Are corruption risks identified and minimised?
- Is regulatory performance monitored and benchmarked?

Audit scope

The audit focused on the efforts of the two agencies and the associated regulatory requirements, particularly the Dangerous Goods (Road and Rail Transport) Regulation 2009 which:

- set out the obligations of persons involved in the transport of dangerous goods by road and rail
- establish a system of standards and licensing for the transport of dangerous goods by road and rail
- apply the Australian Code for the Transport of Dangerous Goods by Road and Rail to such transport.

The audit did not seek to:

- question the merits of Government policy objectives.
- examine other aspects of dangerous goods, not directly related to transport
- examine the effectiveness of security measures targeting deliberate criminal activity
- examine the transport of dangerous goods, such as petroleum, by pipeline
- duplicate any reviews already being conducted in relation to this topic.

Audit approach

We acquired subject matter expertise through:

- interviews and examination of relevant documents including guidelines, reports, studies, reviews relating to the transport of dangerous goods
- discussions with relevant staff of OEH and WorkCover
- discussions with representatives of key stakeholders
- comparisons where appropriate with other states
- government and best practice guidelines relevant to the above.

Audit selection

We use a strategic approach to selecting performance audits which balances our performance audit program to reflect issues of interest to Parliament and the community. Details of our approach to selecting topics and our forward program are available on the Audit Office website.

Audit methodology

Our performance audit methodology is designed to satisfy Australian Standards on Assurance Engagements, ASAE3500 on performance engagements, and to reflect current thinking on performance auditing practices.

Audits are produced under the Office's quality control policies and practices, including a quality management system certified to International Standard ISO 9001. Our processes have also been designed to comply with the *Public Finance and Audit Act 1983*.

Acknowledgements

We gratefully acknowledge the cooperation and assistance provided by OEH and WorkCover. In particular we wish to thank our liaison officers and staff who participated in interviews and provided material relevant to the audit.

We were assisted by discussions with a number of government agencies including Roads and Traffic Authority, NSW Centre for Road Safety, Fire and Rescue NSW, NSW Police, Department of Premier and Cabinet, Sydney Ports Corporation, NSW Transport, Independent Transport Safety Regulator, and the (Federal) Department of Infrastructure and Transport.

We were also assisted by discussions with a range of external bodies including ACAPMA (Australian Convenience and Petroleum Marketers Association), ACCORD (Advocate for the Consumer, Cosmetic, Hygiene and Specialty Products Industry), NBTA (National Bulk Tanker Association), PACIA (Plastics and Chemicals Industries Association), Crawford's Freightlines, Caltex Australia, Queensland Transport, SafeWork SA, Transport Workers Union, and the Rail, Bus and Tram Union.

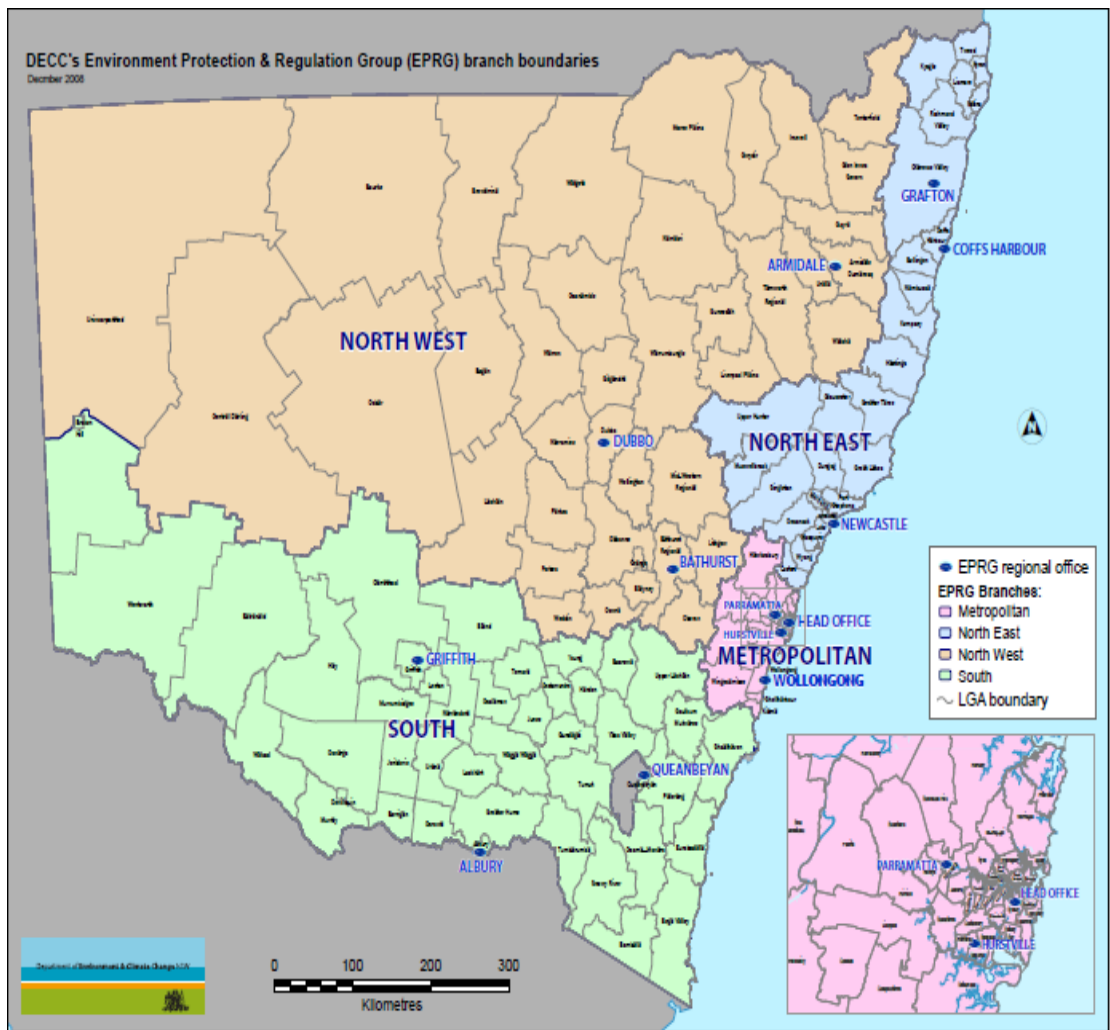
Audit team

Our team leader for the performance audit was Chris Yates, who was assisted by Jasmina Munari. Sean Crumlin provided direction and quality assurance.

Audit cost

Including staff costs, printing costs and overheads, the estimated cost of the audit is \$170,000.

Appendix 2: Map of OEH Regions



Source: OEH, 2010

Appendix 3: Example of OEH enforcement of dangerous goods legislation

Driver convicted and fined \$5000 for transporting dangerous goods in unsafe manner to Newcastle

Media release: 21 April 2009

A driver has been fined \$5000 by the Gosford Local Court and ordered to pay \$373 in costs after pleading guilty to transporting dangerous goods in an unsafe manner from Port Botany in Sydney to Mount White near Gosford in late 2007.

The court heard that Mr Gary Burne was working for Omega Chemicals in November 2007 when he drove a truck and tanker filled with a 15,000 kilogram load of liquid Sodium Hydroxide, a Class 8 corrosive dangerous good.

The truck and tanker wrongly displayed signs showing that the load it was carrying was not dangerous.

The true nature of the load only became apparent when a few litres spilled from an unsecured opening at the top of the tanker and splashed onto two RTA officers who were inspecting the vehicle at the RTA Mt White Heavy Vehicle Checking Station.

Both of the RTA officers suffered minor chemical burns to the eye.

Lisa Corbyn, Director General of the Department of Environment and Climate Change, said that the fine was an important reminder to all licensed dangerous goods drivers to ensure that they took all necessary steps to transport dangerous goods in a safe manner.

"This was a dangerous situation that have could have resulted in more serious injuries to the RTA officers and even other road users," Ms Corbyn said.

"Drivers of vehicles containing dangerous goods need to be absolutely certain that all caps and covers are properly secured and that the dangerous goods they transport cannot leak or otherwise escape from their vehicles.

"It is also vital that vehicles transporting dangerous goods on public roads display the appropriate signage to ensure that any person coming into contact with the vehicle is appropriately informed and prepared.

"Correct signage is also crucial in the case of an emergency situation such as a road accident because it allows the authorities to rapidly identify and address potential risks."

Source: OEH, <http://www.environment.nsw.gov.au/media/DecMedia09042102.htm>

Performance Auditing

What are performance audits?

Performance audits determine whether an agency is carrying out its activities effectively, and doing so economically and efficiently and in compliance with all relevant laws.

The activities examined by a performance audit may include a government program, all or part of a government agency or consider particular issues which affect the whole public sector. They cannot question the merits of Government policy objectives.

The Auditor-General's mandate to undertake performance audits is set out in the *Public Finance and Audit Act 1983*.

Why do we conduct performance audits?

Performance audits provide independent assurance to Parliament and the public that government funds are being spent efficiently, economically or effectively and in accordance with the law.

Through their recommendations, performance audits seek to improve the efficiency and effectiveness of government agencies so that the community receives value for money from government services.

Performance audits also focus on assisting accountability processes by holding managers to account for agency performance.

Performance audits are selected at the discretion of the Auditor-General who seeks input from Parliamentarians, the public, agencies and Audit Office research.

What happens during the phases of a performance audit?

Performance audits have three key phases: planning, fieldwork and report writing. They can take up to nine months to complete, depending on the audit's scope.

During the planning phase the audit team develops an understanding of agency activities and defines the objective and scope of the audit.

The planning phase also identifies the audit criteria. These are standards of performance against which the agency or program activities are assessed. Criteria may be based on best practice, government targets, benchmarks or published guidelines.

At the completion of fieldwork the audit team meets with agency management to discuss all significant matters arising out of the audit. Following this, a draft performance audit report is prepared.

The audit team then meets with agency management to check that facts presented in the draft report are accurate and that recommendations are practical and appropriate.

A final report is then provided to the CEO for comment. The relevant Minister and the Treasurer are also provided with a copy of the final report. The report tabled in Parliament includes a response from the CEO on the report's conclusion and recommendations. In multiple agency performance audits there may be responses from more than one agency or from a nominated coordinating agency.

Do we check to see if recommendations have been implemented?

Following the tabling of the report in Parliament, agencies are requested to advise the Audit Office on action taken, or proposed, against each of the report's recommendations. It is usual for agency audit committees to monitor progress with the implementation of recommendations.

In addition, it is the practice of Parliament's Public Accounts Committee (PAC) to conduct reviews or hold inquiries into matters raised in performance audit reports. The reviews and inquiries are usually held 12 months after the report is tabled. These reports are available on the Parliamentary website.

Who audits the auditors?

Our performance audits are subject to internal and external quality reviews against relevant Australian and international standards.

Internal quality control review of each audit ensures compliance with Australian assurance standards. Periodic review by other Audit Offices tests our activities against best practice. We are also subject to independent audits of our quality management system to maintain certification under ISO 9001.

The PAC is also responsible for overseeing the performance of the Audit Office and conducts a review of our operations every three years. The review's report is tabled in Parliament and available on its website.

Who pays for performance audits?

No fee is charged for performance audits. Our performance audit services are funded by the NSW Parliament.

Further information and copies of reports

For further information, including copies of performance audit reports and a list of audits currently in-progress, please see our website www.audit.nsw.gov.au or contact us on 9275 7100.

Performance Audit Reports

No	Agency or Issues Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
212	Office of the Environment and Heritage WorkCover NSW	<i>Transport of Dangerous Goods</i>	May 2011
211	NSW Police Force NSW Health	<i>The Effectiveness of Cautioning for Minor Cannabis Offences</i>	7 April 2011
210	NSW Health	<i>Mental Health Workforce</i>	16 December 2010
209	Department of Premier and Cabinet	<i>Sick leave</i>	8 December 2010
208	Department of Industry and Investment	<i>Coal Mining Royalties</i>	30 November 2010
207	Whole of Government electronic information security	<i>Electronic Information Security</i>	20 October 2010
206	NSW Health NSW Ambulance Service	<i>Helicopter Emergency Medical Service Contract</i>	22 September 2010
205	Department of Environment, Climate Change and Water	<i>Protecting the Environment: Pollution Incidents</i>	15 September 2010
204	Corrective Services NSW	<i>Home Detention</i>	8 September 2010
203	Australian Museum	<i>Knowing the Collections</i>	1 September 2010
202	Industry & Investment NSW Homebush Motor Racing Authority Events NSW	<i>Government Investment in V8 Supercar Races at Sydney Olympic Park</i>	23 June 2010
201	Department of Premier and Cabinet	<i>Severance Payments to Special Temporary Employees</i>	16 June 2010
200	Department of Human Services - Ageing, Disability and Home Care	<i>Access to Overnight Centre-Based Disability Respite</i>	5 May 2010
199	Department of Premier and Cabinet NSW Treasury WorkCover NSW	<i>Injury Management in the NSW Public Sector</i>	31 March 2010
198	NSW Transport and Infrastructure	<i>Improving the Performance of Metropolitan Bus Services</i>	10 March 2010
197	Roads and Traffic Authority of NSW	<i>Improving Road Safety: School Zones</i>	25 February 2010
196	NSW Commission for Children and Young People	<i>Working with Children Check</i>	24 February 2010
195	NSW Police Force NSW Department of Health	<i>Managing Forensic Analysis – Fingerprints and DNA</i>	10 February 2010
194	Department of Premier and Cabinet Department of Services, Technology and Administration NSW Treasury	<i>Government Advertising</i>	10 December 2009
193	Roads and Traffic Authority of NSW	<i>Handback of the M4 Tollway</i>	27 October 2009
192	Department of Services, Technology and Administration	<i>Government Licensing Project</i>	7 October 2009
191	Land and Property Management Authority Maritime Authority of NSW	<i>Administering Domestic Waterfront Tenancies</i>	23 September 2009

No	Agency or Issues Examined	Title of Performance Audit Report or Publication	Date Tabled in Parliament or Published
190	Department of Environment, Climate Change and Water NSW Environmental Trust	<i>Environmental Grants Administration</i>	26 August 2009
189	NSW Attorney General's Department NSW Department of Health NSW Police Force	<i>Helping Aboriginal Defendants through MERIT</i>	5 August 2009
187	Roads and Traffic Authority of NSW	<i>Improving Road Safety – Heavy Vehicles</i>	13 May 2009
186	Grants	<i>Grants Administration</i>	6 May 2009
185	Forests NSW	<i>Sustaining Native Forest Operations</i>	29 April 2009
184	NSW Police Force	<i>Managing Injured Police</i>	10 December 2008
183	Department of Education and Training	<i>Improving Literacy and Numeracy in NSW Public Schools</i>	22 October 2008
182	Department of Health	<i>Delivering Health Care out of Hospitals</i>	24 September 2008
181	Department of Environment and Climate Change	<i>Recycling and Reuse of Waste in the NSW Public Sector</i>	11 June 2008
180	Follow-up of 2003 Performance Audit	<i>Protecting Our Rivers</i>	21 May 2008
179	NSW Office of Liquor, Gaming and Racing; NSW Police Force	<i>Working with Hotels and Clubs to reduce alcohol-related crime</i>	23 April 2008
178	Greyhound and Harness Racing Regulatory Authority	<i>Managing the Amalgamation of the Greyhound and Harness Racing Regulatory Authority</i>	3 April 2008
177	Office of the Director of Public Prosecutions	<i>Efficiency of the Office of the Director of Public Prosecutions</i>	26 March 2008

Performance audits on our website

A list of performance audits tabled or published since March 1997, as well as those currently in progress, can be found on our website www.audit.nsw.gov.au.