



ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS) REGULATIONS 2007 — REGULATORY IMPACT STATEMENT



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1 SUMMARY OF KEY FINDINGS

1.1 Objectives of the proposed regulations

The main objective of the proposed regulations outlined in the *Regulatory Impact Statement for the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 (RIS)* is to give effect to EPA's licensing and works approval system. The regulations do this by defining the population of sites subject to these tools, having regard to the Principles of Environment Protection, set out in section 1 of the *Environment Protection Act 1970* (the Act). These sites are referred to collectively as 'scheduled premises'. The existing scheduled premises regulations are due to sunset on **15 July 2007**.

The proposed regulations are designed to ensure that premises that conduct activities and operations assessed as posing significant environmental risk continue to be managed and monitored effectively through works approval and/or licensing.

A secondary objective of the regulations is to define the categories of premises that may be subject to financial assurance requirements and the environment protection and landfill levies respectively. The proposed regulations do not change the underlying calculation of financial assurance or the levies imposed.

In reviewing the regulations, EPA has conducted a comprehensive analysis of the existing categories of scheduled premises and of emerging activities that might fall within the scheduled premises framework. This was based on an assessment of current and potential future environmental risks, and was conducted in consultation with relevant stakeholders.

Table 6-1 of the RIS sets out in detail the proposed changes to the scheduled premises classifications as a result of this review.

1.2 Summary of net benefits of proposed regulations

The proposed regulations deliver a number of benefits to the community and business. The major community benefits are the management of environmental risk, and improved environmental and health outcomes. The community as a result will also derive socio-economic benefits including:

- use values – pollution can cause loss of value such as when air pollution increases the vulnerability to illness, (Section 7.1.1)
- option values – reflecting the value people place on a future ability to use the environment
- non-use values – reflecting the value people place on preserving or improving resources, such as species conservation and preservation of forest-covered areas. Moreover, the community will have access to information concerning all works approvals in Victoria and the opportunity to raise their concerns with EPA and business.

In ensuring the continued effort to manage Class 1 and 2 air indicators the proposed regulations significant economic benefits for the Victorian economy (Section 7). Qualitative benefits to business include:

- a social licence with which to operate
- a level playing field in industry with regard to environmental practice
- the capacity for environmental managers to drive internal performance initiatives
- improved planning and community stakeholder management outcomes
- a reduction in clean-up costs
- a reduction in retrofitting costs.

The overall benefits are assessed by EPA to exceed the estimated cost of \$33.3 million per annum. The proposed regulations deliver better environmental and economic outcomes by:

- ensuring that businesses undertaking activities with potential for significant environmental impact are subject to appropriate environmental obligations
- ensuring that the community can have increased confidence that these activities are effectively managed

- introducing new activities including carbon capture and storage, container washing, composting, intensive bird and waste to energy as these are considered to pose environmental risks sufficient to warrant works approvals and/or licensing
- delivering efficiency gains by reducing the overall administrative burden on Victorian businesses by approximately \$1.5 million per year over the life of the regulations. This improvement in administrative efficiency will be achieved by:
 - reducing the overall number of licensed sites from approximately 996 to 832 (16.5%)
 and
 - reducing the number of licences for small wastewater treatment plants (163 less licences), abattoirs (12 less licences) and small gas fired power stations (10 less licences).

Importantly, the proposed regulations only remove works approval and licensing requirements where there is either a demonstrated reduced environmental risk, or where EPA is satisfied that environmental outcomes will be effectively achieved through other more appropriate regulatory mechanisms. For example, small wastewater treatment plants discharging to land have been assessed as presenting a low environmental risk and can be effectively managed through EPA guidance.

The proposed regulations also provide for consequential amendment to the *Environment Protection (Fees) Regulations 2001* (the fees regulations) but do not change the level of fee payable by sites that are currently scheduled premises. The number of businesses required to pay a licence fee as at June 2006 was 996. As a result of the proposed regulations, it is estimated that 164 fewer business sites will be required to hold an EPA licence (Table 1.1 shows those activities that will be required to pay a licence fee for the first time).

Table 1.1: Licence fee changes as a result of the proposed regulations

Activities	Estimated number of businesses	Base Fee units proposed	Estimated licence fee per site each year
Composting	13	206	\$2,215
Waste to Energy	<15MW	2	\$1,107
	15 - 100MW	0	\$6,920
	100 - 200MW	0	\$13,841
	>200MW	0	\$27,861
Container washing	3	51.5	\$554
Carbon geosequestration	0	1,287.5	\$13,841
Road tunnel ventilation systems	2	1,287.5	\$13,841

1.3 Consideration of alternative options

Section 10 outlines two alternatives to the proposed measure and considers the extent to which they achieve the Government's objectives. The two options considered are:

1. the introduction of performance-based licensing
2. the adoption of a 'co-regulatory' model of regulation with industry.

Alternative thresholds (by which premises could be exempt) are considered in section 10.1 and appendix D and E.

The analysis concludes that neither of the alternatives considered are able to effectively meet the Government's objectives with the same degree of efficiency, inter-generational equity and social considerations as the proposed regulations.

EPA has for many years moved away from prescriptive regulation towards a more outcome-oriented approach in meeting the environmental objectives of the Act. For example, EPA has:

1. introduced innovative reforms such as the accredited licensee scheme and the research, development and demonstration approvals process
2. assisted companies in improving their relationships with local communities via mechanisms such as environment improvement plans
3. facilitated cleaner production approaches to environmental management
4. promoted the development of industry codes of practice.

EPA recognises that the way in which it *administers the system* is critical in maximising the benefits of a co-operative approach with industry and the broader community. The proposed regulations ensure that EPA continues to deliver on its primary objective of protecting, caring for and improving Victoria's environment, and provide the basis for continued regulatory innovation.

2 INTRODUCTION

This document sets out the Environment Protection Authority's (EPA) Regulatory Impact Statement (RIS) associated with the proposed *Environment Protection (Scheduled Premises and Exemptions) Regulations 2007* (the proposed regulations).

In July 2007 the *Environment Protection (Scheduled Premises and Exemptions) Regulations 1996* (the 1996 regulations) are due to sunset (expire). The 1996 regulations give effect to the works approval and licensing system within the *Act*. Similar to the 1996 regulations, the proposed regulations prescribe which activities and operations are scheduled for the purposes of the *Act* and, therefore, may require a works approval and/or licence.

The proposed regulations:

- provide assurance that sites, which conduct activities that pose significant environmental risk, are managed and monitored appropriately. The primary focus of this RIS is to assess the costs and benefits of the proposed licensing and works approval system and of other approaches to achieving the objectives
- define the 'population' of sites across Victoria that are identified as scheduled premises and prescribe whether licence and works approval fees, financial assurances or levies apply to these sites. Importantly, the proposed regulations only define the population (i.e. which sites should pay fees, levies, and/or provide financial assurance)
- provide for consequential amendment to the *Environment Protection (Fees) Regulations 2001* (the fees regulations) but do not change the level of fee payable by sites that are currently scheduled premises.

2.1 Regulatory Impact Statements

Section 10 of the *Subordinate Legislation Act 1994* requires that a RIS be prepared in respect of a proposed statutory rule or amendment unless an exception or exemption certificate is issued. The main reason for an exemption is if the proposed rule is not likely to impose an appreciable economic or social burden on a sector of the public.

Section 4.3.2 of the *Victorian Guide to Regulation*¹ states that in considering whether a proposed rule imposes an appreciable cost or burden on a sector of the public, consideration must be given as to whether the proposed statutory rule:

- has the requisite impact on a 'sector of the public'. The rule must have an impact on the whole community or on groups of people, although the question of how many people constitute a sector of the public is a matter of judgement
- imposes 'an appreciable cost or burden' on that sector of the public.

In some instances, the proposed regulations will require different sectors of the public to spend funds, change their current practices, report to EPA or seek external advice. For this reason, no exemption has been issued for the proposed regulations, and a RIS must be prepared.

2.2 Scope of work

KPMG has been engaged by EPA to assist in preparing a RIS on the proposed regulations. The RIS is essentially a cost-benefit analysis of the proposed regulatory changes, which provides support for a conclusion on whether the proposed changes are warranted and, if so, whether the most efficient approach is proposed. A key element of the process is identifying those groups affected by the proposed changes and the impact of those changes.

The best-practice approach to completing the RIS is contained within the *Victorian Guide to Regulation*. The RIS has been completed in accordance with the process described in this guide.

2.3 Balanced scorecard approach

A 'balanced scorecard approach' has been used to analyse the costs and benefits of the proposed regulations, supported by quantified estimates wherever possible. As highlighted in the *Victorian Guide to Regulation*, this approach is particularly useful 'where it is not possible to quantify and assign monetary values to the impact of a proposed measure'. Whilst a quantitative analysis of the proposal has been included, a quantitative analysis of the options has not been possible. Therefore, the balanced scorecard approach allows comparison of a range of regulatory options approaches, by assigning a qualitative score for each alternative against a series of criteria. This approach is

¹ Department of Treasury and Finance (2005) *Victorian Guide to Regulation*, Melbourne

used in section 10 to analyse the relative benefits and costs of the proposed regulations and the two alternative options.

A quantitative analysis of the proposal is useful in general to better understand the potential magnitude of the possible benefits arising from the proposal.

2.4 Defining the ‘base case’

In any RIS it is essential to define the ‘base case’ to ensure that an appropriate assessment is made for the proposed regulations and viable alternatives. For sunseting (or expiring) regulations the ‘base case’ is the Act without the sunseting regulations. As such, the base case in this RIS is the existing environmental management framework without the 1996 regulations. In practical terms allowing the 1996 regulations to sunset would mean:

- no sites in Victoria would be licensed
- no sites or projects would be subject to a works approval process
- no sites would be required to collect the Landfill levy, pay the Environment protection levy or hold a financial assurance.

While the Act establishes EPA’s role in administering the above systems, the Act does not spell out which specific business activities are subject to the various requirements. The proposed regulations, therefore, play a key role in enabling a wider environmental management framework.

2.5 Acknowledgements

In undertaking this analysis, EPA relied upon analysis provided by KPMG. Neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this report. EPA is also grateful to the Victorian Competition and Efficiency Commission for its feedback during the development of this RIS.

3 BACKGROUND

EPA Victoria was established to deal with the gross pollution problems that resulted from Victoria's long-held place as the centre of manufacturing and industrial activity in Australia.

During the 1950s and 1960s there was growing community concern about the health of Port Phillip Bay, the State's rivers and air quality in Victoria. As an example, unregulated chemical industries discharged substances with the pH qualities of straight acid into the waters of the Maribyrnong River and bloody discharges from abattoirs resulted in that river running red². The community demanded action on industrial pollution, and this led to the passage of the EP Act in 1970 and the establishment of EPA in 1971.

EPA's core responsibilities were to prevent pollution from toxic waste discharges to the environment and to manage the inherent environmental risks from industrial activities that could do significant environmental damage if not well managed. A licensing system for waste discharge was established in 1973, and scheduled premises were introduced in 1982 to focus on environmentally risky activities. The works approval system was established in the same year to ensure that environmental issues were considered early in a project's development so that costly retrofitting was not required.

All Victorians are required to comply with the provisions outlined in the Act. The purpose of the Act is to create a legislative framework, which ensures the protection of the environment.³ The philosophy of the Act is to promote improved environmental outcomes by establishing an integrated environmental management framework and supporting policies. To this end the Act establishes:

- that it is an offence to pollute air, land and water, and to dump or abandon waste
- that all sites (households, businesses and industrial etc) must comply with the conditions of the State Environment Protection Policies (SEPPs) and Waste Management Policies (WMPs)
- a scheduled premises framework that focuses on regulation of premises with a potential for significant environment impact
- the broader environmental management framework in Victoria by allowing for the development of supporting regulations.

3.1 The Victorian Environment Framework

Figure 3.1 below shows how the proposed regulations interact with the other elements of the environmental management framework. For further details of the environmental management framework, see Appendix A. As indicated in the diagram below, the proposed regulations *only* serve to identify which businesses in Victoria are scheduled premises (i.e. they determine the population of the system). The pollution prevention and environment protection requirements placed on all businesses (both scheduled premises and non scheduled premises) are determined by the Act, SEPPs, WMPs and other regulations.

3.2 An operational overview of the 1996 regulations

The 1996 regulations currently give effect to the works approval and licensing system within the Act.

3.2.1 Works approvals

Works approvals ensure that development proposals adequately address potential environmental risks before construction begins. Works approvals involve EPA granting approval of the design of plant prior to construction, or major modification, to ensure that the design will deliver environmental outcomes that meet the requirements of the Act.

A works approval application involves public consultation and has a number of data requirements and associated administrative activities. This process seeks to avoid the need for expensive modifications of plant after it is constructed. Those activities that are currently subject to the works approval requirements are scheduled in the 1996 regulations.

² *Between a rock and a hard place, The story of the development of the EPA.* Unglik, A, June 1996, p.9

³ *Environment Protection Act 1970*, Part 1 section 1A

The Victorian Environment Framework

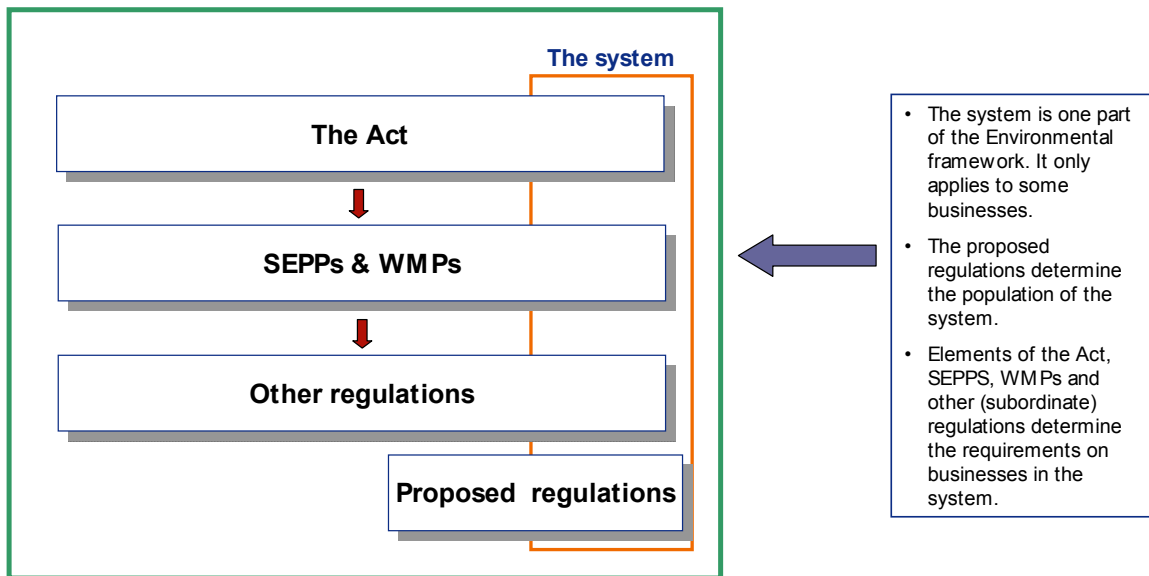


Figure 3.1 Victoria’s Environmental Framework

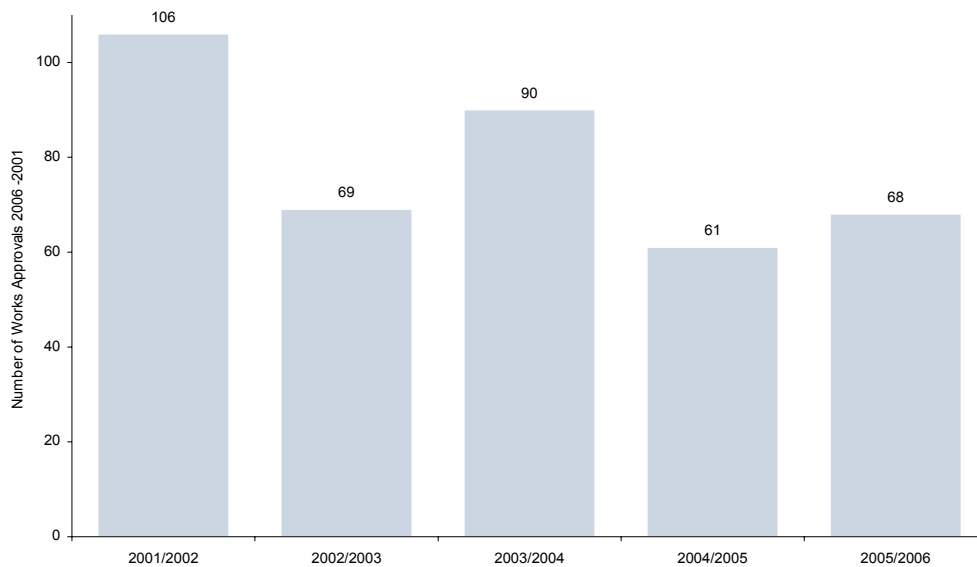


Figure 3.2: Works approvals 2001/02–2005/06

Source: EPA

The number of works approvals issued each year will depend on the number of proposed new developments or site modifications in Victoria. On average, 79 works approvals each year have been issued since 2001/02. Figure 3.3 shows that the majority of works approvals issued since 2001/02 have been in the sewage, waste storage, concrete and printing sectors. EPA may refuse to issue a works approval following a public consultation process.

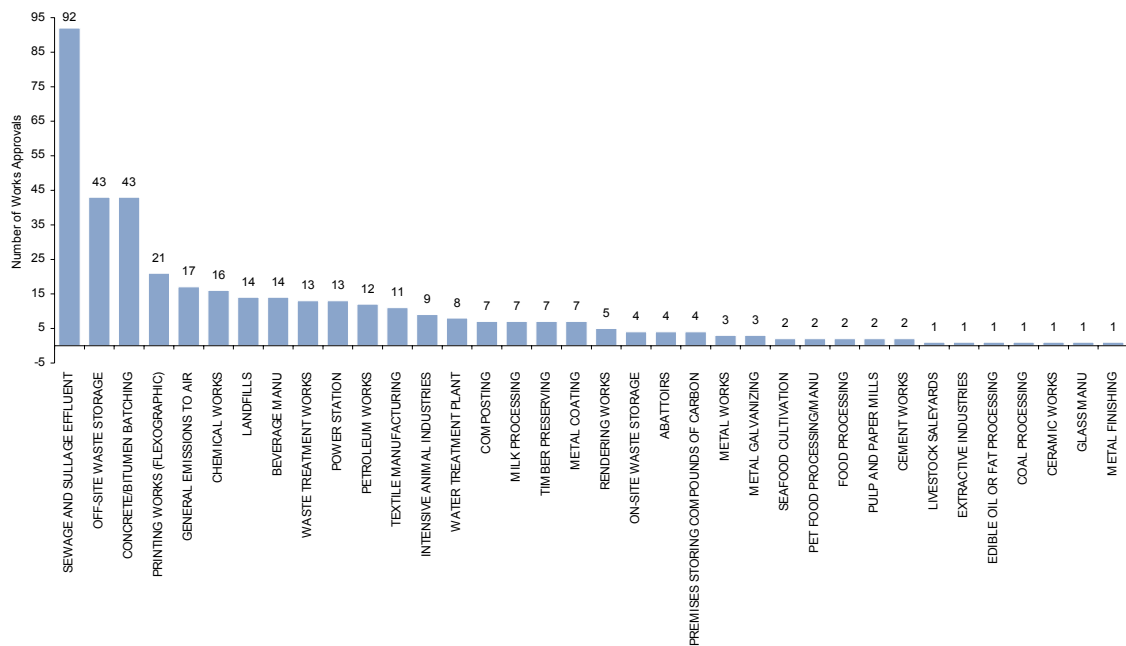


Figure 3.3: Number of Works Approvals issued between 2001/02-2005/06

Source: EPA

3.2.2 Licensing

Licensing is a regulatory tool used to manage the ongoing operations of prescribed premises that pose significant environmental risk. In addition to meeting their general obligations under the Act and the various SEPPs and WMPs, licensees are subject to conditions that aim to control the operation of premises to ensure that there is no adverse effect on the environment. The conditions vary on the type of operation but generally include:

- limits on the discharge of various substances, which are set as a result of complying with the conditions of the Act, SEPPs and other environmental regulations and internal business requirements
- monitoring requirements
- housekeeping conditions
- reporting of incidents and monitoring data.

EPA requires licence holders to provide annual reports, which demonstrate that their environmental obligations under the Act and under the licence are being met. The reporting involves a range of data requirements and administrative activities.

In June 2006 there were 996 licensees in Victoria representing a wide range of industries. Figure 3.4 shows a distribution of the licensees by activity type. The majority of licensed sites are in the Wastewater sector, followed by Landfill and Prescribed Industrial Waste (PIW) handling.

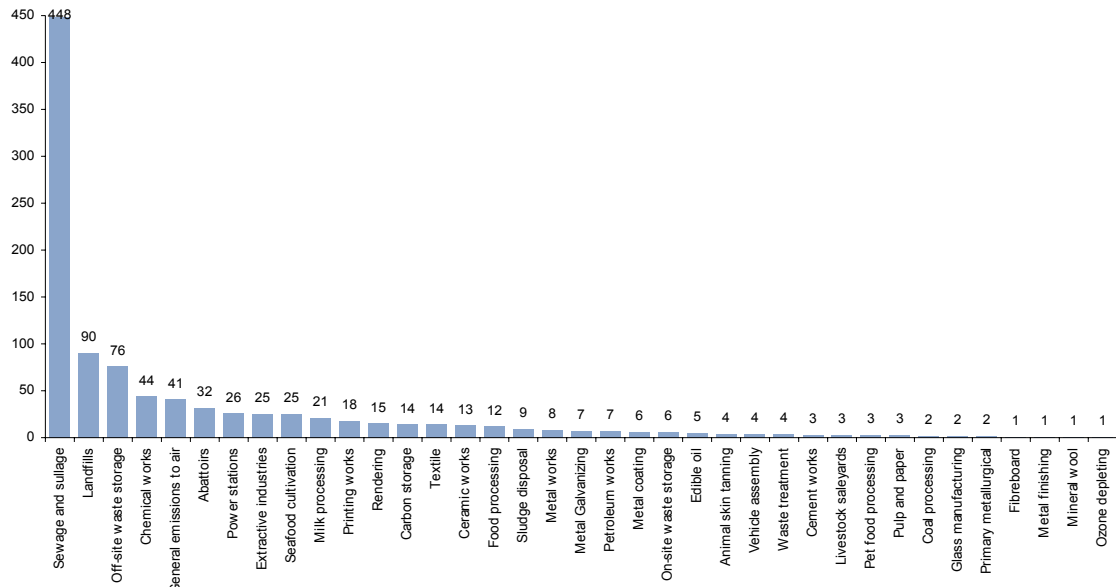


Figure 3.4: Total number of EPA licensees as at June 2006

Source: EPA

Some types of scheduled premises may be subject only to the requirements of a works approval, while other types of scheduled premises are subject to the requirements of both licensing and works approval. The level of regulation imposed on a particular sector is determined on a case-by-case basis, which includes an assessment of environmental risk as discussed in Section 4.

3.2.3 The process for obtaining a works approval and/or licence

Figure 3.5 below outlines the process of a typical works approval/licence process. It shows that while all sites are subject to the requirements of the Act and SEPPs, those sites captured by the 1996 regulations, are required to undertake a number of additional reporting activities to demonstrate that the site is compliant

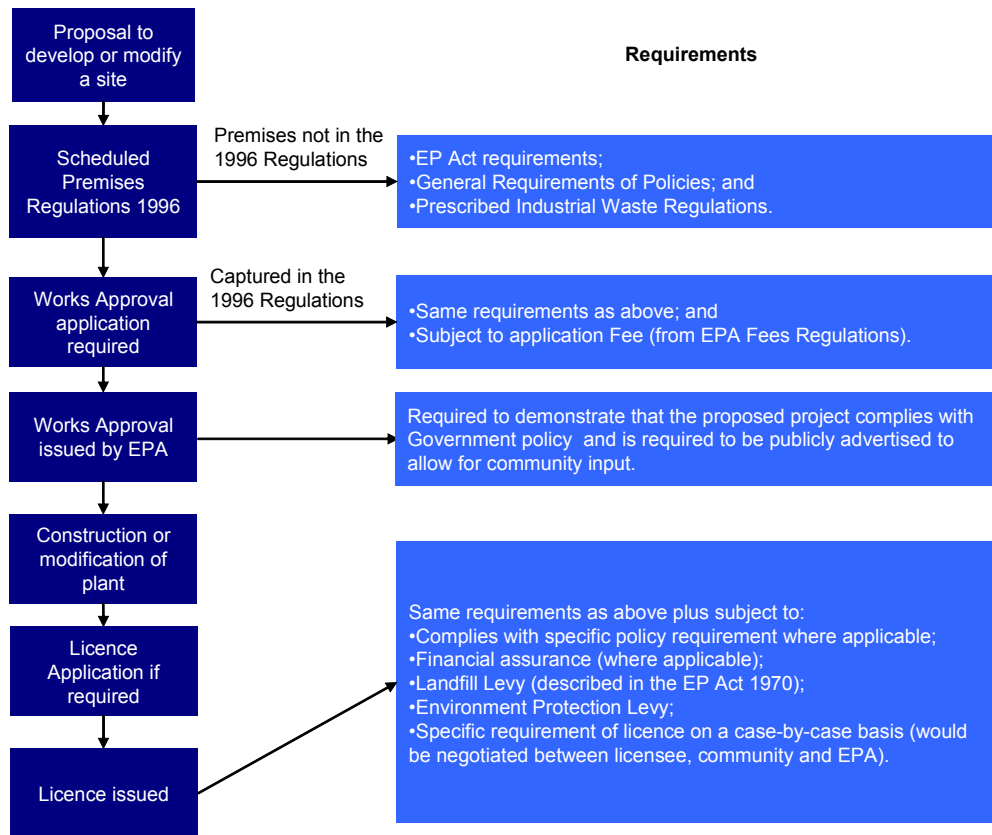


Figure 3.5: Environment protection – legal and regulatory framework

Source: EPA

3.2.4 Licensing and works approval fees

The Act authorises EPA to collect fees for administering both the licensing system and the works approval applications. The level of fees payable is set out in the fees regulations and is not amended by the proposed regulations. The fees are designed to recover the costs associated with issuing and managing licences and assessing works approval applications.

Licence fees

This fee is determined by the type of activities conducted at the premises and the volume of any environmental discharges. It is made up of two elements: a base fee and a component fee. The base fee is determined by industrial category to reflect EPA time and effort involved in administering the licence. In this way it reflects the unique environmental issues associated with managing that licensee. The component fee is a function of the permissible emissions or waste receipt determined under a specific licence and reflects the emitter pays principle.

The number of EPA licensed sites and the licence fees received over the past three financial years is outlined in Table 3.1.

Table 3.1: EPA licensed sites and fees

	2002/03	2003/04	2004/05	2005/06
Licensed Premises	1,023	1,023	1,036	996
Licence Revenue	\$12,815,000	\$11,408,000	\$16,343,000	\$14,989,000

Source: EPA

The variation in the revenues from year-to-year in Table 3.1 reflects the fact that during this period the new *Environment Protection (Fees) Regulations 2001* were implemented and some significant changes made to the way licence fees are calculated. As a result of this process some of the revenues that would normally have been paid in 2003/04 were not received until 2004/05.

Works approval fees are dependant on the value of the proposed value of the works, as shown in Table 3.2.

Table 3.2: Works approval fees

Cost of works	Fee applicable
Less than \$10,000	\$664.40
\$10,000 or greater, but less than \$50,000	\$1,328.70
\$50,000 or greater, but less than \$250,000	\$2,768.10
\$250,000 or greater, but less than \$1 million	\$4,650.50
\$1 million or greater, but less than \$5 million	\$7,750.80
\$5 million or greater, but less than \$25 million	\$15,501.50
\$25 million or greater, but less than \$100 million	\$23,252.30
\$100 million or greater	\$48,375.00

Source: EPA and Environment Protection (Fees) Regulations 2001

3.2.5 Landfill levy

In accordance with S50S(1) and S50S(2) of the Act, any premises which is licensed to accept waste or PIW must collect a levy for each tonne of waste that is deposited onto land at the premises. Levies apply to municipal, commercial and industrial wastes disposed to licensed landfills in Victoria. The Landfill levy structure reflects the difference in the magnitude of environmental risk posed by the different waste streams, and also seeks to accommodate regional differentials.

The Landfill levy system was introduced in Victoria in 1992 in metropolitan and provincial centres and extended to the whole of Victoria in 1996. The PIW Landfill levy system was introduced in Victoria in 1998 with the aim of providing a financial incentive to minimise the generation of PIW, sending a signal to industry that the Government supports efforts to develop alternatives to landfill disposal.

Landfill levies play an important role in providing funding assistance to establish waste management infrastructure, support education programs and resource the bodies responsible for waste planning and management in Victoria.

3.2.6 Financial assurance

The Act enables provision of financial assurance by the occupier of certain scheduled premises.

The financial assurance provides a guarantee that the costs of remediation, site closure and post-closure liabilities are not borne by the community in the event of the occupier of the premises abandoning the site, becoming insolvent, or incurring clean up costs beyond their financial capacity.

EPA Publications such as the "*Guidelines for Determining Financial Assurances - Schedule 4 Premises*" and "*Determination of Financial Assurance for Landfills*" set out how EPA determines the amount of financial assurance.

3.2.7 Environment protection levy

This levy is payable by those premises which produce, store or handle prescribed industrial waste and is calculated as 3% of the annual licence fee.

The environment protection levy is paid to EPA and distributed to the Environment Protection Fund for the purpose of environment protection. A purpose of the Fund is to ensure that there is a stringent system in place for regulating the management of PIW through vehicle permit systems, tracking systems and licences.

3.3 Other enforcement tools used by EPA

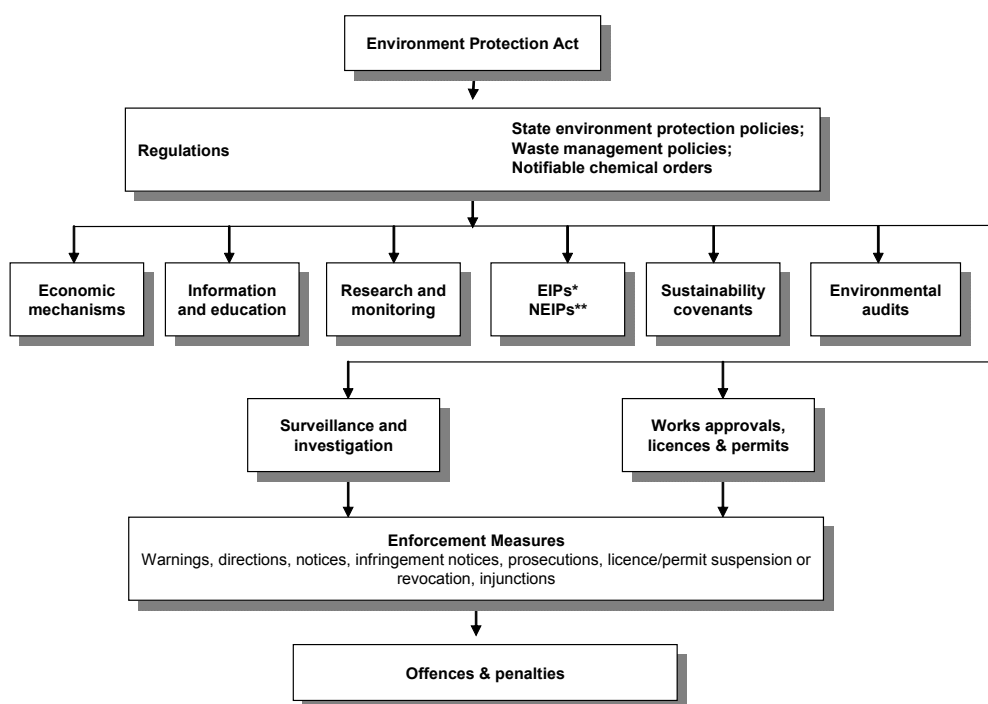
EPA's *Enforcement Policy*⁴ describes the approach adopted by EPA in the enforcement of the Act, regulations and other environment protection legislation. Figure 4-1 provides an overview of how the enforcement measures available to EPA are integrated within the overall environmental management system.

Pollution abatement notices (PANs) are used to control a process or activity at any premises (other than noise from residential premises) where the resultant discharge has caused or is likely to cause pollution including unreasonable noise. These can be thought of as a temporary short-term licence that is put in place until a particular problem is resolved. For this reason they are generally not issued on licensed sites; an amendment to the licence is used instead. While PANs are a powerful tool, they are reactive and not as effective in preventing pollution in the first place.

Penalty infringement notices (PINs) may be applied where an offence is of a well-defined nature and usually present a low level of danger to the environment and human life.

More serious incidents are prosecuted through the court system, particularly where serious harm or risk to the environment, human health or welfare occurs, or repeated offences have occurred.

⁴ EPA Victoria (July 2006) *Enforcement Policy*, Publication 384.3, Southbank, Victoria.



*EIPs = Environment Improvement Plans **NEIPs = Neighbourhood Environment Improvement Plans

Figure 3.6: Enforcement of the Environment Protection Act

Source: EPA

Table 3.3: EPA Pollution and control statistics⁵

	2001-02	2002-03	2003-04	2004-05	2005-06
PANs - Pollution abatement notices	219	156	115	270	239
PINs - Pollution infringement notices - Industry	133	100	58	80	85
PINs - Pollution infringement notices - Waste transport	5	5	2	2	3
Clean-up notices	71	57	37	42	52
Prosecutions	18	15	17	10	24
Total pollution reports	8,617	7,777	6,755	7,108	7,343

Non-compliance poses the greatest environmental risk in certain industries. Different industry sectors present different environmental risks, either inherently due to the nature of the materials and processes they employ, or because of characteristic management practices. The more significant of these are currently required to obtain both works approvals and licences from EPA. The scheduled premises system therefore aims to provide a high level of assurance that premises with the high potential for environmental impact are being effectively designed and built (through works approval) and managed (via monitoring and reporting under a licence) and are complying with the Act.

⁵ EPA 2006 Annual Report

EPA is of the view that non-regulatory measures, which promote compliance with environmental requirements and even encourage environmental performance beyond minimum requirements, are often also effective and reduce the need for enforcement. These measures include providing education and information; providing technical advice; issuing best practice guidelines; the promotion of environmental audits; the encouragement of environmental improvement plants; and the implementation of voluntary agreements such as Sustainability Covenants.

Enforcement actions (Table 4.2) are only taken where, after investigation, it is determined that an offence appears to have been or is likely to be committed. Measures such as warnings; oral or written directions issued by an authorised officer; statutory notices; infringement notices; prosecutions; licence suspension or revocation; injunctions; and the calling-in of financial assurances are available to enforce the Act. The decision as to which enforcement measure is appropriate is a matter of judgement on a case-by-case basis and will consider seriousness and impact of the offence and previous history of the offender.

While the requirements for industry are set out in the Act and policies, a licence is a convenient document that specifies these requirements and provides assurance to the Victorian community that industry is being managed appropriately. The administration of works approvals and licensing is specifically included in EPA's statutory powers and is integral to the operation of the Act.

4 PROBLEM TO BE ADDRESSED

4.1 Introduction

Environmental quality has significantly improved in Victoria over the last 35 years. Community expectations have also risen. Increasing population and urbanisation of Victoria mean that smaller buffers often now exist between industry and its residential neighbours than in the past. The quality of our environment remains a concern for Victorians, as evidenced by the more than 7,300 calls made to EPA's pollution watch line in 2005–06.

Industry in Victoria continues to use some of the hazardous materials that have been used in the past. To illustrate this point, the Table 4.1 shows reported emissions of several materials from industrial sources, as reported to the National Pollutant Inventory.

Table 4.1: Annual total emissions by type 2003-2006 (NPI database) (tonnes)

Class	Emission	2003–04	2004–05	2005–06
1	Particles (PM10) ⁶	15,500	15,800	15,600
1	Sulfur dioxide	153,400	170,000	166,000
1	Oxides of Nitrogen	109,500	117,600	110,900
2,3	Volatile Organic Compounds	20,500	19,600	17,800
3	Trichloroethylene	160	120	120

4.2 Beneficial Uses

The Victorian community has articulated its expectations about environment protection with the enactment of various State environment protection policies (SEPPs) and Waste Management Policies (WMPs), which outline the 'beneficial uses' of the environment that are to be valued and protected. Examples of these beneficial uses include:

- life, health and well-being of humans
- life, health and well-being of other forms of life, including the protection of ecosystems and biodiversity
- local amenity and aesthetic enjoyment
- useful life and aesthetic appearance of buildings, structures, property and materials
- visibility
- potable water supply.

The proposed regulations focus on the risk of impact to these beneficial uses from industrial sources. While all premises in Victoria are subject to the Act, some activities pose a significantly higher environmental risk than others. The scheduled premises framework is directed to these activities.

The environmental risk management practices of industry and the health of the Victorian environment have improved significantly since the enactment of the EP Act. This is partially reflected by the fact that EPA initially issued about 10,000 licences whereas it now manages less than 1,000. Notwithstanding this, manufacturing remains the single largest contributor to Victoria's Gross State Product⁷ and the *consequences* of hazardous spills and of inappropriate or excessive discharges to air, land and water, and of poor management of waste have not materially changed. The precautionary principle in the Act also applies to the concept of scheduling premises: that is, if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

⁶ PM10 refers to particulate matter under the size of 10µm

⁷ (from DIIRD, *Victoria Leading the Way*, Economic Statement April 2004)

4.3 Protecting against emissions to air

To protect the Victorian environment against harmful and unhealthy levels of air pollution, the SEPP (the Air Environment) was proclaimed in July 1981, later becoming the SEPP (Air Quality Management). The SEPP (Ambient Air Quality) was proclaimed in February 1999.

The SEPP (Air Quality Management) establishes the framework for managing emissions into the air environment in Victoria from all sources of air pollutants, so that the air quality objectives outlined in the SEPP (Ambient Air Quality) are met and we achieve the cleanest air possible, having regard to the economic and social development of Victoria. It applies the concept of 'continuous improvement' in the management of air emissions.

These SEPPs cover all the major pollutants such as products of combustion (carbon monoxide, sulfur dioxide, oxides of nitrogen and particles) as well as specific pollutants, many of which come from industry. There are 112 of these specific pollutants with appropriate control levels set according to their toxicity or odour or because they accumulate biologically.

Air pollution is generally categorised into ambient pollution (affecting a large number of people) and local pollution where the effects are limited to the area surrounding the source. The air quality objectives in the SEPP (Ambient Air Quality) are used for control of air pollution that spreads over a wide area. The Indicators in the SEPP (Air Quality Management) have local effects, relatively close to the emission source.

The most widespread pollutants in Victoria include:

- carbon monoxide, formed when carbon in fuels is not burned completely. Primary sources in Victoria are motor vehicles and industry (foundries, oil refining, chemical manufacturing, other fuel users). Prolonged exposure can cause tissue damage and is particularly dangerous to people suffering from cardiovascular disease)
- oxides of nitrogen, formed as a by-product in a wide variety of thermal processes. Primary sources are industry (as per carbon monoxide and motor vehicles). Known to affect the throat and the lung, and contribute to photochemical smog
- volatile organic compounds, a grouping of a wide variety of organic chemical compounds, including solvents and petroleum vapours. Primary sources are processes involving solvents, paints or the use of chemicals, petrol refinings and fuel storage. Also contribute to smog formation
- sulfur dioxide, formed from burning of fuels, particularly in coal burning power plants and vehicle exhausts. It is an irritant gas that attacks the throat and lungs and can aggravate asthma
- particulate matter (eg. PM10) can be drawn deeply into the lungs, which can aggravate existing respiratory and cardiovascular disease. Major sources are through combustion and minerals processing, dust and fires, and motor vehicles
- lead, from mining activities due to presence in earth's crust, manufacturing and burning of fossil fuels. Elevated levels of lead can affect the central nervous system, and may impair intellectual development in children
- photochemical smog (mainly ozone), produced photochemically in air by reactions between hydrocarbons and nitrogen oxides. It affects the linings of the throat and lungs, restricting the air passages and makes breathing difficult. It also increases the risk of respiratory infections. Other substances in the smog mix increase the effect of ozone and produce eye irritation.

Some pollutants can interact to form secondary pollutants, commonly known as 'smog'. Smog can aggravate existing respiratory ailments such as asthma and bronchitis, or increase the risk of respiratory problems, particularly on smog days. According to the Asthma Foundation of Victoria, there were approximately 550,000 people receiving treatment for asthma as at December 2005 - although not all asthma sufferers will be affected by emissions to air from high risk premises or activities.

Air pollutants mainly come from the discharges of gases and particles from industry, motor vehicles and domestic wood burning. There are also natural sources such as wind-blown dust and smoke from bush fires. Some forms of air pollution create global problems requiring international solutions, especially upper atmosphere ozone depletion and acid rain. The enhanced greenhouse effect falls into this category.

Victoria has made huge advances in improving ambient air quality over the last 30 years. The removal of lead from petrol caused a dramatic decrease in atmospheric lead levels, while improved vehicle and industrial emissions standards (including the existing scheduled premises regulations) have reduced the other major indicators. These improvements have been made despite increased population density and economic activity.

The SEPP (Ambient Air Quality) sets air quality objectives (Figures 4.1 and 4.2) and goals for the whole State of Victoria. The SEPP adopts the requirements of the National Environment Protection Council (Ambient Air Quality) Measure (NEPM). This NEPM sets standards, goals, monitoring and reporting protocols for six common pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), photochemical oxidants (as ozone), sulfur dioxide (SO₂), lead and particles as PM₁₀. The SEPP also includes a separate objective for visibility reducing particles, which is not included in the NEPM.

EPA continuously monitors ambient air quality at a number of sites across Victoria. The results of this monitoring is available on its website at www.epa.vic.gov.au.

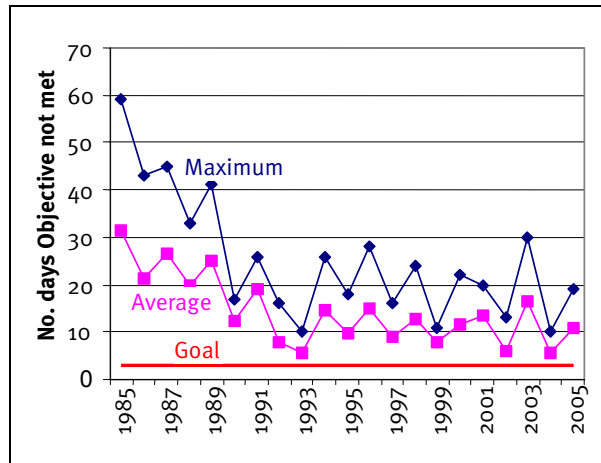


Figure 4.1: Visibility trend in Melbourne

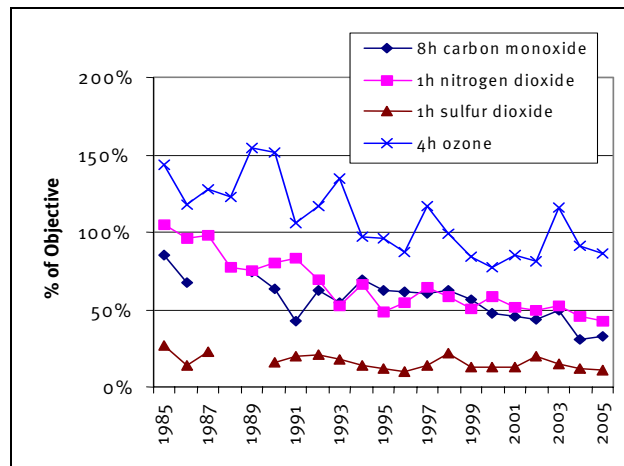


Figure 4.2: Trend of maximum readings

4.3.1 Air toxics

Air Toxics are gaseous, aerosol or particulate pollutants, which are present in the air in relatively low concentrations with characteristics such as toxicity or persistence so as to be a hazard to human, plant or animal life. The SEPP (AQM) categorises air toxics into Class 2 and Class 3 air quality indicators. Class 2 indicators are those substances that are considered to pose a threat to beneficial uses of the air environment by virtue of their toxicity, bio-accumulation or odorous characteristics.

Class 3 indicators are extremely hazardous substances that are known to be carcinogenic, mutagenic, teratogenic, highly toxic or highly persistent. For highly toxic Class 3 indicators, EPA has pursued the implementation of Class 3 action plans for significant sources, to reduce their emissions to the maximum extent achievable, as required by the SEPP (Air Quality Management).

SEPP (Air Quality Management) sets conservative design criteria for air toxics. The licence and works approval system, in particular the General Emissions to Air category, is designed to ensure that significant sources of air toxics must obtain licences and works approval, so as to protect beneficial uses, especially human health. This is consistent with EPA's regulatory focus on potentially high-impact sites. The SEPP introduces the concept of continuous improvement in air emissions, so that as new approaches are developed they are adopted to provide Victorians with the best air quality possible.

Examples of air toxics and their effects^{8,9}:

- Benzene - Benzene is used in the manufacture of a large number of chemicals that contribute to the production of plastics (such as polystyrene) synthetic fibres, detergents, pharmaceuticals, and pesticides. Benzene is also present in petroleum products, including petrol. The critical human health effects from long-term exposure to benzene are bone marrow depression and leukaemia, specifically acute non-lymphocytic leukaemia (also known as acute myeloid leukaemia). Benzene is classified as a known human carcinogen. It is considered to be a genotoxic carcinogen for which no threshold has been established.
- Polycyclic aromatic hydrocarbons - Polycyclic aromatic hydrocarbons (PAHs) are formed by the incomplete combustion of coal, oil, petrol, wood, tobacco, charbroiled meats, garbage, or other organic materials, and in some industrial processes such as foundries and aluminium smelting. One of the complexities in evaluating the health effects of PAHs is that they exist as a mixture of compounds, not as individual compounds. The toxicity of these compounds varies quite markedly, with the most toxic being benzo(a)pyrene (BaP), which is classified as a carcinogen.
- Trichloroethylene - primarily used as a solvent to remove greases from metal parts. Exposure to moderate amounts of trichloroethylene may cause headaches, loss of balance, and tremors. Larger exposures will cause dizziness or sleepiness, and may cause unconsciousness at very high levels. Very large exposures may cause irreversible cardiac problems, nerve and liver damage, and death. It can also damage aquatic ecosystems.
- 1,3-butadiene is a chemical made from the processing of petroleum. Most of the 1,3-Butadiene manufactured is used in the production of synthetic rubber. It is also used in the production of plastics and acrylics. It breaks down rapidly in air but if exposure occurs it can irritate the eyes, nose and throat. Breathing very high levels of 1,3-Butadiene for a short time can cause central nervous system damage, blurred vision, nausea, fatigue, headache, decreased pulse rate and pressure and unconsciousness. Long-term exposures at lower levels have shown increases in heart and lung damage.

The Impact Statement for the National Environment Protection (Air Toxics) Measure included extensive information about the known serious health impacts of air toxics – which in this document are captured under the descriptor General Emissions to Air (specifically Class 2 and 3 air indicators).

When things go wrong: air emissions

In 2005 a small, unlicensed chemical manufacturer, in the course of preparing a formulation, mixed numerous ingredients including nitric acid, ammonium bifluoride, surfactant and glycol. A reaction occurred after placing the formulation into 200L containers.

The pressure generated caused several of the drums to rupture spilling the contents (1600Litres) onto the concrete floor in contact with metal fittings. A brown cloud of Nitrogen dioxide, a poisonous gas, was produced and drifted downwind to adjoining factories.

While nobody was injured, emergency services were hampered by the design of the facility and the lack of readily available information on other chemicals stored in the site and limited access to the spill area. The cost of cleaning up this incident is estimated to be between \$50,000 and \$70,000 from EPA expert assessment.

If the site had been licensed, it is likely that the company would have been required to have a segregated formulations area, coated and sealed against acid attack. It is also likely that the management systems would have been better able to deal with any such incident.

Some types of industrial premises have been scheduled primarily because they could potentially cause hazardous emissions to air if not adequately managed. Examples include: bulk chemical container washing, ceramic works and

⁸ April 2004, National Environment Protection Council

⁹ <http://www.npi.gov.au>

power stations. The additional General Emissions to Air category catches all premises that may emit pollutants that are known to adversely impact on human health and well being. Having a general category based on emissions allows a shorter overall list of scheduled categories while still capturing the largest emitters of these indicators.

4.4 Protecting against contamination of land and waters

Preventing the generation and release of contaminants is critical to reducing environmental risk. Damage to soil and groundwater resources, fragile waterways, estuaries and marine environments can impact on land values and public amenity, as well as the health of people, wildlife and whole ecosystems. Chemical spills, leaks, effluent discharges and landscape disturbances (such as excavation or drainage) impact on soil and water quality. It is important that facilities that deal with materials that may be potentially harmful to the environment are managed so as to minimise spills and leaks, and are designed such that should a leak or spill occur, it is contained in an impervious area allowing clean up.

When things go wrong: impact on downstream industries

In February 2006, the government prohibited all commercial fishing in Port Jackson (Sydney Harbour) and its tributaries until 2011 because elevated levels of dioxin had been detected in finfish and prawns. This has had economic effects on the livelihood of commercial fishers who previously used Sydney Harbour as a fishing ground.

The dioxin contamination in Sydney Harbour is considered primarily to result from the production of herbicides and other chemicals in Rhodes, adjacent to Homebush Bay, and the placement of waste materials at two sites on the Rhodes Peninsula between 1949 and 1976. The cost of remediating Homebush Bay and adjacent land is estimated to be \$120 million¹⁰.

Contamination of land can also become an environmental legacy issue, as evidenced by the cost of clean up of contaminated sites. Land contaminated by former waste disposal, industrial and similar activities is frequently discovered during changes to land use - for example, from industrial to residential use. Contamination can spread, affecting other areas, water resources and dependent biota.

When things go wrong: former dry cleaner

Groundwater beneath a near-completed block of apartments was found to be contaminated with dry cleaning solvents. The most likely source of the contamination was an adjoining site that had previously been occupied by a dry cleaning business (although the apartment site might have also housed a dry cleaner for a short time in its history). There were still residual dry cleaning solvents stored in underground tanks at the neighbouring site at the time that the groundwater contamination was discovered. The groundwater beneath the adjoining site was also contaminated.

Clean up costs for the apartment site were estimated to be between \$5 million and \$10 million based on EPA expert assessment. Market value of the apartment complex was estimated at approximately \$15 million. .

In the three years after the contamination was discovered, the developer incurred substantial holding costs, costs associated with complying with EPA clean up notices and with the development of plans for remediation. The legal costs for the several parties were believed to be in the order of \$10 million or more.

The cost to EPA of attempting to resolve the issue was estimated to be in excess of \$100,000.

Contamination of land can reduce land value and restrict the suitability of the land for more sensitive land uses. Remediation may be required to make the land suitable for its proposed use, a process that is often expensive and can take many years from initial investigation to final validation. Preventing contamination is generally cheaper and easier than remediation (see section 7 for more information on cost of site cleanup).

The generation of waste also has the potential to cause environmental impacts. These impacts include the pollution of air and water, contamination of land, and the need to provide land for landfill sites. High levels of waste reflect unsustainable patterns of resource use, particularly for the finite natural resources that are not recovered for recycling - and this includes the energy, process water and other resources used to manufacture the products being disposed of. Australia is the fifth-highest waste generator, on a per capita basis, among the OECD countries, surpassed only by Norway, Iceland, Ireland and the United States (OECD 2005).

¹⁰ *The 2006 State of the Environment Report*, Australian Government

Industrial premises that have the potential to cause contamination to land and/or waters if not adequately managed include: large sewerage plants, landfills, extractive industry and mining, chemical works, bulk storage, textiles, refineries and petrol stations.

4.5 Environmental risk

While the Act, SEPPs and WMPs set out the environmental requirements that all businesses (indeed all Victorians) must comply with, EPA recognises that not everyone will be compliant all of the time. It is reasonable to expect a normal distribution curve of compliance with a few non-compliant, the majority compliant, and a few environmentally progressive businesses who have internalised their environmental risks and moved 'beyond compliance'.

Why the need for EPA intervention to address environmental risk?

Governments generally only intervene in markets where market failures are prevalent. Externalities are one form of market failure and exist in situations where an activity imposes costs that affect somebody other than the people engaged in the economic activity and are not reflected fully in prices.

Pollution (which includes discharges and the broad category of emissions) is the most commonly cited example of a negative externality. Additional regulatory intervention by EPA, in terms of licensing and works approval, is justified on the basis that in the absence of a scheduled premises framework, market drivers alone are unlikely to deliver the best environmental or economic outcomes for Victorians.

Significant environmental risk can be due to premises not being aware of, or fully costing, environmental risks, choosing to ignore those risks, or choosing to operate at a higher level of risk than the broader community will accept. In these cases, it is appropriate that the society that supports those premises has input into how much risk it is allowed to present, through its independent regulator.

EPA intervention also has a number of other advantages for business. As part of the consultation process for the RIS, EPA conducted a survey covering a wide cross-section of businesses as well as representing all seven EPA regions. It identified benefits, which included providing a social licence to operate, and providing a level playing field amongst participants operating in the same sector. These benefits are further explored in section 7.1.3.

Identifying those industries that present a significant risk

EPA has reviewed the 1996 regulations. This began with a review of the scheduled premises framework, including an assessment of whether the current list of prescribed activities remains appropriate (see Figure 4.3). Specifically this review considered:

- Is the system still appropriate?
- Is a better system available to achieve the same objectives?
- What activities should no longer be subject to EPA licensing and/or works approval?
- What new activities should be required to be licensed and/or be subject to works approvals?
- What changes should be made, if any, to those categories of scheduled premises currently subject to EPA licensing and/or works approval?

The review also identified areas where the system could be improved, many of which were incorporated into the recent *Environment Protection Amendment Act 2006*. Two major outcomes included:

1. Combining six categories of scheduled premises in to 1
2. Enabling companies with multiple scheduled premises to hold one amalgamated licence, rather than separate licences for each premises (as of 1 July 2007).

The environmental risk posed by existing and emerging activities were assessed in terms of the capacity for a discharge or activity to damage ecosystems, affect human health or amenity, or reduce the value of a resource. Factors considered in an environmental risk assessment included the toxicity and volume of emissions or discharges from a sector, and whether those emissions are continuous or intermittent, the potential for odorous emissions and noise that might impact on the local community, the volume and hazard level of waste generated, and the nature of the materials handled on site (refer to section 4 for more information).

Management systems also played a key role in the risk assessment. Robust systems, for example around leak detection and repair, can have a large influence on emissions and the likelihood of incidents. To evaluate

environmental risk, EPA used appropriate environmental risk assessment methodologies. Risk assessments were carried out by experienced EPA Regional Services staff who have direct experience or interaction with the industry in question. A central team of experienced Regional Services staff then reviewed the preliminary assessments for consistency.

Any assumptions that were used to arrive at this risk analysis were tested in consultation with the relevant industries. The entire process relied heavily on EPA experience and expertise.

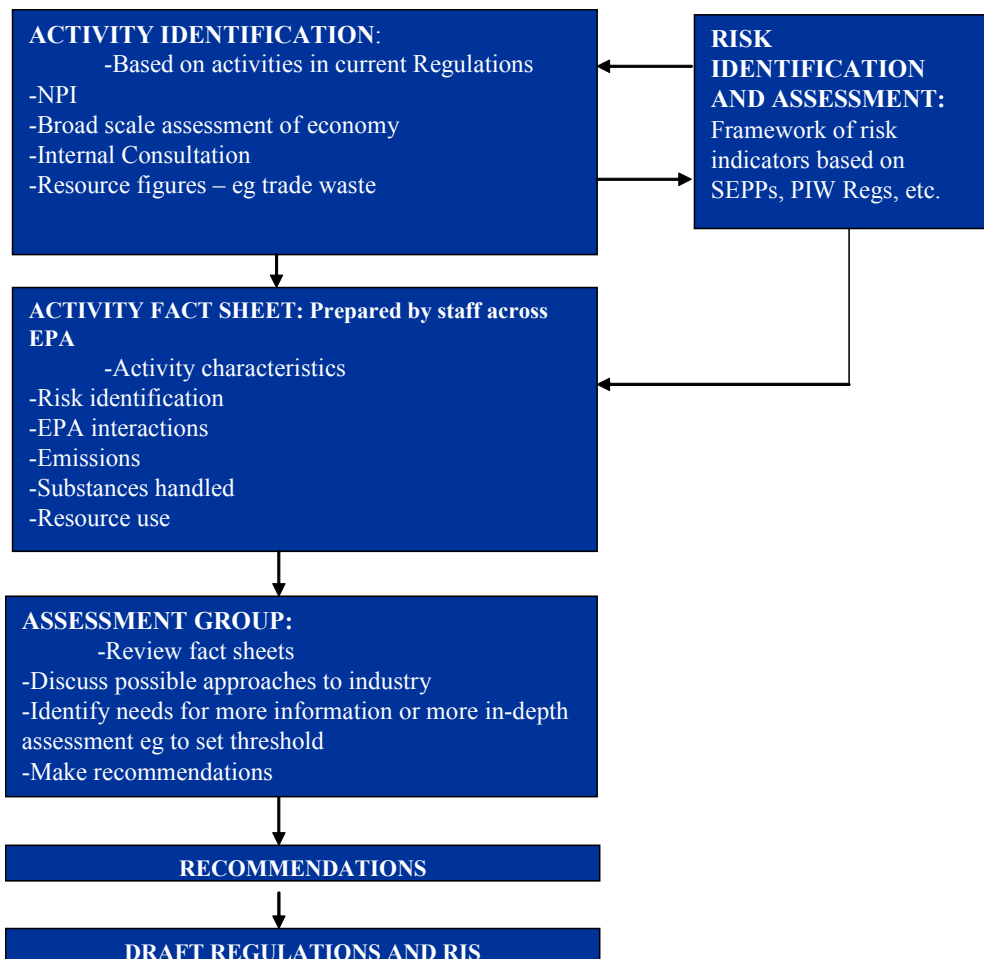


Figure 4.3: EPA review process

Source: EPA

To identify activities considered to pose a significant environmental risk, an assessment was made between the likelihood of an adverse outcome and the consequence if that adverse outcome were to occur. This process can be used to identify the different risks within the one activity, for example an activity that poses both a water discharge problem and an air emission problem. Assessing the likelihood of an adverse outcome involves an objective assessment based on a combination of:

- the historical compliance of an activity with their environmental requirements (e.g., measured by the number of PINs and PANs issued (Table 3.3))
- the nature of the industry including whether discharges are routine or generally as a result of an incident
- an assessment and understanding of an activity's environmental controls and procedures
- EPA experience in dealing with the industry sector.

Identifying the consequences of an outcome involves an assessment of routine and emergency discharges including the nature of the impacts of both of these. This may be based on historical incidents at similar facilities, data on emission, and EPA experience of a sector's effects on neighbours, among other factors.

Figure 4.4 shows that there are multiple combinations of 'likelihood' and 'consequence' that will result in a significant or high-risk assessment. EPA has made an assessment of the activities in Victoria that fall within the high and medium-risk area of the environmental risk matrix. Once an activity is identified as posing a medium or high environmental risk EPA can determine the appropriate way to manage the risk posed. Table 4-1 outlines EPA's assessment of risk for each scheduled activity. Appendix B provides a more detailed description of the types of risk posed by the different industry sectors.

		Consequences			
		Minor	Moderate		Major
Likelihood	Almost Certain	Medium	Medium	High	High
	Likely	Medium	Medium	High	High
	Moderate	Low	Medium	Medium	High
	Unlikely	Low	Low	Medium	High
	Rare	Low	Low	Medium	High

Figure 4.4: Risk matrix

Source: Adaptation from Standards Australia HB 203:2006

The risk assessment as discussed above is a function of likelihood and consequence. The relative weighting of likelihood and consequence is complex and determined on a case-by-case basis. For example, there are some activities where the consequence of any incident is so inherently hazardous that they are likely to always be scheduled.

The following case studies show how the risk level is determined for three industries. EPA adopts a similar approach for the overall risk assessment of all activities shown in Table 4-1.

Case study 1: Chemical works – high risk

This category includes premises where a chemical process is used to produce a broad range of products such as polymers, paints and dyes, fertilisers, herbicides and pesticides, water treatment chemicals, and resins. Premises in this category also produce chemical feedstocks for other processes such as styrene for polystyrene, phenols for phenolic resins, and olefins for plastics and rubber. The chemical industry accounted for 37% of Australia's overall manufacturing industry value added in 2000-01.¹¹

Chemical works are currently a scheduled activity requiring works approval and licensing under the 1996 regulations. There are 44 licensed sites in this category ranging in size from very large plastics plants producing hundreds of thousands of tonnes of product per year to paint pigment manufacturers producing a few thousand.

All current licensed sites have emissions to air, with the substances varying from site to site. A large proportion of these premises emit class 3 air indicators like benzene (more than 7,000kg 2005-06¹²), butadiene (14,000kg), and Acrylonitrile (220kg). They also produce a large proportion of the prescribed waste in Victoria.

Consequence

This industry handles very hazardous materials with the potential for major consequences should an incident occur. These could include explosions and fires, toxic vapour clouds, and contamination of land and groundwater. For example, an incident at a biodiesel manufacturer resulted in a large area being sprayed with a highly caustic solution, damaging equipment and cars and resulting in at least one hospitalisation. In general, routine emissions from these sites are variable but they can be significant. The average consequence is therefore moderate to major.

¹¹ 2005, *Year Book Australia - Manufacturing Structure and Performance of the Manufacturing Industry*, Australian Bureau of Statistics Publication 1301.0 - 2005.

¹² As reported to NPI database, www.npi.gov.au.

Likelihood

This industry sector generally has good management systems in place in both the design and construction phases. Six PINs have been issued to this category since 2001, two for direct discharge of waste to waterways, and four for breaching licence conditions. Two sites in this category have been prosecuted in the last five years, one for offensive odours, and the other for the discharge of biodiesel referred to above. 455 pollution reports were made against this category in the same time period. There are a large number of operators of varying sizes. These sites also have routine emissions of hazardous materials that must be managed, therefore the average likelihood is moderate to likely.

Generally, incidents at smaller premises will have smaller consequence, but a higher frequency of occurrence. Given this, and the inherent consequences of an incident, the industry sector has been given a high risk ranking.

Case study 2: Composting – medium to high risk

Commercial scale composting in Victoria uses mainly green waste from council/residential collection services, agricultural waste, vegetable and fruit waste from supermarkets, sawdust and biosolids. Many compost facilities also receive organic prescribed industrial waste including grease trap waste, wool scouring waste, and food processing effluent, usually under a prescribed waste exemption for reuse. These sites enable diversion of organic waste from landfill to beneficial use.

The industry is slowly expanding as green waste collection and diversion of organic matter increases. EPA assessment indicates that it is generally only marginally profitable, which may encourage some sites to cut corners in environment protection. These sites can cause issues for the industry in terms of industry acceptability and product acceptance in the market.

These sites require works approval before being set up, but not an on-going licence. Two are currently licensed for receiving prescribed waste.

Consequence

Air emissions from this industry can be highly odorous should the composting be allowed to become anaerobic, reducing local amenity. Several compost fires have occurred in recent years with smoke and ash impacting on nearby residents causing breathing difficulties. Discharges to water are not a normal occurrence as these sites are net water users, however water discharges can occur and be high in biochemical oxygen demand (BOD), and suspended solids, harming aquatic life. This category has been given a moderate consequence rating.

Likelihood

Nine PANs have been issued to this industry in the last five years, a significant number in a population of 13. Environmental management is highly variable, though the industry is working pro-actively to improve. Given the variability of environmental management at these sites, they have been given an overall risk rating of medium to high.

Case study 3: Bulk storage – medium risk

The bulk storage industry is responsible for the storage and handling of bulk amounts of liquid. Bulk storage terminals located at ports, such as Coode Island, store bulk raw materials for the local chemical industry. The materials are imported by ship and delivered into bulk storage tanks at the terminal, that are then transported by road tankers to the chemical plants. These sites also store bulk petroleum products.

Bulk Storage is currently a scheduled activity requiring works approval and licensing under the existing 1996 regulations, with 14 licensed premises.

Consequence

This category includes premises that store raw materials or products of chemical works, and therefore have a similar consequence profile. They are defined as major hazard facilities under WorkSafe legislation. A review of this industry sector identifies potential significant environmental issues, including air emissions, stormwater, land and groundwater contamination. These air emissions have been assessed as being of moderate consequence, while land and groundwater contamination is of major consequence.

Likelihood

The review of this industry sector identified operations have resulted in four PINs being issued between 2001 and 2006 for pollution of the environment, two premises were also prosecuted in that time for spills to water resulting in pollution. 80 pollution reports were recorded in the same time period for this category.

In general, these sites are robustly designed and have good environmental management systems that reduce both the likelihood and consequence of an incident. There are also only a small number of bulk storage facilities and they are jointly managed by EPA and Worksafe. These combine to give a low likelihood.

Given the active nature of the management tools and the high consequence of impact, this sector has been given an overall medium risk ranking and active management by EPA is considered necessary.

Case study 4: Small wastewater treatment plants (WWTPs) – low risk

WWTP can vary in size from 5000L/day up to many megalitres. 'Small' WWTP have been defined as having a discharge of less than 100,000L/day. This category includes a wide variety of hospitality and accommodation sites (including caravan parks) and camping sites where a system is in place to treat wastewater before disposal, either to water or land.

WWTPs are currently scheduled under the 1996 regulations and require a works approval and licence where the discharge is above 5000L/day. Below this level they are defined as septic tanks and a council approval is required. 268 WWTP are classified as small, and of these about 163 discharge to land only. These sites are generally not run by wastewater engineers, and the level of technical knowledge is generally low.

Consequence

The consequence of a discharge from a small WWTP where that discharge is to land are very minimal. Should the discharge reach a receiving waterway directly or through groundwater, the consequences could be more serious, with high BOD loads harming aquatic life, nutrients causing algal blooms, and micro-organisms that could cause illness with human contact.

Likelihood

Although environmental management at these sites is not generally of a high standard, EPA has estimated that of the 168 small WWTP discharging to land, only about five cause any significant issues that require on-going management.

Given the above, this industry is given an overall low risk ranking, with alternative tools being available to deal with exceptional cases. A guideline is proposed to improve knowledge in the industry.

Table 4.2 discusses the broad nature of potential sources of risk that might cause adverse impacts on local amenity, human health and well-being or the environment for the various industry segments included in the proposed regulations. This table also includes instances where EPA has issued PINs and PANs over the past five years to scheduled premises. For a more detailed assessment of each industry segment (A01 to L04), refer to Appendix D.

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 – REGULATORY IMPACT STATEMENT

Table 4.2: Industry sectors for incorporation in the proposed regulations

General industry classification	Nature of risks	Industry segments	Historical enforcement (past five years)	Overall risk assessment
A. Waste treatment, disposal and recycling	Concerned with the appropriate management of industrial and municipal wastes that might be stored, treated, reprocessed (eg. for recycling or energy recovery), contained and/or disposed of. Significant potential for land, stormwater, surface water and groundwater contamination. Also issues with noise, dust, odour and litter.	A01 - PIW management	14 PINs to PIW management facilities	High
		A02 - Treatment prior to disposal		Med. To High
		A03 - Sewage treatment plants	12 PINs to sewage treatment plants	Med. to High
		A04 - Wastewater treatment plants	2 PINs to waste treatment plants	Med. to High
		A05 - Landfills	38 PINs to landfills	Med. to High
		A06 - Land disposal facilities		Med. to High
		A07 - Composting	13 PANs to composting businesses	Med. to High
		A08 - Waste to energy		Med. to High
B. Primary industry and allied operations	Concerned with the appropriate management of nutrient-rich wastewaters. Also issues with offensive odours.	B01 - Intensive animal industry		Med. to High
		B02 - Intensive bird industry	1 PAN to a chicken farm	Medium
		B03 - Livestock saleyards		Low to Med.
		B04 - Fish Farms		Medium
C. Mining	Depending on the type of mining operation, concerned with the appropriate management of topsoil and vegetation removal, disturbance of large areas of land, contaminated stormwater run-off, noise and dust generation.	C01 - Extractive industry and mining		Medium
D. Animal-derived products and food	Concerned with the management of large volumes of wastewater (potentially contaminated with TDS, nutrients, BOD, high pH). Where there are significant emissions to air, concerned mainly with NOx. Also issues with offensive odours and noise.	D01 - Abattoirs	1 PIN and 5 PANs to abattoirs	Medium
		D02 - Rendering	8 PINs to rendering facilities	High
		D03 - Animal skin tanning	2 PANs and 1 prosecution for noise	High
		D04 - Seafood processing		Low to Med.
		D05 - Pet food processing		Medium
		D06 - Food processing works		Medium

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

General industry classification	Nature of risks	Industry segments	Historical enforcement (past five years)	Overall risk assessment
		D07 - Milk processing	1 PIN to a milk processor	Medium
		D08 - Edible oil	2 PINs to edible oil manufacturers	High
		D09 - Beverage manufacturing		Low to Med.
E. Textiles	Concerned with offensive odours and particulate fallout from air emissions. Wastewaters can be high in COD, chemicals and TDS.	E01 - Textiles	1 PIN to a textile manufacturer	Low to Med.
F. Wood and wood derivatives	Significant potential for toxic emissions to air, land and water. Air emissions may contain products of combustion, NO _x , SO _x and particulates. Wastewater may contain dyes, tannins, particulates and toxins such as dioxins, furans, and arsenic depending on the nature of the operation. Also issues with offensive odour and noise.	F01 - Timber preserving works	4 PANs to timber preserving works.	Med. to High
		F02 - Fibreboard		High
		F03 - Paper pulp mills	3 PANs to paper pulp mills.	High
G. Chemicals including petroleum	Significant potential for air emissions that may contribute to production of photochemical smog. Concerned with the appropriate management of wastewater that may contain hydrocarbons. Also issues with offensive odour, fumes and noise. Some sites represent a significant fire risk.	G01 - Chemical works	6 PINs to chemical works	High
		G02 - Coal processing		High
		G03 - Oil and gas refining	32 PINs to oil and gas refineries	High
		G04 - Bulk storage	4 PINs to bulk storage facilities	Medium
		G05 - Container washing	2 PANs to container washing sites	High
H. Non-metallic minerals	Significant potential for air emissions which, depending on the nature of the operation, may contain products of combustion, particulates, fluoride, hydrocarbons, ammonia, phenol or formaldehyde. Potential for contaminated stormwater. Also issues with dust, offensive odours and noise.	H01 - Cement works		Medium
		H02 - Bitumen (asphalt) batching works	3 PANs to asphalt batching works	Low to Med.
		H03 - Ceramic works	1 PIN to a ceramic works	Low to Med.
		H04 - Mineral wool		Medium
		H05 - Glass works		Med. to High

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 – REGULATORY IMPACT STATEMENT

General industry classification	Nature of risks	Industry segments	Historical enforcement (past five years)	Overall risk assessment
I. Metals and engineering	<p>Concerned with the appropriate management of air emissions which, depending on the nature of the operation, may contain acidic gases, fluorides, NO_x, SO_x, carbon monoxide, VOCs and particulates.</p> <p>Concerned with the appropriate management of wastewater contamination that might include heavy metals, acids and alkalis. Also, depending on the operation, significant production of waste solvents.</p> <p>Also issues with dust, fumes and offensive odour.</p>	I01 - Primary metallurgical works		Med. to High
		I02 - Metal melting works	5 PINs to metal melting works	Med. to High
		I03 - Metal galvanising	1 PIN to a metal galvanising plant	Medium
		I04 - Metal finishing works		Med. to High
		I05 - Can and drum coating works	1 PIN to a can and drum coating works	Medium
		I06 - Vehicle assembly works		Medium
J. Printing	Significant potential for VOC emissions that can contribute to offensive odours and the production of photochemical smog.	J01 - Printing works	3 PANs to printing works	Low to Med.
K. Utilities	<p>As a result of fuel burning at power stations, significant potential for very high air emissions of products of combustion and CO₂. Also high volumes of solid waste.</p> <p>Concerned with the appropriate management of sludges and brines from potable water treatment plants that concentrate heavy metals and other toxins.</p> <p>Also concerned with noise.</p>	K01 - Power stations	1 PIN to a power station.	Low to Med.
		K02 - Carbon geosequestration		Medium
		K03 - Potable water treatment plants		Low to Med.
L. Other	<p>Concerned with the appropriate management of emissions to air that might be high in the products of combustion, VOCs and compounds that contribute to the production of photochemical smog.</p> <p>Tunnel ventilation systems have the potential to generate contaminated air emissions and noise.</p> <p>Concerned with the appropriate management of contaminated sites to ensure limited ongoing damage to soil, surface water and groundwater.</p>	L01 - General emissions to air	14 PINs	Medium
		L02 - Contaminated sites - onsite soil contamination		Medium
		L03 - Tunnel ventilation systems		Medium
		L04 - Contaminated sites - long term management		Low to Med.

4.6 Proposed approach for ongoing management of environmental risk

As a consequence of EPA's:

- review of the 1996 regulations
- review of historical compliance
- application of the risk assessment methodology.

EPA has determined that the environmental risks presented by some industry sectors are sufficiently high to warrant licensing and/or works approval.

5 OBJECTIVES

Section 13(d) of the Act states that one of the powers, duties and functions of the Authority is to issue works approvals and licences to control the environmental impacts of certain activities and to control waste discharges or emissions. The proposed regulations contribute to achieving this by defining the appropriate population for these tools, having regard to the Principles of Environment Protection set out in section 1 of the Act.

In this RIS, the proposed regulations and alternatives are assessed against the objectives of the broader environmental framework. They reflect the intent of the Act, as specified in the *Principle of Integration of Economic, Social and Environmental Considerations*, which states the need for:

'effective integration of economic, social and environmental considerations in decision making processes with the need to improve community well-being and the benefit of future generations'¹³.

As such, the objectives of the broad environmental framework are to:

- ensure optimal environmental outcomes
- increase economic efficiency - which encompasses administrative efficiency
- address social considerations - refers to aspects including community confidence, right to know, good community relations and participation.

The proposed regulations aim to achieve these objectives by:

- prescribing premises as scheduled premises for the purpose of the Act
- specifying scheduled premises in respect of which the Authority may require a financial assurance
- specifying scheduled premises in respect of which the Landfill levy is payable
- specifying scheduled premises in respect of which the environment protection levy is payable
- providing possible exemptions from provisions of the Act
- making consequential amendment to the fees regulations.

This ensures that those premises that are identified as a significant environmental risk are included in the works approval and licensing system so as to ensure that the environmental impacts of waste discharges are controlled. The proposed regulations are also designed to recover EPA costs associated with managing the licensing system and works approval applications.

¹³ *Principle of Integration of Economic, Social and Environmental Considerations*, Section 1B (2)

6 NATURE OF THE PROPOSED MEASURE

6.1 Part 1 - Preliminary (Regulations 1-5)

Regulations 1–5 of the proposed regulations detail the objectives; the authorising provision in the Act; and define key terms. They assist in the interpretation of the proposed regulations and as such impose no material burden on any particular group. The specifics of each regulation are explained below.

Regulation (1) - Objectives

This regulation lists the objectives of the proposed regulations. The objectives of the proposed regulations are to:

- prescribe premises as scheduled premises for the purpose of the Act
- specify scheduled premises in respect of which EPA may require a financial assurance
- specify scheduled premises in respect of which the Landfill levy is payable
- specify scheduled premises in respect of which the environment protection levy is payable
- provide for exemptions from provisions of the Act
- make consequential amendments to the *Environment Protection (Fees) Regulations 2001* (the fees regulations).

Regulation (2) - Authorising Provision

This regulation defines the specific section of the Act under which the proposed regulations are made. It assists in the interpretation of the proposed regulations and identifies where they draw their power from. The authorising provision is section 71 of the Act.

Regulation (3) - Commencement and Regulation (4) - Revocation

This regulation simply outlines that the proposed regulations will replace the 1996 regulations on 1 July 2007.

Regulation (5) - Definitions

The proposed regulations contain a number of definitions beyond those contained in the Act. These definitions assist in the interpretation of the proposed regulations.

6.2 Part 2 - Scheduled Premises (Regulations 6-7)

Part 2 of the proposed regulations prescribes what activities are classified as Scheduled Premises for the purposes of the Act.

Regulation (6) - Scheduled Premises

Regulation 6 refers the reader to column 2 of the Table in Schedule 1 of the proposed regulations.

The industry activities in this Table have been included on the basis of EPA's recent review of the 1996 regulations and its ongoing risk assessments. Most of these industry activities are already scheduled premises under the 1996 regulations. Some industry activities previously included in the 1996 regulations have been removed while some industry activities are new to the proposed regulations. Moreover, there have been new thresholds proposed for some existing activities and introduced for new activities.

How thresholds are determined.

Most industry sectors contain businesses of varying sizes, often with different environmental risk profiles. For example, larger sites generally present broader risk profiles. For the proposed regulations, thresholds are selected, above which a licence or works approval might be required. These thresholds must be appropriate to ensure that all of the significant risks are captured, and be based on metrics that are meaningful for each scheduled industry. These thresholds have usually been set by EPA in consultation with industry.

The appropriate metric must be a meaningful proxy for the environmental risk that any particular industry sector presents. It must also be readily measurable. For example, a chemical plant is generally designed to produce a certain amount of product, and cannot produce more without being modified. This 'design capacity' is easy to measure and is

generally a reliable proxy for the physical size of the plant. For bulk storage, the risk is determined by how much material is stored on site; for poultry farms, by the number of birds. Both are easily measured and considered to be reliable proxies.

Some industry sectors, for example oil and gas refining and carbon capture and storage, have economies of scale associated with them that mean that any plant that is economically viable would of be such a significant size that a threshold is not necessary.

As a further example, in the compost industry, some sites process waste continuously while others operate periodically. The threshold used is designed to capture all major sites, including those that may only accept one or two large loads and then take a month to process them. It is also based on waste accepted rather than compost produced as this is usually more accurately monitored by the occupier and can be more easily checked through checking contracts and monitoring truck movements.

Table 6-1 indicates the major changes between the proposed regulations and 1996 regulations, a complete summary of all proposed scheduled activities is included in Appendix A.

Table 6.1: Major changes to scheduled premises in the proposed regulations, compared with the 1996 regulations

Table entry (industry)	Overall risk assessment	Change from the 1996 regulations	Rationale for change
A03. Sewage treatment plants	Med. to High (Low for small sites discharging to land)	Exemptions proposed for small premises discharging waste solely to land in accordance with guidance.	Smaller sewage treatment plants (below a flow rate of 5000 litres a day) assessed as low risk. Discharging treated waste to land has a lower risk than discharge to waterways.
A04. Industrial wastewater treatment plants	Med. to High	A new category separating treatment of industrial wastewater not generated at the premises from domestic wastewater treatment.	Separated as the exemption for small wastewater treatment plants is not intended to apply to industrial situations.
A07. Composting	Med. to High	Works approval and licences proposed for all facilities processing more than 100 tonnes of waste a month.	A rapidly expanding sector that has attracted a relatively high number of PANs recently. Industry leaders have sought the introduction of these regulations to improve overall industry performance.
A08. Waste to energy	Med. to High	A new category that captures facilities that recover energy from waste at a rated capacity of at least 1 megawatt.	Assessed as medium-high risk based on need to manage pollutants (e.g. products of combustion, smoke, other potentially toxic compounds) in air emissions. The proposed thresholds are consistent with the existing thresholds for coal or gas fired electrical power stations.
BO2. Intensive bird industries	Medium	A new category that captures poultry farms designed to hold 320,000 or more birds. A works approval is proposed.	The threshold is identified in the broiler industry code as a facility size where an environmental risk assessment is required. Works approval process will assist in designing the site to minimise off-site noise and odour issues.

Table entry (industry)	Overall risk assessment	Change from the 1996 regulations	Rationale for change
D01. Abattoirs	Medium	Exemption from licensing proposed for facilities that discharge less than 100,000 litres per day of waste solely to land.	Discharging treated waste to land has a lower risk than discharge to waterways. Sites would be required to present evidence that there was no potential for discharge to reach surface or groundwater.
D03. Animal skin tanning	High	A proposed revision of the industry definition to focus on “tanning” operations.	Tanning and re-tanning processes are the stages of highest environmental concern within the animal skin tanning industry; particularly where there is the potential for odorous emissions or waste containing high levels of chromium VI.
D08. Edible oil	High	A higher size threshold than the 1996 regulations is proposed.	The increase in threshold removes the need for licensing and works approval from sites that historically have represented minimal environmental concern.
E01. Textiles	Low to Med.	The requirement for works approval is unchanged. All sites, except those that engage in textile finishing using chemical treatment are exempt from licensing.	The finishing (using chemical treatment) process was identified as the source of most environmental issues from this industry.
F03. Paper pulp mills	High	Licence exemptions introduced for premises producing less than 30,000 tonnes of pulp, paper or cardboard.	The threshold was selected to capture only major facilities in the industry that represent a significant environmental risk.
G04. Bulk storage	Medium	An amended definition is proposed to clarify which bulk storage facilities should be scheduled premises.	Focused on the storage of compounds with a high degree of environmental risk.
G05. Container washing	High	A new category that captures facilities intended to wash or clean containers that have contained any PIW or material defined as a dangerous good.	Assessed as high risk given the potential to generate very complex air emissions. EPA is also concerned at the relatively low level of attention paid to environmental management at these sites.
J01. Printing works	Low to Med.	A new blanket threshold for licence exemption (at less than 100kg/day of VOC) is proposed to replace the former exemption for a specific type of printing technology. All sites previously exempt from licence are expected to remain so.	The threshold is consistent with SEPP (Air Quality Management) requirements and provides an incentive for all printing works to reduce emissions below the threshold levels.

Table entry (industry)	Overall risk assessment	Change from the 1996 regulations	Rationale for change
K01. Power stations	Low to Med.	All power stations producing at least 5 megawatts of electrical power are proposed as scheduled premises, however, licence exemptions proposed for small gas-fired power stations.	Fossil fuel burning power stations are assessed as medium to high risk. However, smaller facilities (particularly those burning natural gas) pose less environmental risk due to their small and consistent emission levels.
K02. Carbon geosequestration	Medium	A new category pre-empting the introduction of new technology for the capture, separation or storage of waste carbon dioxide.	Introducing this category responds to a high level of community concern that new technologies adopted are effective and stable. This is an emerging statutory area currently lacking a comprehensive legislative framework. This will provide a starting framework for government approval of these premises. This will be reviewed as the legislative framework develops. (see appendix D.14 for further discussion).
L01. General emissions to air	Medium	An amended definition is proposed to ensure premises emitting hazardous materials to air are identified as scheduled premises (if not included elsewhere in the table) and required to manage their emissions appropriately.	The proposed definition is simpler and includes additional class 3 indicators in the SEPP (Air Quality Management).
L02. Contaminated sites - onsite soil containment	Medium	A new category that captures situations where an on-site landfill like cell is used to retain contaminated soil - generally prior to redevelopment of a site. Sites will only require a works approval.	A threshold of 1000m ³ is set. This is approximately equivalent to the clean up of a medium to large service station site, which is assessed as having medium-high risk and high levels of community concern, particularly where a site is to be reused.
L03. Tunnel ventilation systems	Medium	A new category that captures the ventilation systems used for road transport infrastructure tunnels is proposed. Sites will only require a works approval.	Road tunnel ventilation systems are assessed as having medium to high risk, particularly with regard to air emissions. EPA is concerned that emissions to air are compliant with the SEPP (Air Quality Management).
L04. Contaminated sites - long term management	Low to Med.	A new category that focuses on the long-term management of contaminated sites, particularly where groundwater contamination is possible. Sites will be exempt from works approval and licensing, but will require financial assurance.	The nature of the risk is variable depending on the size of the site and level of contamination. Decisions on the requirement for and level of financial assurance will be determined on a case-by-case basis. This category is designed to ensure that appropriate management systems are in place prior to divestment of a contaminated site.

Table entry (industry)	Overall risk assessment	Change from the 1996 regulations	Rationale for change
Concrete batching plants	Low	It is proposed that this category be removed.	These sites have always been exempt from licensing. In recent years the industry has developed standard designs and codes of practice reducing the need for the works approval system. EPA will continue to monitor this industry and will use its statutory tools on a site-specific basis as appropriate.
Specific on-site waste treatment	Low	It is proposed that this category be removed.	The materials listed in this category are also regulated through other mechanisms eg. removing this category will eliminate regulatory overlap.

The minimisation and management of environmental risk is the driving philosophy underpinning the scheduled premises system. EPA adopts a *Precautionary Scale* when considering the level of regulatory burden on an industry activity. For example:

- only those premises with high potential for significant environmental impact are identified in the proposed regulations as requiring both a works approval and licensing
- as overall environmental management improves and environmental risk decreases, so too does the level of EPA regulation at the premises to manage and minimise risk. For example, these premises may be exempt from licensing, but maintain the requirement for works approval
- where industries demonstrate high levels of environmental management and low levels of environmental risk, these activities may also be exempt from works approval. These sites would no longer be scheduled premises, but remain subject to the ongoing monitoring undertaken by EPA for all sites
- EPA requires financial assurances from landfills and any sites which accept any prescribed waste for the purposes of reprocessing, treatment, storage or disposal; or which generate and then reprocess, treat, store or dispose of certain wastes. In handling, prescribed waste historical assessment and EPA experience indicates that there is increased risk of contamination in the future. Financial assurance provides a guarantee that the cost of disposal of stockpiled waste, costs of remediation, site closure and post-closure liabilities are not borne by the community in the event of the occupier of the premises abandoning the site, becoming insolvent, or incurring clean-up costs beyond their financial capacity.

Regulation (7) - How is Conflict Resolved if Premises Meet More than One Description

Some activities will fall into multiple scheduled premises definitions outlined in regulation 5. A problem arises when a scheduled premises is exempt from the requirements under one definition but not another.

This regulation outlines how this type of problem is resolved. Regulation 6 states that if a “*premises is exempt in relation to one description but not in relation to one or more of the other descriptions, the exemption in relation to the first description does not apply to the premises*”. A discussion of the exemption provisions contained within the Act and the proposed regulation is contained in Section 1.20.

6.3 Part 3 - General Exemptions (Regulations 8-12)

Part 3 of the proposed regulations outlines the general exemptions available to premises, and is designed to allow the system to focus on significant issues, specifically those activities with a high risk potential of causing environmental damage. Exemptions are provided that apply to noise, air, land or water and wastes.

Regulation (8) - General

This Regulation outlines where a scheduled premises may be exempted from the requirements of sections 19A and 20(1) of the Act, the requirement to obtain a works approval or have a licence, respectively.

The exemption may exist if it is either:

- described in Column 3 of the Table in Schedule 1 of the proposed regulations
- or
- described in Regulations 9 to 12 (which are detailed below).

Most of the exemptions in Column 3 of the Table in Schedule 1 suggest that scheduled premises be exempt from licensing, but still require works approval. This step-down approach is consistent with EPA's *Precautionary Plan* described above.

Other exemptions in Column 3 of the Table in Schedule 1 are threshold exemptions, identifying activities that present a lower environmental risk. For example, within 'Landfills' small municipal landfills that serve populations of less than 500 people are exempt from works approval and licensing, whereas medium-sized facilities serving populations of less than 5,000 people are exempt from licensing but must obtain a works approval. These thresholds have been determined by EPA expert opinion in consultation with peak industry bodies and industry representatives.

A third type of exemption in Column 3 of the Table in Schedule 1 is where the activities of an industry type are covered by other legislation/regulations. For example within 'extractive industry and mining' there are instances where compliance with the *Extractive Industries Development Act 1995* or the *Mineral Resources Sustainable Development Act 1990* are exempt from works approval and licensing. This type of exemption is designed to minimise the duplication of regulatory burden on particular industries.

Regulation (9) – Noise

The noise exemption provisions are the only exemption provisions (across regulations 8 to 11 covering noise, air, land or water and wastes) that have materially changed from the 1996 regulations. As a result, a more detailed discussion of the noise exemption is included below.

The 1996 regulations provide an exemption from works approvals with respect to activities at premises that have a fixed plant total capacity of less than 200 kilowatts (KW) of mechanical power. During the development of the proposed regulations, EPA conducted a review of this exemption provision and found the existing noise provision was inappropriate.

EPA found that it was still possible for some sites with a total capacity of less than 200 KW to pose potential noise problems. In reaching this conclusion EPA reviewed the 14 per cent of pollution reports that relate to noise. EPA considered the following five main options when assessing the noise problem:

1. No works approval required
 - a) Exempt noise emission through the proposed regulations, if works approval is not required for other emissions discharges or waste handling. This is the current EPA approach
 - b) Use Environment Improvement Plans as a way of noise prevention
 - c) EPA would publish guidance material promoting noise prevention
2. Require a works approval where a 'significant increase' in noise is the only emission - Proposed regulations would only specify minor noise emissions that are not significant
3. Require a works approval where noise is the only emission - provide an exemption where a planning permit is required and EPA is the statutory referral authority
4. Require a works approval where noise is the only emission - provide an exemption where design is certified to meet relevant standards for example, SEPP N-1 (Control of Noise from Commerce, Industry and Trade)
5. Require a works approval for some specific activities - Pulp and paper, oil and gas refining, gas compressor stations, power stations, milk processing, waste to energy, road tunnel ventilation systems. An exemption of insignificant emissions would be available. These particular industries were selected based on the following factors which can make them a higher risk of significant noise emissions:
 - a. Sources that once installed are very difficult or costly to abate and would result in long-term exposure and impact upon residents.
 - b. Sources intended to operate at night and would cause sleep disturbance.
 - c. Sources for which retrofit noise control is not routinely available.

- d. The scale and complexity of the premises, such as those with numerous sources that contribute to the cumulative noise impact.
- e. Sources that are usually operated outside the building envelope, or which would require attenuation of the building if the equipment were located indoors.

In its review EPA selected the *'required works approval of some specific activities'* as the preferred option. In reaching this conclusion EPA considered the practical application of applying the works approval tool across a wider set of activities and focusing on those activities that pose a higher noise risk.

The following is a description of the proposed regulation 8 for noise exemptions:

- Works approvals are not required from sources emitting less than 80 decibels (dB). The dB threshold was based on an EPA assessment of reasonable noise levels from a range of mechanical operations.
- Works approvals are not required with respect to emissions of noise from premises that do not otherwise require works approval in respect of the premises.
- The exemption above does not apply to the following sites as outlined in schedule 1 (see section 6.9)
 - waste to energy
 - milk processing
 - fibreboard
 - oil and gas refiningor
 - power stations.

Regulation (10) - Air

Works approvals and licensing are not required with respect to discharges or emissions to air from:

- a source, other than an incinerator or an afterburner, discharging or emitting less than each of the following:
 - 100 kg per day oxides of nitrogen
 - 10 kg per day oxides of sulfur
 - 100 kg per day carbon monoxide
 - 10 kg per day particles (except asbestos and heavy metals)
 - 5 kg per day volatile organic compounds except for the emissions of odorous compounds or those referred to in sub-paragraph (vi)and
 - 0.1 gram per minute of any substance classified as a class 3 indicator in SEPP (Air Quality Management) as amended from time to time.
- a standby engine
- fire fighting training activities
- a spray booth, extractor vent system or fume cupboard used in product development or in a laboratory
- a safety relief valve or rupture disc
- a vent on a wastewater treatment system except at a sewage treatment plant
- a general room or building ventilation point
- a food cooker or kitchen range
- an acid or alkali tank
- vents on fuel storage tanks which meet technology specification acceptable to EPA
- hand-held or other portable cleaning, maintenance and construction equipment.

A licence is not required with respect to discharges or emissions to air from boilers fired solely by natural gas with a total rated capacity of less than 20 Megawatts.

Regulation (11) - Land or Water

Works approvals and licences are not required with respect to discharges or deposits to land or water from:

- an enclosed drain connected to sewer
- a municipal stormwater drainage system
- an emergency relief structure or other installations in the sewers of a sewerage authority
- an effluent reuse scheme or activity which meets discharge, deposit and operating specifications acceptable to EPA.

Regulation (12) - Wastes

Works approvals and licences are not required with respect to:

- the storage of 40 cubic metres or less of any biomedical waste by a municipal council, a hospital, an ambulance service or any organisation appointed by the State Co-ordinator of DISPLAN
- a temporary plant for the onsite treatment of waste where the activity meets technology, deposit, discharge and emission specifications acceptable to EPA and which is limited to a maximum cumulative operating time of 12 months within any three-year period

or

- a biosolids reuse scheme or activity which meets deposit and operating specifications acceptable to EPA.

6.4 Part 4 - Landfill Levy (Regulation 13)

A landfill levy is required under Section 50S of the Act. Part 4 of the proposed regulations defines those premises that are subject to pay a landfill levy for each tonne of waste that is deposited at a PIW management facility or a landfill.

The proposed regulations define the population of premises to which the landfill levy is applied. The purpose of the landfill levy is to support the waste management system, providing financial incentives to avoid and reduce waste and return money to industry for waste management programs.

6.5 Part 5 - Financial Assurance (Regulation 14)

A financial assurance is required under Section 21(1) of the Act. Part 5 of the proposed regulations specify those premises that require a financial assurance. Premises that require a financial assurance are indicated by “yes” or “no” in column 4 of the Table in Schedule 1 of the proposed regulations.

The proposed regulations define the population of premises subject to financial assurance.

6.6 Part 6 - Environment Protection Levy (Regulation 15)

The environment protection levy is required under S24A of the Act. The levy is payable by those premises which produce, store or handle PIW and is calculated as 3% of the annual licence fee.

Regulation 14 of the proposed regulations states that the environment protection levy is payable when a premises:

- stores, processes or uses in excess of the prescribed quantities and prescribed concentrations of notifiable chemicals

or

- stores, processes, treats, disposes of or otherwise handles PIW.

The proposed regulations define the population of premises to which the environmental protection levy is applied.

6.7 Part 7 - Transitional Provision (Regulation 16)

Part 7 of the proposed regulations specifies that currently unscheduled sites that will require a licence under the revised regulations have 6 months to obtain one.

6.8 Part 8 - Fees Regulations (Regulations 17–18)

6.8.1 Regulation 17

Regulation 17 of the proposed regulations revokes Regulation 10 of the fees regulations, which prescribed a fee for a licence to decant ozone-depleting substances. This category is no longer used.

6.8.2 Regulation 18 – Amendment of Schedule 2

The proposed regulations amend the Fees Regulations, however, these amendments are confined to describing which sites are liable to pay fees. They do not change the level of fee payable by sites that are currently scheduled premises. Further, no amendments to works approval fees are contained in the proposed regulations. The licence fees are unique for each industry sector. Table 6-2 describes the proposed changes to base fees under the Fees Regulations, and the reason for the change. These changes largely mirror the amended description of the activities outlined in the proposed regulations. The proposed licence fee for each new category is based on the anticipated amount of EPA staff time required to administer the licence. This is calculated by reviewing activities of similar scale and complexity that are currently scheduled.

Base fees

Base fees are set according to industry category to reflect EPA time and effort involved in managing licences. Some industry categories (e.g., power stations) have a scale of base fees, reflecting the greater level of resources required as premises become larger and more complex. The Fees Regulations specify the base fee in fee units for each scheduled premises category. As part of the proposed regulations there are consequential amendments for new scheduled premises categories including composting, waste to energy power stations, container washing, carbon capture and storage and tunnel ventilation systems.

For each new category, EPA estimated the total time taken to manage the licence based on past experience of comparable industries (equivalence assessment) and on discussions with stakeholders. Table 6-2 shows the relationship between base fee units and time required as well as justifying the fee units in each new category.

Table 6.2: Description of the changes to the base fees regulations 2001 in schedule 2 of the proposed regulations

Reference to the fees regs	Description of change (The italicised words represent the additions to the fees regs)	Change in fee from 2001 regs	Estimated EPA time to manage licence (days)	Justification of fee units based on Fees Regulations (2001)
Wastewater treatment	Premises on or from which sewage (including sullage) effluent or <i>industrial wastewater effluent is treated</i> , discharged or deposited, exceeding a design flow rate.	No	-	Wastewater treatment is the equivalent to Sewage treatment plants.
Composting	<i>Premises with aerobic or anaerobic composting which are designed to or have a capacity to process more than 100 tonnes of waste per month.</i>	206 fee units	5	The fee structure for this new category was developed in consultation with existing operators. It is not likely that any of these sites would have a significant component fee as the emissions are typically odour and are not measured as class 1-3 indicators.
Waste to energy	<i>Premises which recover energy from waste at a rated capacity of at least 1 megawatt with an installed capacity of—</i> <ul style="list-style-type: none"> • <i>less than 15 megawatts</i> • <i>15 megawatts or more but less than 100 megawatts</i> • <i>100 megawatts or more but less than 200 megawatts</i> • <i>200 megawatts or more.</i> 	103 fee units		Waste to energy category is considered analogous to existing power station licences in terms of potential for noise and volumes of emissions to air, land and water; as such, EPA estimates an equivalent time and cost requirement to manage the licence. Thus, the fee structure has been replicated.
		643.75 fee units		
		1,287.5 fee units		
		2,575 fee units		
Animal skin tanning	Animal skin tanning, or <i>re-tanning</i> works.	No	-	Minor change in wording to the <i>Environment Protection (Fees) Regulations 2001</i> .
Edible oil	Edible oil or fat processing works, where either <i>seed crushing</i> , solvent extraction or edible oil or fat deodorising takes place, which are designed to produce at least 200 tonnes per year of product.	No	-	Minor change in wording to the <i>Environment Protection (Fees) Regulations 2001</i> .

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Reference to the fees regs	Description of change (The italicised words represent the additions to the fees regs)	Change in fee from 2001 regs	Estimated EPA time to manage licence (days)	Justification of fee units based on Fees Regulations (2001)
Fibreboard	Fibreboard, <i>plywood</i> , or particle board works, being a works in which wood, wood products or other cellulose materials are processed to form fibreboard, <i>plywood</i> or particle board.	No.	-	Minor change in wording to the <i>Environment Protection (Fees) Regulations 2001</i> .
Bulk storage	Bulk storage facilities which store compounds of carbon (including petroleum products or oil) which contain at least one carbon to carbon bond as well as derivatives of methane and are liquid at Standard Temperature and Pressure or <i>contain any substance classified as a class 3 indicator in State environment protection policy (Air Quality management)</i> and which have a total design capacity (in tanks exceeding 10 000 litres capacity).	No.	-	Minor change in wording to the <i>Environment Protection (Fees) Regulations 2001</i> .
Container washing	<i>Premises receiving bulk transport containers for the purpose of internal washing or cleansing where the containers have contained —</i> (i) prescribed industrial waste; or (ii) any material that is a dangerous good as defined in the <i>Road Transport (Dangerous Goods) Act 1995</i> .	51.5 fee units.	1.25	Container washing is a new category in the proposed regulations. It is considered analogous to drum washers on a large scale and presents many similar environmental issues
Printing works	Printing works using more than 100 kilograms per day of <i>volatile organic compounds</i> .	No.	-	Minor change in wording to the <i>Environment Protection (Fees) Regulations 2001</i>
Carbon geosequestration	<i>Premises with facilities for the capture, separation or storage of waste carbon dioxide for the purpose of geological disposal.</i>	1287.5 fee units.	32	Carbon geosequestration is a new category in the proposed regulations. It is anticipated that the size of these sites (and storage reservoirs) is such that they will have the potential for significant air and noise emissions. They are considered in this sense to be analogous to existing gas processing facilities

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Reference to the fees regs	Description of change (The italicised words represent the additions to the fees regs)	Change in fee from 2001 regs	Estimated EPA time to manage licence (days)	Justification of fee units based on Fees Regulations (2001)
General emissions to air	<p>Premises which discharge or emit, or from which it is proposed to discharge or emit to the atmosphere any of the following—at least 100 kilograms per day of—</p> <ul style="list-style-type: none"> • <i>volatile</i> organic compounds; • <i>total suspended particulates</i>; • sulfur oxide; • nitrogen oxides; or • other acid gases (excluding carbon dioxide); or <p>at least 500 kilograms per day of carbon monoxide;</p> <p>any quantity of the following substances from industrial plant or fuel burning equipment—</p> <p><i>any substance classified as a class 3 indicator in State environment protection policy (Air Quality management).</i></p>	No.	-	Minor change in wording to the <i>Environment Protection (Fees) Regulations 2001</i> .
Road tunnel ventilation system	<i>Road tunnel ventilation systems.</i>	1287.5 fee units	32	Road tunnel ventilation is a new category in the proposed regulations. It is considered similar to general premises that discharge or emit to the atmosphere.

The changes to the fee regulations have been incorporated in the cost benefits analysis (see section 7). Table 7.3 provides an assessment of how many premises will be affected by the above changes to the fees regulations.

Component fees

Component fees relate to the actual substances a licensee is permitted to emit under its licence. The component fees are payable on an annual amount per year. For discharges to the atmosphere this is generally calculated using the maximum amounts for each compound specified in a licence. For discharges to water and land, component fees are generally calculated using the median amounts for each compound. EPA uses a variety of techniques to estimate emissions including:

- **Sampling or direct measurement:** This method covers both periodic sampling and continuous monitoring and is based on measured concentrations of the pollutant in a waste stream, and the volume/flow rate of that stream.
- **Mass balance:** This identifies the quantity of a pollutant going in and out of an entire facility, process, or piece of equipment. Releases can be calculated as the difference between input and output of each pollutant. Accumulation or depletion of the pollutant within the equipment should be accounted for in your calculation.
- **Engineering calculations (such as fuel analysis):** This method utilises the physical/chemical properties (for example, vapour pressure) of the pollutants and mathematical relationships (for example, ideal gas law).
- **Emission factors:** These are based on average measured emissions from similar processes and facilities. Emission factors are usually equations, which relate emissions to process or equipment.

The proposed regulations do not change the level of method of calculation of component fees. Tables 6.3 and 6.4 taken from the Fees Regulations prescribe the fee in fee units for discharges to air, water and land.

Table 6.3: Discharge to air

Component	Fee in fee units
For each tonne per year that may be discharged under licence to the atmosphere of a-	
class 1 indicator	0.412
class 2 indicator	4.12
class 3 indicator	412

Class 1 indicators are designated in the SEPP (Air Quality Management) as common air pollutants: nitrogen dioxide, sulfur dioxide, carbon monoxide, PM10 and lead. Class 2 and 3 indicators, commonly known as air toxics, are generally source specific. The distinction between Class 2 and 3 indicators is based on the level of toxicity and enables the appropriate level of control to be applied according to the seriousness of the possible adverse effects.

Table 6.4: Discharge to water and land

Component	Fee in fee units
For each milligram per litre of the median amount that may be discharged under licence of-	
total dissolved solids, discharged to anywhere other than the ocean <small>(see clauses 4 and 5)</small>	0.000618
suspended solids	0.00309
organic matter <small>(see clause 6)</small>	0.00309
total phosphorus	0.00515
total nitrogen	0.00515
hazardous substances	0.309
toxicants	0.0515

Component	Fee in fee units
priority wastes	0.309
any other waste component, not specified elsewhere	0.0515
For each platinum cobalt unit of colour that may be discharged under licence	0.000309
For each degree of Celsius of temperature above ambient that may be discharged under licence	0.00309
Where a licence permits discharges of bacteria (E coli) at a concentration of—	
greater than 10 organisms per 100 millilitres or more but not greater than 200 organisms per 100 millilitres	0.00103
greater than 200 organisms per 100 millilitres or more, but not greater than 2000 organisms per 100 millilitres	0.0103
greater than 2000 organisms per 100 millilitres	0.103

The relative weight of base and component fee varies significantly between scheduled activities, Table 6.5 provides the sum of actual fees charged by fee unit EPA 2006 for a selection of scheduled categories.

Table 6.5: The relationship of base and component fees by selected industry

Scheduled Activity	Base fee in fee units	Discharge to air – component fee in fee units	Discharge to water and land – component fee in fee units
Abattoirs	11100	0	473
Cement Works	3863	8082	192
Ceramic Works	15410	4220	823
Food Processing	1803	364	2704
Glass Manufacturing	2575	7473	0

EPA has assessed each new category in order to estimate any additional component fee revenue. The category 'waste to energy' is the only one of these that is likely to have a significant component fee. These sites are generally already captured in other categories and therefore there should be no marginal increase in component fees charged. Carbon capture and storage (CCS) may also have a significant component fee but this cannot be estimated as the industry is in its infancy. It is not expected that a commercial scale CCS plant will be operating in Victoria before the Fees Regulations are reviewed in 2011.

As most categories are unlikely to have a significant component fee, EPA does not expect an overall increase in fees payable (see Table 7.2 for explanation), nor a substantial change in the time spent administering the system. The net result will therefore be close to neutral.

6.9 Schedule 1 - Table Containing Descriptions of the Scheduled Premises

Schedule 1 of the proposed regulations contains a table with four columns that specifies what activities are scheduled premises. Columns 1 and 2 include the description of the premises required to gain a works approval or licence. Column 3 identifies when a premises may be exempt from a works approvals or licence. Column 4 identifies which scheduled premises are required to pay a financial assurance.

7 ASSESSMENT OF THE COSTS AND BENEFITS

This section of the RIS presents an assessment of the costs and benefits of the proposed regulations from the perspective of key stakeholders - the Victorian Government, including EPA; the community; and business. The main costs and benefits of the proposed regulations are summarised in the table below.

Table 7.1: Summary of major costs and benefits

Stakeholder Group			
	EPA	Community	Business
Benefits	<p>Assist it to meet its objective of protecting Victoria's environment.</p> <p>Receive fees from organisations holding a licence and applying for a works approval. (transfer of funds to industry programs only).</p>	<p>Increased confidence in compliance with environmental law through improved reporting by licensed firms.</p> <p>Potential for improved environmental outcomes through efficiencies in management of multiple site businesses.</p> <p>Improved protection of the environment through EPA focusing on those premises with the potential for significant environmental impact.</p>	<p>Provides businesses with a social licence to operate.</p> <p>Assists in providing a level playing field amongst businesses in the same sector.</p> <p>Creates an internal driver for environmental improvements.</p> <p>Raises awareness of environmental issues.</p> <p>Provides an assurance that business is meeting its environmental obligations.</p> <p>Reduced likelihood of costly land clean up actions.</p> <p>Reduced likelihood of manufacturing retrofit.</p>
Costs	<p>Incur costs in managing the licensing and works approval systems.</p>	<p>Increased marginal costs of localised production which may be passed on wholly or in part to Victorian consumers.</p>	<p>Licence and works approval fees (transfer between business and EPA).</p>

7.1 Business

The proposed regulations will affect any business that is identified as a scheduled premises. This section describes the total costs and benefits associated with the proposed regulations as well as the marginal difference between the 1996 scheduled premises regulations and the proposed regulations. Costs and benefits outlined in this section were determined using a number of sources:

- individual consultation with businesses/industry groups/key stakeholders
- EPA and KPMG survey of licensed sites
- review of external studies valuing non market impacts
- EPA internal research and cost estimates.

Each source is discussed in more detail as the relevant costs and benefits are raised.

7.1.1 Business costs

Regulatory costs imposed on business include financial, compliance and market (indirect) costs.

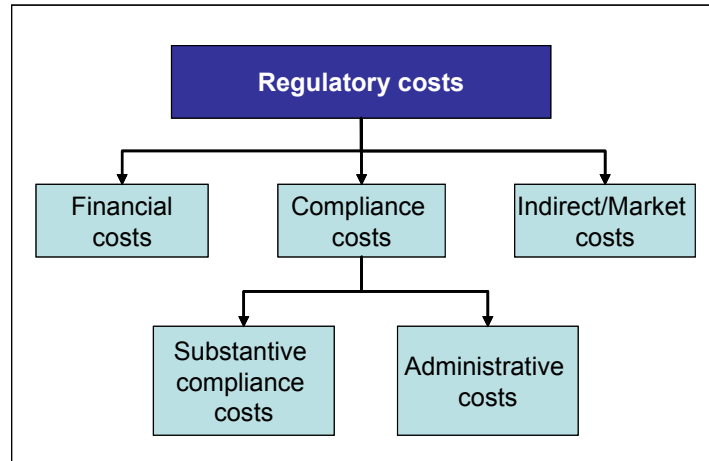


Figure 7.1: Regulatory cost categories

Source: Interim Victorian Standard Cost Model Manual

The proposed regulations will impose (minor) compliance, financial and administrative costs on business.

Substantive compliance costs

The majority of substantive compliance costs associated with the environmental framework are a result of complying with the conditions of the Act, SEPPs and other environmental regulations and internal business requirements. For example, for many sites a stack would routinely be installed to disperse emissions to meet the requirements of SEPPs and the Act. Some compliance costs may arise due to licensing and works approval however. It's difficult to attribute these to a particular activity given the variation between sectors, industries and sites under the proposed regulations. Sunk capital costs (such as the stack) that have already been incurred by business will not be re-incurred as a result of the proposed regulations. There are also likely to be some ongoing maintenance requirements of equipment etc. but again it is very difficult to determine the magnitude of these costs at the site level. In many cases, sound environmental management has become part of standard operation of business in Victoria. All 10 face to face interviews conducted as part of consultation confirmed that the 'system does not impose significant compliance costs'.

A small proportion of businesses may not comply with the Act for a range of reasons including a lack of understanding of the requirements and/or a disregard of those requirements. It is difficult to determine what improvement in compliance will derive from licensing a particular industry sector, and this would also vary across sectors. EPA historical experience with licensed sites suggests between 90% and 95% compliance at any one time. As such, the proposed regulations may impose compliance costs, particularly on businesses in new categories where there the understanding of the requirements is often not as well established.

Estimate of compliance costs

As an illustrative example, EPA has assumed that 10% of all new licensed businesses may incur some compliance costs. Given that there is expected to be up to 26 new sites under the proposed regulations, 3 new businesses will not be fully compliant. Moreover, with changing population of sites over the life of the regulations it is reasonable to assume that 3 new businesses (entrants in to the Victorian markets) each year will incur some compliance costs. The businesses will most likely need to purchase additional monitoring and processing equipment or change over existing production materials. Assuming a maximum cost of \$200,000 per business the total compliance cost imposed by the proposed regulations is estimated to be \$600,000 per annum.

Market (indirect) costs

Market (indirect) costs are defined as those costs, which may cause barriers to entry or alter market structure. Given the proposed regulations are applied to all sites within an industry category and there are no limits on the number of licensees within the system, the research undertaken for this RIS has confirmed that no domestic market (indirect) costs are associated with the proposed regulations.

Victorian businesses may be put at a marginal competitive disadvantage when compared with, for example, producers in South East Asia or China where environmental licensing systems either do not exist or impose significantly lower requirements. However, feedback from EPA consultation indicates 'economies of scale' are a much more significant driver of cost competitiveness. Further, EPA only imposes more onerous requirements on business in cases where the benefits outweigh the costs and the imposition of the more onerous requirements (and hence the marginal restriction of competition) is necessary to achieve the gain in net benefit. The assessment of competition impacts is more fully explored in Section 9.

Financial costs

There are a number of direct financial costs to Victorian businesses associated with the proposed regulations. The monetary value of the fees and levies is not determined by the proposed regulation however the proposed regulations determine who is required to pay them. The monetary value of the fees is determined in the Fees Regulations. Therefore, this RIS has focused on the total costs to businesses rather than how the fees are determined. The following sections will briefly discuss at a high level the way the fees have been determined and the broad principles associated with each. The financial costs incurred by business as a result of the proposed regulations will be determined by the following:

- licence fees for each activity
- works approval application fees
- landfill levy
- financial assurance
- environment protection levy.

Licence fees

Licence fees are set under the fees regulations and are designed in accordance with the following principles:

- EPA should recover the costs associated with the assessment of industry proposals and monitoring, enforcement and administration of the licence.
- Fees should reflect the emitter pays principle and be weighted towards their volume of emissions and environmental impact.
- Fees should encourage waste minimisation.

The *Monetary Units Act 2004* sets the momentary value of a 'fee unit' for the purposes of these regulations and the Environment Protection Act 1970. The value of a fee unit is currently \$10.75.

Table 7.2 demonstrates how the licence fees change as a result of the proposed regulations.

Table 7.2: Licence fee changes as a result of the proposed regulations

Description	Activity	Number of sites	Total licence fees
Total fees from June 2006	All activities as at June 2006	996	\$14,988,900
Removed sites as a result of the proposed regulations	Wastewater treatment plants	(163)	(\$43,841)
	Abattoirs	(13)	(\$77,307)
	Power stations (including boilers)	(12)	(\$92,936)

Description	Activity	Number of sites	Total licence fees
	Edible oil	(1)	(\$6,920)
	Prescribed Industrial waste management	(3)	(\$134)
Included sites as a result of the proposed regulations	Animal skin tanning	6	\$41,522
	Textiles	X*	\$0
	General emissions to air	6	\$347,960**
	Composting	13	\$24,360
	Waste to Energy	2	\$3,123
	Container Washing	3	\$1,662
Net result		(164)	\$197,489
<p>*The population of sites falling within the new definitions is unknown (fee per business is \$6,920)</p> <p>**It is unlikely that this full cost will be realised as EPA will be working with the affected clients to reduce or eliminate these emissions.</p>			

The number of businesses required to pay a licence fee as at June 2006 is 996. As a result of the proposed regulations, it is estimated that 164 fewer business sites will be required to hold an EPA licence. Despite the net reduction in the number of sites required to hold a licence the total licence fees collected by EPA is expected to increase by a maximum of \$219,000 a year. This is because the licence fees forgone by sites that are no longer required to hold a licence is less than the maximum licence fees payable by new sites proposed to hold a licence.

A large proportion of the maximum increase in fees to EPA will be due to component fees for class 3 air indicator emissions, based on 2004-05 NPI data. In most cases these premises will be able to substitute a lower hazard material and therefore will not incur this cost.

Case Study – Elimination of class 3 air indicator

Company C had emissions of about 45,000kg/year of trichloroethylene (TCE) in 2000. TCE was used to remove grease from metal parts. Through its environment improvement plan, progressive reductions in emissions were achieved. Its class 3 action plan, prepared in accordance with the requirements of SEPP (AQM), proposed a complete substitution of TCE by alternative degreasers. This has now been implemented and the company no longer emits TCE.

Table 7.2 examines the nature and impact of the proposed changes to the fees regulations 2001 in schedule 2.

Other activities included in the proposed regulation that were not scheduled as a part of the 1996 regulations will now be required to pay a licence fee. This licence fee is designed to reflect the cost of EPA managing the site relationship. Those activities that will be required to pay a licence fee for the first time are listed in the Table 7.3 below.

Table 7.3: Description of changes to the fee regulations

Activities	Estimated number of businesses	Base fee units proposed	Estimated licence fee per site each year
Composting	13	206	\$2,215
Waste to Energy	<15MW	2	\$1,107
	15 - 100MW	0	\$6,920
	100 - 200MW	0	\$13,841
	>200MW	0	\$27,861
Container washing	3	51.5	\$554
Carbon geosequestration	0	1,287.5	\$13,841
Road tunnel ventilation systems	2	1,287.5	\$13,841

Works approval application fees

Works approval fees are designed to recover the costs EPA incurs in administering the works approval system. Like the licence fees the works approval fees are outlined in the fees regulations. The proposed regulations will outline which activities will be required to apply for a works approval.

The fee associated with the works approval application is dependent on the capital cost of the proposed work.

The 2005/06 average works approval cost of \$5,745¹⁴ has been used as to estimate the cost of a works approval in the future. The 16 per cent reduction in the number of licences has been applied to the 68 works approval applications for 2005/06 and applied forward, giving an expected number of 57 works approvals per annum. As such, the estimated per annum cost of the works approval applications has been calculated by multiplying the average cost of a works approval of \$5,745 by the expected number of works approvals of per annum, to give an estimated total cost of \$327,465 per annum. This represents an average reduction of \$63,195 per annum on the annual cost of the 1996 regulations.

Landfill levy

The landfill levy consists of two parts: general (municipal and industrial) and PIW (generally hazardous). Landfill levies are used to foster environmentally sustainable use of resources and best practice in waste management. They fund the activities of regional waste management groups, Sustainability Victoria and EPA, helping to establish waste management infrastructure, industry waste reduction programs, education programs, regulatory controls and enforcement regimes. Table 7-4 below shows the estimated annual cost of the landfill levy to business.

Table 7.4: Estimated annual cost of the landfill levy to business

	Number of sites	Average levy per site	EPA revenue from landfill levy
Municipal	62	\$30,366	\$1,882,708
Industrial	63	\$61,992	\$3,905,524
PIW	29	\$450,427	\$13,062,384
Total			\$18,850,616

In accordance with S50S(1) of the Act, any premises which is licensed to accept waste must collect a levy for each tonne of waste that is deposited on to land at the premises. Levies apply to municipal, commercial and industrial

¹⁴ This figure has been calculated by dividing the total fee fees received by the EPA for works approvals in 2005/06 by the 68 works approvals for 2005/06.

wastes disposed to a total of 72 licensed landfills in Victoria. The landfill levy structure reflects the difference in the magnitude of environmental risk posed by the different waste streams, and also seeks to accommodate regional differentials.

The proposed regulations:

- provide no change in the relevant definitions from the 1996 regulations
- have no net impact on the number of sites to which the landfill levy applies
- have no impact on the level of the levy collected.

The proposed regulations do define that landfills must collect the landfill levy however; the level of the landfill levy for all forms of waste is set by schedule D of the Act. Importantly, the population of licensed landfills defined by the proposed regulations (i.e. who collects the levy) does not impact on the level of the levies and the aggregate amount collected.

The levies are allocated according to the *Environment Protection (Distribution of Landfill Levy) Regulations 2002*. The *Environment Protection (Prescribed Waste) Regulations 1998* are due to sunset in 2008. These regulations define the differential prescribed waste categories, and potentially impact on the level of the levies. The costs and benefits of the landfill levy are likely to be considered as part of the RIS analysis for the *Environment Protection (Prescribed Waste) Regulations 2008*.

In 2005–06, the majority of the landfill levy distributed to EPA was used to ensure compliance and enforcement, supporting investigations of illegal dumping of waste and inappropriate waste management practices. It is anticipated that over time a significantly greater proportion will be put towards waste reduction and sustainability projects. Landfill levies provide a strong incentive to minimise the generation of waste, sending a signal to industry that the Government supports efforts to develop alternatives to disposal to landfill.

Financial assurance

Financial assurances must be provided by businesses that operate facilities that may result in on-site contamination. The value of the financial assurance is determined by EPA guidelines (see section 6.5.2), which are not amended by the proposed regulations.

The financial assurance is determined by evaluating site specific factors including the:

- type of materials that are being handled on the premises;
- volume of waste stored on site;
- potential environmental impacts associated with the material;
- design and location of the facility; and
- potential clean-up cost in the event of contamination.

The cost of a financial assurance is the cost associated with maintaining the assurance with a financial institution. This cost is calculated as a percentage of the value of the financial assurance. Leading financial institutions have provided estimates of between 1 and 2 per cent per year to maintain a financial assurance.

Table 7.5 outlines the total cost to business of maintaining financial assurance. It shows that the total cost of maintaining financial assurances is estimated to be \$2.0 million per year. As a new category, the total value of financial assurance for contaminated sites is unknown at this stage. The long-term management of contaminated soils is based on the requirements for management of PIW and as such, comparison can be drawn between the financial assurance required for contaminated sites and that held for PIW management. The actual financial assurance held will depend on the size of the facilities and site-specific considerations. EPA estimates that onsite soil containment will be similar to large PIW management (\$1.2m average per site) as it involves constructing what would essentially be a landfill cell that must be impervious to leaching for many years. long-term management is considered to be similar to small PIW Management (\$0.5m average per site) as it involves providing for the on-going monitoring of wells or the operation of groundwater treatment equipment. These estimates are only indicative and based on EPA's regulatory experience.

Table 7.5: PIW and general landfill - Financial assurance

Category	Description	Number of sites	Average financial assurance per site	Estimated financial assurance held	Cost of maintaining financial assurance
Landfills	PIW landfills	2	\$16.5m	\$33m	\$660,000
	General landfills	25	\$1.8m	\$46m	\$920,000
PIW Management	Small	69	\$0.9m	\$6.8m	\$136,000
	Large	10	\$1.2m	\$12 m	\$240,000
Bulk storage	–	14	On request	n/a	-
Container washing	–	3	\$1.2m	\$3.6m	\$64,000
Contaminated sites – onsite soil contaminant	–	Unknown	~\$1.2m	Unknown	-
Contaminated sites – long-term management	–	Unknown	~\$0.5 m	Unknown	-
Total		123	-	\$101.4	\$2,020,000

Note: Financial assurance for contaminated sites - long term management is based on PIW Management. Actual financial assurance will depend on the size of the facility and site specific considerations.

Environment protection levy

As described above the Environment protection levy is calculated at three per cent of a licensee's fee, and is applied when the licensee handles PIW. Under the 1996 regulations, the current cost to business of the Environment protection levy is \$374,000. Based on the assumption that all licensed sites are required to pay the Environment protection levy under the proposed regulations, this total cost is estimated to increase to \$456,225. As not all licensees are required to pay, this assumption represents the maximum cost of the Environment protection levy. Sites that are able to eliminate PIW from their process will no longer have to pay the levy. With the current focus on PIW reduction, this is expected to happen more frequently.

Using these assumptions, the increase compared to the 1996 regulations is estimated as a maximum of around \$82,000 p.a.

Administrative costs

Businesses scheduled in the proposed regulations will be required to undertake a number of administrative activities. In order to calculate the cost of these activities to Victorian business, the RIS process included a stakeholder survey and face-to-face consultation.

The data collected from the survey and during the face-to-face interviews was used to populate a standard cost model (SCM). The SCM has been developed by the Victorian Government as a tool to measure the administration costs associated with government regulation. It should be noted that the SCM produces estimates of administration costs from a relative small sample of business. The actual administration costs will vary depending on specific businesses requirement and procedures.

The SCM estimates that the current administrative cost to business of the 1996 regulations is \$16.3 million a year. It is estimated that the proposed regulations will reduce the administrative costs to business to \$14.8 million, a net

reduction of \$1.53 million. For a full description of the SCM please see the Standard Cost Model of the Environment Protection (Scheduled Premises and Exemptions) Regulations 2007 Report.

Summary of the costs of the proposed regulations to business

The table below shows the 10 year estimates of the costs incurred by business as a result of the proposed regulations. This includes the financial, administrative and (minor) compliance costs associated with the proposed regulations. A 3.5 per cent real discount rate as advised by the VCEC¹⁵ has been used for this analysis.

¹⁵ Advice provided by the VCEC on April 03, 2007

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Table 7.6: Summary of business costs

Business costs (\$ 2006)	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	PV of costs
<i>Financial costs [Transfer cost to EPA]</i>											
Licensing fees	15,186,389	15,186,389	15,186,389	15,186,389	15,186,389	15,186,389	15,186,389	15,186,389	15,186,389	15,186,389	130,702,106
Works approval fees	327,465	327,465	327,465	327,465	327,465	327,465	327,465	327,465	327,465	327,465	2,818,337
Sub total	15,513,854	15,513,854	15,513,854	15,513,854	15,513,854	15,513,854	15,513,854	15,513,854	15,513,854	15,513,854	133,520,444
Financial assurance	2,020,000	2,020,000	2,020,000	2,020,000	2,020,000	2,020,000	2,020,000	2,020,000	2,020,000	2,020,000	17,385,190
Environment Protection Levy	456,225	456,225	456,225	456,225	456,225	456,225	456,225	456,225	456,225	456,225	3,926,514
Sub total	2,476,225	2,476,225	2,476,225	2,476,225	2,476,225	2,476,225	2,476,225	2,476,225	2,476,225	2,476,225	21,311,704
<i>Administration costs</i>											
Estimate of administration costs	14,799,935	14,799,935	14,799,935	14,799,935	14,799,935	14,799,935	14,799,935	14,799,935	14,799,935	14,799,935	127,376,079
<i>Compliance costs</i>											
	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	5,163,918
Total business cost	33,390,014	33,390,014	33,390,014	33,390,014	33,390,014	33,390,014	33,390,014	33,390,014	33,390,014	33,390,014	287,372,144
<i>Landfill levy*</i>	18,850,616	18,850,616	18,850,616	18,850,616	18,850,616	18,850,616	18,850,616	18,850,616	18,850,616	18,850,616	162,238,384
Estimates compared to 1996 Regs											
Licence fees	197,489	197,489	197,489	197,489	197,489	197,489	197,489	197,489	197,489	197,489	1,699,695
WA Fees	-63,195	-63,195	-63,195	-63,195	-63,195	-63,195	-63,195	-63,195	-63,195	-63,195	-543,890
Landfill levy	0	0	0	0	0	0	0	0	0	0	0
Financial assurance	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	64,000	550,818
Environment protection levy	82,217	82,217	82,217	82,217	82,217	82,217	82,217	82,217	82,217	82,217	707,601
Administrative costs	-1,530,205	-1,530,205	-1,530,205	-1,530,205	-1,530,205	-1,530,205	-1,530,205	-1,530,205	-1,530,205	-1,530,205	-13,169,755
Total marginal change	-1,249,694	-1,249,694	-1,249,694	-1,249,694	-1,249,694	-1,249,694	-1,249,694	-1,249,694	-1,249,694	-1,249,694	-10,755,530

* Landfill Levy does not change as a result of the proposed regulations and as such is not included as part of the total business cost.

7.1.2 Business benefits

As part of the consultation for the proposed regulations, a detailed survey was conducted with many key stakeholders. It asked business to respond to the following question 'Do you consider that the benefits of holding an EPA licence outweigh the costs?'

Of the 91 businesses that responded, 57 businesses indicated that the benefits outweigh the costs.

This was confirmed during face-to-face interviews in which businesses confirmed that the requirement to hold a licence, or apply for a works approval, provided a number of advantages.

During the survey, businesses were asked to respond on a range of possible benefits associated with the proposed regulations as well as to suggest other benefits. Businesses were able to select more than one response if applicable. Tables 7.7 and 7.8 below summarise the businesses responses on the benefits of the licensing and works approval systems respectively. Section 11 provides further detail of consultation conducted.

Table 7.7: Summary of benefits of the licensing system

Benefits of holding an EPA licence	Responses
Provides a social licence to operate/provides assurance to society that your environmental management is sound.	62
Provides a level playing field amongst participants operating in the same sector.	43
Assists with driving internal environmental changes (used as a motivation tool).	43
Allows access to EPA expertise.	21
Marketing benefits i.e. provides assurance to potential customers.	11
Other.	7

Table 7.8 Summary of benefits of the works approval system

Advantage	Response
Helps raise awareness of environmental risk.	27
Provides assurance that the building meets environmental standards.	25
Helps with other approval processes such as council approvals.	23
Provides a level playing field amongst participants operating in the same sector.	20
Reduces the likelihood of retrofitting plant and equipment.	14
Provides certainty in the investment decision.	13
Provides an opportunity to identify efficiency and cost-saving measures.	11
Helps engage with the community through the development process.	11
Provides access to expertise from EPA.	11
There are none.	3

Provides a social licence

Industries rely on public acceptance to operate their business and sell their products. If a business has environmental issues that impact on its neighbours it may have difficulty selling its products and experience pressure from the government and community. A business that has continuing issues may also face morale issues in its workforce.

The ability of business to operate without concern/interference from the government and the community is often referred to as having a 'social licence to operate'. It can often be difficult for a company to gain this licence on its own because it may not have the confidence of the community. Licensing, which requires that a business prove to EPA (an

independent authority) that it is meeting its environmental obligations can be a more cost effective and reliable means of achieving this social licence.

The proposed regulations will provide business with a social licence to operate; this is the most commonly cited benefit of holding an EPA licence.

Provides a level playing field

Within any industry sector there are often varying degrees of compliance with regulatory requirements. Those businesses that do comply with the Act and incur compliance costs in doing so can be put at a cost disadvantage relative to those businesses that do not comply. Non-compliant companies can also increase the risk of an environmental accident occurring, which damages the reputation of the whole sector, including that of compliant companies.

The proposed regulations will ensure a level playing field between businesses in the same sector and also ensure that non-compliant firms will not be able to undertake activities that put the reputation of an entire industry at risk.

Drives internal improvement opportunities

Environmental managers within businesses often experience operational inertia with colleagues, in developing and implementing positive production changes. However, when the change is supported by a statutory document, the change is often easier to effect.

The proposed regulations will help to drive internal environmental improvements often by giving the environmental manager the 'authority' or empowerment to drive changes or require that certain actions be undertaken to meet or exceed the requirements set out under the Act, SEPPs and WMPs.

Assists in planning and stakeholder management

EPA often assists the planning and development process. The works approval system, which is identified as a highly transparent process, provides stakeholders in the community the opportunity to be consulted and engaged with during the planning and development process. This can reduce the likelihood of costly retrofits and/or appeals to VCAT.

Reduction in clean-up costs due to licensing, works approval and financial assurance

Site contamination and resultant clean-up costs incurred by business because of poor environmental management practice can be significant. In some cases, the clean-up costs can extend to many millions of dollars. Historically, sites involved in heavy manufacturing, industrial production and gas works are subject to both licensing and works approval system. In managing these activities, there is a range of benefits for business that the proposed regulations generate:

- savings to occupiers resulting from the reduced likelihood that site clean-ups will be required
- reduced likelihood of the social and economic costs associated with land that cannot be used for productive purposes. In some cases, the opportunity costs of this unproductive land can run into millions of dollars per year
- savings to the State and third party businesses from the reduced likelihood that they might have to incur the clean-up costs left by the polluting business.

In addition, the use of financial assurance provides a strong incentive for the effective environmental management of premises with an inherently high risk of site contamination. Financial assurances also ensure that, where site contamination occurs, funds will be available to enable effective clean-up action to take place.

It is not possible to directly assess the clean-up costs, which have been avoided wholly or partly due to the effect of the works approval and licensing system. For instance, most of the avoided clean-up costs, by their very nature, are hypothetical. However, some examples of clean-up costs, especially as they relate to the potential benefits that will be provided by having financial assurances in place, are presented in the table below.

Table 7.9: The benefits to business of avoiding clean-ups

Case Study	Description	Estimated cost of clean up
1	Former electroplater, where land subsequently acquired by public authority.	\$500,000 - \$2,000,000.
2	Hydrocarbon wastes disposed to a quarry by a petroleum company.	To be determined, >\$1,000,000.
3	Former industrial site in Ballarat where waste disposal was discovered following redevelopment.	\$100,000 - \$1,000,000.
4	A firm which offered a service of collection, storage and disposal of chemical wastes went out of business and left large amounts of these wastes on site. No costs could be recovered from the insolvent occupier of the premises.	~\$1,000,000
5	A major fire led to a large volume of contaminated soil and groundwater.	~\$12,000,000

Source: EPA Victoria

Reduction in retrofitting costs due to works approval

The works approval and licensing system also helps business to avoid unnecessary retrofitting costs and identifies waste minimisation opportunities. While it is not possible to generate any useful broad monetary estimates of these benefits, the following industry case studies provide a good indication of the benefits enjoyed by business.

Case Study A

Company A believes that identifying environmental issues at an early stage in a project reduces the cost of addressing those issues. It views the works approval process as assisting it to avoid the need for retrofitting and complementing its own strong commitment to waste minimisation.

In one instance, the works approval process helped the company to identify the need for the installation of a drier dust collector. The capital cost of this unit was about \$500,000. However, according to Company A, had the need for the unit not been identified *“the cost of a retrofit of the unit would have been a considerable impost on the project”*. It also enabled the company to avoid the *“potential bad publicity which may have flowed from the project”*.

Furthermore, the company reported that the installation of the unit resulted in direct cost savings of about \$100,000 per annum due to an increase in product recovery. Indirect cost savings also flowed from increased product yield. According to Company A, *“when all these benefits are taken into account, the project has generated a positive financial return”*.

Case study B

Company B has considerable experience operating in its industry and it has high quality planning systems in place (eg. waste minimisation is built into the way it plans and operates, it considers environmental issues from the start of a project, etc.). It therefore believes that it is able to identify the likely major environmental impacts of projects through its own planning processes. However, Company B also finds that the works approval process plays a useful role in helping it to make sure that it has properly addressed all the specific detail of a project's environmental impact.

For example, discussions with EPA in relation to one works approval for a major capital project helped Company B to identify and later implement the reuse of a particular piece of equipment. Company B's preliminary estimates were that this should lead to net cost savings of between \$100,000 and \$1,000,000 per annum.

Company B also identified issues during a works approval in relation to excess water run-off and some associated technical problems with using wastewater for irrigation. Company B discussed these issues with EPA and described this as "typical of the way that the works approval process helps us to refine and check on the detail of the project".

Summary of the benefits to business

The proposed regulations are expected to deliver a range of benefits to business including:

- a social licence with which to operate
- a level playing field in industry with regard to environmental practice
- the capacity for environmental managers to drive internal performance initiatives
- improved planning and community stakeholder management outcomes
- a reduction in clean-up costs
- a reduction in retrofitting costs.

While it has not been possible to quantify these benefits; they are viewed as significant by business. This is validated by the fact that the majority of businesses report that the proposed regulations deliver benefits (directly to their businesses), which outweigh the costs.

7.2 The community

The proposed regulations are intended to give the community the confidence that the activities prescribed as scheduled premises have been reviewed by EPA experts and appropriately amended to reflect new business activities not previously anticipated or prevalent, and changes in relative environmental risks over time (for example, due to improved technologies).

7.2.1 Community costs

The proposed regulations will not impose any direct costs on the broader community. Direct costs imposed will either be incurred by business or EPA. There may be potential flow-on effects to the community; for example, relatively higher prices of goods produced by scheduled premises; however, EPA is unable to confirm the existence or magnitude of these indirect costs.

7.2.2 Community benefits

The benefits to the community of the proposed regulations are discussed below.

First, the community will have access to information concerning all works approvals and the opportunity to raise their concerns with EPA and business. Through the process many businesses adopt a community consultation process, which allows communities affected by a proposed development the opportunity to participate directly.

Moreover, the community will derive many socio-economic benefits arising from the improved environment protection outcomes that the proposed regulations aim to achieve. The value that society as a whole places on maintaining and improving rigorous environmental protection includes a number of value types, such as:

- use values - pollution can cause loss of value such as when air pollution increases the vulnerability to illness (Section 7.1.1)
- option values - reflect the value people place on a future ability to use the environment
- non-use values - reflect the value people place on preserving or improving resources, such as species conservation and preservation of forest-covered areas.

The valuation of environmental costs and benefits is challenging. The Australian Government, in its 2006 State of the Environment Report noted, 'It is still not possible to give a comprehensive national picture of the state of Australia's environment because of the lack of accurate, nationally consistent environmental data.' Further Nicholas Stern¹⁶ in assessing the impacts on global GDP of global warming said that 'if the model (for assessing the monetary cost of climate change) is to quantify the full range of effects, it must place monetary values on health and the environment, which is conceptually, ethically and empirically very difficult'.

The Victorian Government is currently developing its first State of the Environment report for publication in 2008. This will be valuable in informing EPA policies and strategies for improving the state of the environment. To assist in the preparation of this part of the RIS, EPA has reviewed nationally and internationally available studies and literature to understand the metrics available to quantify the benefits of a licensing and works approval system in Victoria. The research focused on attempting to quantify the answer to the following questions:

1. What is the monetised benefit to Victoria of reducing and/or managing emissions to air, land and water?
2. What proportion of that benefit could be attributed directly or indirectly to EPA's licensing and works approval system?

What is the monetised benefit to society of reducing and/or managing emissions to the air, land and water? That is the value that the community place on the beneficial uses described in section 4.2.

¹⁶ Stern, N. *Stern Review: The Economics of Climate Change*, final report prepared for HM Treasury, UK, October 2006.

Several valuation techniques are offered in literature to elicit monetary values directly (the contingent valuation¹⁷ and trade-off techniques) or to elicit values indirectly (e.g. contingent ranking and rating)¹⁸ to obtain values for the provision of an environmental good, such as protection of the environment in a particular location. The literature widely acknowledges that identifying the causal relationship between, for example, pollutants and affected parties is complicated; particularly in the area of human health. As such, statistical studies are often used to evaluate the differences in mortality or disease rates for various human populations living in polluted environments to examine whether these mortality/disease rates are correlated with pollution concentrations¹⁹.

Importantly, correlation does not imply causation, and death and disease rates may result from high levels of pollution, the average age of a population or other background effects such as the number of smokers in the population.

The lack of Australian based statistical analysis in the field means that EPA has chosen to consider the results of a European centric study (ExternE (External Costs of Energy) Project of the European Commission December 2001) to give an indication of one of the potential economic benefits of the proposed regulations. A 'willingness-to-pay-approach' is adopted for the analysis.

Note: EPA research indicates that studies from different countries should be interpreted with substantial caution when being applied to another location, as factors such as perceptions of risk of environmental destruction and quality of life values can influence the survey results and these are to an extent location dependent²⁰.

Illustrated health benefits of reducing air pollutants based on ExternE analysis

ExternE estimates for France show that health impacts contribute the largest part of the damage costs (Figure 7.2) of air pollution. In Europe, a consensus has been emerging among public health experts that air pollution, even at current ambient levels, aggravates respiratory and cardiovascular diseases and leads to premature mortality. Air pollution damage to materials and agricultural crops has been found to make a relatively small contribution to the damage costs, only a few percent of the total. Figure 7.10 transcribes the findings of the 2001 ExternE report to Australian dollars as at December 2006.

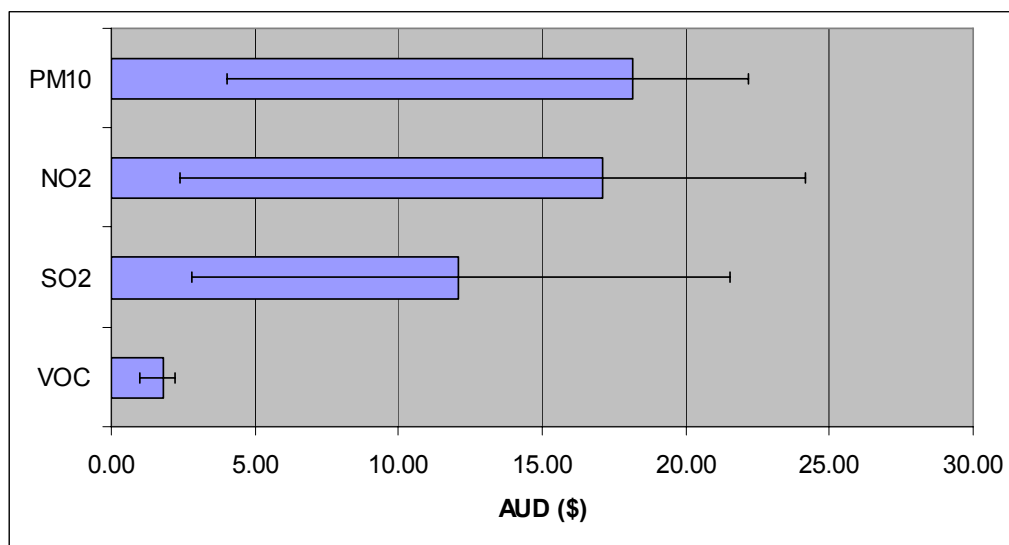


Figure 7.10²¹ Estimated damage cost per kg for emissions to air (Class 1 and 2 indicators)

¹⁷ See for example, Jorgensen et al (2006) The role of uncertainty in the relationship between fairness evaluations and willingness to pay, *Ecological Economics*, Vol. 56, pp 104-124. This study surveyed 840 residents in 4 urban catchments on their willingness to pay for stormwater pollution abatement.

¹⁸ Department of the Environment and Water Resources (1995), *Techniques to Value Environmental Resources: an Introductory Handbook*, Australian Government Publishing Service, Canberra.

¹⁹ See for example:

Simpson et al (2000) Effects of ambient particle pollution on daily mortality in Melbourne 1991-1996, *Journal of Exposure Analysis and Environmental Epidemiology*, Vol. 10, 488-496; and

Dockery, D. and Pope, C (1994) Acute respiratory effects of particulate air pollution, *Annual Review of Public Health*, Vol. 15, pp 107-132.

²⁰ Ivanova and Tanter (2004).

²¹ Assumptions:

- 0.57/EURO AUD Exchange Rate (Average December 2001) - Yahoo7.com

Margins for error in Figure 7.2 indicate that large uncertainty exists in applying the analysis. Uncertainties can be grouped into different categories, even though there may be some overlap: data and model uncertainty; uncertainty about policy and ethical choices (e.g. discount rate for intergenerational costs, and “value of statistical life”); uncertainty about the future (e.g. the potential for reducing crop losses by the development of more resistant species) and idiosyncrasies of the analyst (e.g. interpretation of ambiguous or incomplete information).

Table 7.10 indicates the potential damage costs for Victoria of emissions from industry of typical class 1 and 2 indicators, as demonstrated in the problem to be addressed (Section 4). By applying the mean, upper bound and lower bound \$ per kg values from Figure 7.2, a value is determined under each outcome. The total damage cost to Victoria of emissions from industry to air of these Class 1 and 2 indicators is \$4.2 Billion per annum.

Table 7.10²² Potential damage cost to Victoria for emissions from industry to air (Class 1 and 2 indicators)

	Volume 2006 Industry NPI (tonnes)	Mean (\$)	Upper bound (\$)	Lower Bound (\$)
PM10 Urban	15,600	282,881,000	345,744,000	62,862,000
NO2	110,900	1,899,273,000	2,681,326,000	268,133,000
SO2	166,000	2,006,764,000	3,578,728,000	468,245,000
VOC	17,800	32,277,000	39,450,000	17,932,000
Total	310,300	4,221,195,000	6,645,248,000	817,172,000

What proportion of that cost avoided could be attributed directly or indirectly to a licensing and works approval system?

As part of a range of environmental measures, the proposed regulations will reduce and avoid emissions. As many other tools are also used to reduce emissions, attributing a specific percentage reduction to the regulations is very difficult. Particularly, when considering the relative impacts of economic and industrial expansion, the rapidly increasing number of cars on the road and the relatively limited data available that quantifies the change in emissions over time.

Table 7.11 indicates the benefit that the proposed regulations deliver to Victoria, in the case of 1%, 5% and 10% reduction of industry specific emissions per annum. These benefits are recognised in relation to the absence of a licensing and works approval system.

Table 7.11 Potential total benefit of proposed regulations through damage cost avoided

	Volume 2006 Industry NPI (tonnes)	Mean (\$)	Upper bound (\$)	Lower Bound (\$)
1% of Total	3103	42,212,000	66,452,000	8,172,000
5% of Total	15515	211,060,000	332,262,000	40,859,000
10% of Total	31030	422,119,000	664,525,000	81,717,000

The results presented in Table 7.11 are illustrative of the potential benefits of maintaining regulatory control over emissions to air. Assuming 5% of the total cost, the proposed regulations deliver a benefit in terms of damage costs avoided of \$211 million per annum (Table 7.11). This compared with the total cost of the proposed regulations of \$33.3 million (Table 7.16), indicates that in this example the incremental benefit is \$177.7 million per annum.

• 14.85% inflation (December 2001 - December 2006) - ABS 2007

²² Assumption:

• 2006 NPI Facility Emission Data for Victoria for all industry categories is representative of ‘typical’ year and represents the baseline for emissions going forward.

This assessment is in the absence of research on the quantifiable benefits for Class 3 indicators, which as demonstrated in the problem definition (section 4) are present in lower volumes but have significantly greater impact on human health than Class 1 and 2. Comparable studies on air toxics are generally unavailable, partly because of the unevenness of their distribution in the air shed, and also due to very conservative emission levels set by regulatory controls. This is an area of continued research around the world and the inclusion of these emissions is very likely to increase the net benefit shown above.

As an indication of the multiples of benefit to cost of environmental regulation, US EPA analysis in 1997 indicated that raising the US national ambient air quality standard for ozone and particulates would cost US\$6.5 billion to US\$8.5 billion with delivered benefits of US\$120 billion.²³ Benefits cited include fewer lost work and school days as well as fewer hospital admissions. This implies a ratio of US\$14.1 of benefit to every US\$1 of cost for addressing air quality emissions under a regulatory environmental framework, such as the proposed regulations.

Quantifying the benefit that the community and business derive from environmental improvement (or conversely the damage done by environmental degradation), and more specifically the benefit that might be derived as a result of the proposed regulations is clearly very complex. EPA has therefore also used a variety of proxy indicators to further demonstrate the direct benefits of the proposed regulation beyond \$177.7 million per annum.

7.3 EPA

7.3.1 EPA costs

EPA has estimated that the management of the licensing and works approval system, including the associated fees, compliance issues and internal management represents approximately 50 per cent of the time of regional services and support systems. The licensing and works approval system represents a significant cost to EPA.

Regional services and support systems costs

During the course of this RIS, EPA conducted a detailed cost analysis. This analysis included an assessment of the:

- staff time including associated overtime and on costs eg. training
- overheads including IT equipment, office costs and overheads
- other capital costs including cars and equipment used for field work.

The following sections outline the cost to EPA of administering the licensing and works approval system.

Staff time

During the analysis EPA identified the number of staff who contribute to the management of the licensing and works approval system. The assessment included identifying the number of staff at different salary levels within EPA. EPA staff costs include on-costs of 26 per cent and a budget for training and uniforms.

The total staff costs allocated to administering the proposed regulations were estimated to be 50% of total staff time for those identified in Table 7.12 below. The work activities undertaken by EPA staff relating to the administration of the 1996 regulations are summarised below:

- Licence and Approval Application Assessment including:
 - Report Review
 - Peer Reviews
 - 20 B Conferences
 - Victorian Civil and Administrative Tribunal (VCAT)
 - Authority Meetings.
- Licence and Approval Maintenance including:
 - Licensed Site Inspections
 - Client Liaison Meetings

²³ Raber, L.R - Clean Air: Dollars versus Lives, Chemical & Engineering News, Washington Feb 3 1997, Vol.75, Iss. 5; pg. 28

- Report Review including, Annual Performance Reports, Landfill Levy Validation, Financial Assurance Assessments and Greenhouse Programs and Action Plans
- Monthly Reporting (Internal)
- Reminder Letters
- Licence Amendments
- EIP Development/Amendment
- Accredited Licence Reviews
- Community Consultation;
- General Correspondence.
- Other Statutory Approvals including:
 - Research Development and Demonstration (RDD) Applications
 - Works Approval Exemptions
 - Other.
- Non-Compliance / Enforcement including:
 - Warnings;
 - Notices Of Contravention
 - Penalty Infringement Notices
 - Pollution Abatement Notices and Minor Works Pollution Abatement Notices
 - Clean Up Notices.
- Other Actions.

These activities are not expected to change as a result of the proposed regulations.

Table 7.12 demonstrates the number of EPA regional services staff and associated costs.

Table 7.12: EPA regional services staff costs

Description	Number of staff	Total cost (\$m)	Cost attributable to proposed regs (\$m)
Executive Directorate Regional Services	11	\$3.9	\$1.95
Unit Manager	14	\$4.28	\$2.14
Environment Protection Officer and/or Team Leader	28	\$6.34	\$3.17
Environment Protection Officer and/or Community Relations	48	\$9.14	\$4.57
Environment Protection Officer and/or Administration	53	\$8.74	\$4.37
Environment Protection Officer and/or Administration	18	\$2.4	\$1.20
Total staff costs associated with regs (estimated to be 50% of total time)	172	\$17.42	\$8.71
Overtime	-	\$0.82	\$0.41
Total including salary and overtime		\$18.20	\$9.10

IT, office costs and overheads

EPA has estimated that \$22,660 per full time equivalent (FTE) is associated with office accommodation, IT and overheads. An estimated cost of \$1,948,760 worth of overhead costs is associated with the proposed regulations [$\$22,600 \times 172 \times 50\%$].

Cars and field equipment

Another cost associated with the proposed regulations is in travel for EPA staff that work with licensed sites across Victoria. There are also a number of other equipment costs associated with managing the proposed regulations. EPA has assumed that 50 per cent of the cost of running the car fleet and associated equipment should be included in the cost of the proposed regulations.

Table 7.13 below outlines the cost of the car fleet and other related equipment costs.

Table 7.13 Car fleet and associated equipment costs

Description	Quantity	Cost per unit	Total
EPA vehicle	62	\$9,018	\$559,094
Fuel	62	\$2,472	\$153,264
Maintenance	62	\$1,236	\$76,632
City Link	62	\$1,236	\$76,632
Equipment	62	\$5,150	\$319,300
Parking Bay (CBD)	12	\$3,708	\$44,496
Parking Bay (Regional)	50	\$1,236	\$61,800
Total cost			\$1,214,586
Total attributable to proposed regs (50%)			\$607,293

Other EPA costs

There are other costs directly associated with EPA’s licensing and works approval system, which are shown in the table below. The majority of these costs are attributable to corporate services costs that are directly associated with the operation of the proposed system.

Table 7.14: Other costs

Division / Unit	Estimated operating cost 06-07	% of cost attributable to regs	Total
Environmental Chemistry	\$158,620	30%	486,955
Corporate Services	\$1,110,340	20%	2,212,252
Solicitors Office	\$203,940	50%	516,215
Community Support	\$113,300	5%	51,158
Business Sustainability	\$271,920	5%	167,648
Total attributable to proposed regs			\$3,434,228

Source: EPA Internal Finance Report 05-06 indexed at 3%

Corporate services are assigned 20% based on a cost assessment of regional services and support system costs attributable to licensing and works approvals (\$11,705,000) in proportion to total EPA costs (\$57,478,000)²⁴.

Environmental Chemistry, Solicitors Office, Community Support and Business Sustainability allocations are based on an EPA Time Survey which calculated the total time spent by division /unit on the system and multiplied it by the estimated operating cost per annum (Table 7-14)²⁵. Environmental Chemistry conducts sample analysis and scientific assessment as part of the licensing system.

Summary of EPA total costs

The EPA cost of operating the proposed licensing and works approval (\$15,100,923) is the sum of regional services and support systems and other EPA costs. Over a ten-year period the proposed regulations are estimated to cost EPA approximately \$130 million. A 3.5 per cent real discount rate in line with advice provided by the VCEC has been used for this analysis. Table 7.15 summarises the costs associated with the proposed regulations.

7.3.2 EPA benefits

The proposed regulations will require EPA to manage fewer licences. However as discussed in section 7.1.1, the types of businesses that will no longer be required to hold a licence and apply for a works approval are less costly to manage than those new sites entering the system under the proposed regulations. As such, the administrative net cost to EPA as a result of the redistribution of licensed sites is marginal.

Critically, the redistribution in licensing will result in better environmental outcomes by ensuring sites that pose a significant environmental risk are required to demonstrate compliance with the environmental management framework. Similarly, those sites no longer classified as posing significant environmental risks will not unnecessarily consume EPA resources. The net effect will be a more efficient distribution of EPA's time and resources allowing it to focus on those activities that pose the greatest risk. This is expected to lead to better environmental outcomes.

7.4 Overall assessment

7.4.1 Summary of the overall costs of the proposed regulations

Table 7.17 below summarises the total costs associated with the proposed regulations. Over a ten-year period the proposed regulations are estimated to cost approximately \$286.8 million or \$33.3 million per annum. A 3.5 per cent real discount rate in line with advice provided by the VCEC has been used for this analysis.

7.4.2 Summary of the overall benefits of the proposed regulations

The proposed regulations deliver a number of benefits to business and the community.

In ensuring the continued effort to manage Class 1 and 2 air indicators the proposed regulations as an example provide \$211 million per annum in quantifiable economic value for the economy. (Section 7)

In addition the proposed regulations also deliver qualitative benefits for business and the community. The qualitative benefits to business include:

- a social licence with which to operate
- a level playing field in industry with regard to environmental practice
- the capacity for environmental managers to drive internal performance initiatives
- improved planning and community stakeholder management outcomes
- a reduction in clean-up costs
- a reduction in retrofitting costs.

7.4.3 Assessment

There are significant benefits that will flow to both business and the community as a result of the proposed regulations. The overall benefits are assessed by EPA to exceed the estimated cost of \$33 million per annum.

²⁴ EPA Annual Report 2005-2006

²⁵ Department of Treasury and Finance (2006), *Interim Victorian Standard Cost Model Manual*, Version 1.1. Melbourne, October.



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Table 7.15: Summary of EPA costs

EPA costs (\$ 2006)	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	PV of costs
Regional services & support systems costs											
Staff costs	8,705,664	8,705,664	8,705,664	8,705,664	8,705,664	8,705,664	8,705,664	8,705,664	8,705,664	8,705,664	74,925,555
Overtime costs	404,978	404,978	404,978	404,978	404,978	404,978	404,978	404,978	404,978	404,978	3,485,454
IT and overhead costs	1,948,760	1,948,760	1,948,760	1,948,760	1,948,760	1,948,760	1,948,760	1,948,760	1,948,760	1,948,760	16,772,061
Cars and field equipment	607,293	607,293	607,293	607,293	607,293	607,293	607,293	607,293	607,293	607,293	5,226,685
Other costs	3,434,228	3,434,228	3,434,228	3,434,228	3,434,228	3,434,228	3,434,228	3,434,228	3,434,228	3,434,228	
Total EPA cost	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	129,966,539

Table 7.16 Summary of the costs of the proposed regulations

Total costs (\$ 2006)	Jul-07	Jul-08	Jul-09	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15	Jul-16	PV of costs
Business [excluding transfer costs to EPA]	17,876,160	17,876,160	17,876,160	17,876,160	17,876,160	17,876,160	17,876,160	17,876,160	17,876,160	17,876,160	153,851,700
EPA	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	15,100,923	129,966,539
	32,977,083	32,977,083	32,977,083	32,977,083	32,977,083	32,977,083	32,977,083	32,977,083	32,977,083	32,977,083	283,818,239

Note: In order to avoid double counting the costs of the regulations, business costs are included net of any transfer amounts to EPA.

8 ASSESSMENT OF IMPACT ON SMALL BUSINESS

The number of small businesses impacted

In developing this RIS, a survey was sent out to all businesses that are currently scheduled under the 1996 regulations. Only 12% of the businesses surveyed met the definition of a small business. Given that 832 businesses are likely to be scheduled premises under the proposed regulations this means that up to 100 small businesses may be impacted. The ABS defines a small business as one that has a total turnover of between \$10,000 and \$5m p.a. and employs 20 full-time equivalent (FTE) employees or less.²⁶

It is important to note that the proposed exemption for small wastewater treatment plants will exempt a much higher proportion of small businesses than large. Therefore the number of small businesses impacted by these regulations could be much lower than 100.

The impacts on small business

The small businesses that are captured by the proposed regulations operate in high environmental risk categories where essentially all businesses are scheduled premises. As is discussed in the cost-benefit analysis in section 1 the major costs to business of the proposed regulations are the administrative and financial costs. The analysis in the SCM report shows that small businesses incur lower administrative costs. In fact the administrative costs are almost 50% lower for small business based on survey results. In addition, small businesses also incur significantly lower financial cost to meet the requirements of the regulatory system.

Thus, in absolute terms, the proposed regulations impose a lower burden on small businesses compared to larger businesses. This suggests that the proposed regulations do not have a negative impact on small business.

Further, consultation with business indicated that because many small businesses lack the resources of larger organisations to invest in their environmental management practices, many smaller businesses tend to extract relatively greater value out of the system in terms of their interaction with EPA.

²⁶ ABS, Experimental Estimates, Regional Small Business Statistics, Australia, 1996-2001 (Catalogue number 5675.0)

9 ASSESSMENT OF COMPETITION IMPACTS

The proposed regulations are expected to marginally restrict competition in certain industry categories by acting as a marginal barrier to expansion. However, this impact is not expected to be material.

9.1 Barriers to expansion

The proposed regulations, in most categories, come into operation only when business activities reach a certain scale. In many categories, small businesses with a low scale of activities will not be captured by the proposed regulations. However, as businesses expand the scale of their activities they may be captured by the proposed regulations and, therefore, have to incur the associated costs. Thus, the proposed regulations potentially act as a marginal disincentive for smaller businesses to expand their operations.

9.2 Barriers to entry

Consultation with affected businesses indicates that the proposed regulations will not impose material barriers to entry, particularly for small business. They do not confer any obvious market advantage on incumbents. Given that the proposed regulations only apply to businesses that reach a certain activity threshold, they arguably put small new entrants who do not have to comply with the proposed regulations at a relative competitive advantage.

9.3 The relative burden of the regulations compared to other jurisdictions

Section 10.1 outlines the regulatory framework in operation in each State and Territory. The section shows how the proposed regulations are broadly consistent with the approach currently adopted across Australia. Notably, the number of scheduled premises in Victoria is actually lower on a per capita basis than in most of the other jurisdictions. As such, EPA is confident that, overall, the proposed regulations will not place business in Victoria at a competitive disadvantage relative to businesses in the other jurisdictions. This finding was validated by the feedback provided by business in the business consultations.

Notably, while the overall burden imposed by the proposed regulations on Victorian business is lower than those of the other states, there are some industry categories where the burden imposed on business is higher in Victoria. Table 10.1 compares the approaches adopted in the other states with the approach adopted in Victoria for each new industry category and major changes to industry categories. The table shows that for most industry categories, the approach adopted in Victoria is either in-line with or less onerous than the approaches in the other states. There are some industry categories where the approach adopted in Victoria is more onerous than the approaches adopted in *some or all* of the other states. These categories are:

- energy from waste
- edible oil
- textiles
- bulk storage
- printing works
- power stations
- carbon geosequestration
- general emissions to air
- road tunnel ventilation systems.

Victorian businesses in these industry categories are potentially put at a marginal competitive disadvantage to businesses based in the other states. Table 10.1 explains why these categories have more onerous requirements and how the benefits of this outweigh the costs.

9.4 Summary

Consultations with business indicate that the proposed regulations will only have a marginal impact on competition. The proposed regulations do not act as a barrier entry and their impact on competition is constrained only to the marginal barrier to expansion that they impose.

9.5 The Competition Principles Agreement

The National Competition Policy Agreements (NCPA) set out requirements to be observed by jurisdictions party to the agreements when considering new legislation.

Clause 5(1) of the Competition Principles Agreement describes the guiding principles for the revision of existing legislation and the drafting of proposed legislation. It states that legislation²⁷ should not restrict competition unless it can be demonstrated that the:

- benefits of the restriction to the community as a whole outweigh the costs
- objectives of the regulation can only be achieved by restricting competition.

In addressing the first of these tests, the analysis contained in section 1 demonstrates that the benefits of the proposed regulations outweigh the costs.

In addressing the second of these tests, the objectives of the proposed regulations can only be achieved, most effectively, by restricting competition. This is explained in greater detail below.

An objective of the proposed regulations is to assure the protection of the environment. The proposed regulations determine which industry categories pose a high level of environmental risk and require additional environmental assurance from the businesses in them. Such categories are captured in the environmental management system. The proposed regulations also establish the activity level thresholds that apply to businesses in each category in order to determine what businesses are in the system. These thresholds are based on a rigorous risk assessment of each category. EPA does not restrict the number of businesses in the system.

It is recognised that this system imposes relatively greater costs on some businesses, which can distort competition at the margin. However, exempting all businesses from having to be in the system, which would eliminate any competitive distortions, simply presents too high an environmental risk. The thresholds in each industry category are set to balance the cost concerns of business against the environmental concerns of the Government and the community. As such, the objective of the proposed regulations can only be achieved by marginally restricting competition.

²⁷ Including Acts, enactments, ordinances and regulations

10 ASSESSMENT OF PROPOSED MEASURE AGAINST ALTERNATIVE OPTIONS

10.1 Approaches undertaken in other jurisdictions

On the 25 and 26 of March 2004 environmental representatives from all States and Territories attended the National Prescribed Premises workshop with the objectives of:

- obtaining a greater understanding of the regulatory framework and licensing structure that is applied in each jurisdiction
- assessing these systems- their relative costs and benefits - and examining potential methods for their improvement
- coordinating approaches to redefine prescribed premises.

The main findings from the workshop on the regulatory frameworks that operate in each jurisdiction are summarised below.

Broadly, differences between regulatory regimes in each of the jurisdictions are based on the size and distribution of each of the industry types in that jurisdiction. A particular industry type may consist of a few large operators in one jurisdiction, while in another it may be a number of small operators or not present at all.

ACT

The ACT's *Environment Protection Act 1997* sets out the requirements for authorisations for activities with environmental risk. Each authorisation is unique to the activity it covers and can restrict certain aspects of the activity.

New South Wales

The NSW *Protection of the Environment Operations (POEO) Act 1997* describes which activities are classified as high and low risk threats to the environment. A licence is required for all high-risk premises.

Depending on the specific nature of the activity a different licence is issued, these include:

- scheduled development licences;
- environmental protection licences;
- water protection licences; and
- non-premises based licences (~3100).

Local councils and other authorities regulate premises with less significant risks.

Northern Territory

Environmental protection approvals and licences are detailed in the *Waste Management and Pollution Control Act*.

The current system makes use of approvals and licences. Approvals are used to help ensure that companies have considered environmental management in the design and construction of their facility, which usually concerns a licensable activity.

Queensland

Under Queensland's *Environment Protection Regulation 1998*, all environmentally relevant activities (ERAs) have to be administered by the Environment Protection Agency (EPA) or local governments. An amendment to the Environment Protection Act 1994 in 2004 resulted in the implementation of a single approval process for all ERAs. Queensland has recently (October 2004) introduced a development approval and registration certificate for all ERAs.

South Australia

The South Australian *Environment Protection Act 1993* establishes the framework for environmental licensing and works approvals.

The various mechanisms used in this framework include:

- works approvals;
- development approvals;
- licences (~ 2000); and
- exemptions (~ 60).

Tasmania

The Tasmanian Department of Primary Industries, Water and Air administers the *Environmental Management and Pollution Control Act 1994*. Tasmanian businesses are subject to environmental licensing and major new developments must get environmental approval.

Western Australia

All premises in Western Australia are subject to the *Environment Protection Act 1986*. Under the legislation, prescribed premises either require:

- works approvals and licences (~900);
- works approval and licence or registration (approximately 2300); and / or
- registration (~1300).

Activities are firstly assessed according to their environmental impacts. The activities with less risk are managed by alternative regulatory mechanisms. A licence is required for operation in cases where the environmental impacts are deemed significant.

Summary

Every State and Territory in Australia has an environmental protection system that is similar to Victoria's. As such, the proposed regulations are broadly consistent with current environmental practice across Australia. The number of scheduled premises in Victoria, as prescribed by the proposed regulations, is lower on a per capita basis than most of the other States and Territories. This indicates, at a very high level, that the proposed regulations in Victoria impose a lower burden on business than do similar regulations in the other jurisdictions.

Table 10.1 below compares the approaches adopted in the other states with the approach adopted in Victoria for each new activity and major changes to existing activities. The table shows that for most activities the approach adopted in Victoria is less onerous than the approach in the other states, whilst still achieving overarching environmental objectives.

Where the approach adopted in Victoria is more onerous, the reason for this is explained.

Table 10.1: Comparison of the approaches adopted in each new category and major changes to existing categories

New categories and material changes	Approach in other jurisdictions	EPA Victoria approach
Waste water treatment	New South Wales, Western Australia, South Australia, and Queensland have licensing regimes in place for this category.	Remove the requirement for small wastewater treatment plants discharging solely to land to hold a licence. This approach is less onerous than the approaches in other states.
Composting	New South Wales, Western Australia, South Australia, and Queensland have licensing regimes in place for this category.	Require a works approval and licence for all businesses over the threshold, which is defined as a facility with a capacity to process more than 100 tonnes of waste per month. The threshold of 100 tonnes ensures that this approach is less onerous than the approaches in other states.
Energy from waste	Western Australia, South Australia, Queensland and New South Wales have no specific regulation for this category. However, they regulate similar such businesses through the fuel burning and composting categories.	Regulate the generation of electrical power from waste. This approach is more onerous than the approaches in other states. The benefits of the approach, which provides industry with greater certainty and guidance and reduces confusion associated with overlapping regulations in other states, is viewed to outweigh the administrative cost.

**ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT**

New categories and material changes	Approach in other jurisdictions	EPA Victoria approach
Intensive bird industries	<p>All states appear to have a licence or other approval mechanism for their bird intensive industries.</p> <p>Queensland requires a licence for farms with greater than 200,000 birds.</p> <p>New South Wales requires a licence required for farms with greater than 250,000 birds.</p> <p>South Australia do not licence but all developments over 1,000 square metres must be sent to EPA SA for comment to ensure the development meets appropriate standards.</p>	<p>Require poultry farms or complexes designed to hold 320,000 or more birds to require a works approval. The new regulations will not require that these facilities be required to hold an EPA licence.</p> <p>By including works approval for large complexes EPA will ensure appropriate development requirements and standards.</p> <p>This approach is less onerous than the approaches in other states.</p>
Abattoirs	<p>All the other States licence abattoirs at various thresholds. None have a discharge-based exemption.</p>	<p>Abattoirs that discharge more than 100,000 litres per day must be licensed. This definition has not changed since the 1996 regulations.</p> <p>The new discharge exemption will make this approach less onerous than the approaches in other states.</p>
Animal skin tanning	<p>Queensland - licence required for tanning or curing or commercially finishing leather.</p> <p>South Australia - licence required for commercial preservation or treatment greater than 5 tonnes per year.</p> <p>Tasmania - licence required for commercial preservation or treatment or drying greater than 100 tonnes per year.</p> <p>New South Wales - licence required for all tanneries and fell mongeries.</p>	<p>Licensing will be focussed on the tanning step because this is the category segment that is of most concern. No thresholds are included in the definition. This is in line with other states' approaches.</p>
Edible oil	<p>1000t per year in Queensland.</p> <p>200t per year in Western Australia.</p>	<p>While other states have a lower threshold, EPA experience with these sites has been that those below 2000 tonnes per year do not cause significant problems. This could be due to Victoria having fewer small sites than other states.</p>

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

New categories and material changes	Approach in other jurisdictions	EPA Victoria approach
Textiles	<p>Queensland has a broad category that requires all businesses to licence.</p> <p>Western Australia licences those businesses involved in bleaching dyeing or finishing.</p> <p>Tasmania licences those businesses involved in bleaching or dyeing with water production thresholds.</p> <p>New South Wales and South Australia do not require licensing.</p>	<p>The proposed regulations are in line with the licensing systems in Queensland, Western Australia and Tasmania but are more onerous than the requirements in NSW and SA. Textiles is a relatively large industry in Victoria compared with NSW and SA (Victoria has over 50% of Australia's total number of businesses in this sector²⁸). Moreover, smaller operators here are often co-located with residential zoning meaning there is significant community concern. It is believed that similar issues have not arisen in NSW and SA.</p>
Bulk storage	<p>Greater than 1000 cubic metres in aggregate in Western Australia and South Australia.</p> <p>Greater than 1000t in aggregate in NSW.</p>	<p>The proposed regulations propose a threshold of 1000 cubic metres.</p> <p>This approach is no more onerous than in Western Australia and South Australia.</p>
Container washing	<p>NSW and South Australia have broad licensing guidelines for packaging containers previously used for storage / transport of radioactive or poisonous substances.</p>	<p>The new regulations require container washing sites to apply for works approval and hold a licence if the containers have held prescribed industrial wastes, which is in line with Victoria's Waste Management Policy, or any material defined as a dangerous good, which is in line with the current measures in NSW and South Australia.</p> <p>This industry has increased in size recently due to a move by many chemical users from drums to bulk containers. It is expected that most jurisdictions will move towards regulation in the near future.</p>

²⁸ <http://invest.vic.gov.au/Key+Sectors/More+Industries/TCFL.htm>

**ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 – REGULATORY IMPACT STATEMENT**

New categories and material changes	Approach in other jurisdictions	EPA Victoria approach
Pulp and paper	100 tonnes per year in Queensland and South Australia. 5,000 tonnes per year in Western Australia. 30,000 tonnes per year in New South Wales or 70,000 tonnes per year if 90 per cent of the paper is recycled. No threshold in Tasmania.	The proposed regulation broadens the definition and includes a licence exemption for sites producing less than 30,000 tonnes pulp paper or cardboard per year. This approach is in line with NSW and is less onerous than approaches in other states.
Printing works	New South Wales, Western Australia, and Tasmania do not impose licensing or works approval requirements on businesses in this category. Queensland requires a works approval.	The proposed regulation extends the threshold for licence exemption to all printers emitting less than 100kg/day of VOC. Printing works are of a substantially larger scale in Victoria than in the other states. As such, the magnitude of the environmental risks is greater which necessitates the licensing of premises in this category. Note that this is in line with the system in Queensland, which also has a large printing industry.
Power stations	Queensland - Requires all power stations with a capacity greater than 5 MW to hold a licence. A discount is provided for those power stations that use natural gas for generation. New South Wales - Requires all power stations with a capacity of 30 or more MW to be licensed. Gas fired power stations operating in the metropolitan area with a capacity of 20 MW or more are required to be licensed. It should also be noted that power stations in NSW with a capacity of less than 20 MW are captured by other regulatory categories; South Australia - Requires all power stations with a capacity greater than 5 MW to be licensed. Western Australia - Requires power stations with a capacity of 10 MW or more to be licensed. A higher licence threshold of 20 MW is set for gas-powered stations.	The new regulations will require those power stations generating electrical power at a rated capacity of at least 5 MW to gain a works approval and an EPA licence. This is unchanged from the existing regulations. The new regulations recognise that small natural gas fired power stations pose a lower risk and therefore will provide a licensing exemption for power stations using solely natural gas turbines and which have a total power generation capacity of less than 20 MW. Power stations eligible for this exemption are still required to apply for a works approval. The proposed approach is in line with the approaches in South Australia and Queensland but is more onerous than NSW due to the use of different (and higher risk) fuel types in Victoria.
Carbon geosequestration	Options are not known to have been considered by other States at this stage.	It is likely that over the 10-year horizon of the proposed regulations that carbon geosequestration facilities will be built in Victoria. The proposed regulations require licensing and works approval due to the potential for significant air and noise emissions.

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

New categories and material changes	Approach in other jurisdictions	EPA Victoria approach
General emissions to air	No other State has either a category for licence based on air emissions or general exemptions clauses, though some have a fuel-burning category.	<p>This is a broad category designed for premises which may emit highly toxic materials or which discharge very large quantities of the other pollutants as defined. Licensing this category ensures that all significant types and quantities of air pollutants are accounted for and can be appropriately controlled to high environment standards.</p> <p>While the proposed approach for this category is more onerous than in other states, the approach of targeting significant emissions means that Victoria requires less prescribed activities than the other states which is assumed to reduce administrative burden (reporting under multiple categories) to business. The burden is focussed on those sites that are major contributors of air emissions, rather than having more broad sectors.</p>
Tunnel ventilation systems	Other jurisdictions regulate this category through road traffic and planning authorities. NSW specifically regulates all freeway construction projects, which incorporates tunnels. The majority of these projects are likely to be in Sydney and Melbourne.	This category includes road transport infrastructure tunnels that involve the discharge of vehicle emissions released inside the tunnel. Key recent examples are the tunnels associated with the CityLink and EastLink tollways.
Concrete batching plants	NSW and QLD both have a licensing regime for this category. SA and TAS do not require premises in this category to licence, while WA requires a works approval.	<p>The proposed approach removes the requirement for works approval and regulates the category through the planning system where appropriate, which reduces the administrative burden on businesses.</p> <p>This approach is less onerous than the approaches in other states.</p>
Specific on-site waste treatment	New South Wales, South Australia, Queensland and Western Australia have defined broader categories.	The materials listed in this category are also regulated through other mechanisms such as Notifiable Chemical Orders or the Drugs, Poisons and Controlled Substances Act. The proposed regulations will remove this category and hence the overlap with the other controls.

10.2 Alternatives considered

In developing the proposed regulations, EPA considered whether alternative approaches (including self/co-regulatory models) could better deliver the objectives set out in Chapter 5. EPA underwent a comprehensive process to determine:

- which activities currently pose a medium to high level of environmental risk;
- the level of business activity (in each category) at which the risk becomes significant enough to warrant regulation
- opportunities for innovative regulatory approaches to reduce the overall burden on business whilst still achieving environmental outcomes.

A key part of this process was a rigorous risk assessment of each category, which is outlined in section 4.5. In accordance with the *Victorian Guide to Regulation*, two alternatives to the proposed regulations and the base case are considered.

The options considered are:

- No regulations - the 'base case.'
- The proposed regulations.
- Performance-based licensing (Option 1).
- Co- regulatory model (Option 2).

10.3 The base case

The 'base case' is defined as the existing environment protection system, in the absence of the 1996 regulations, which establish the population for the licensing and works approval system. In practical terms, allowing the 1996 regulations to sunset would mean:

- no sites or projects would be subject to a works approval process;
- no sites in Victoria would be licensed; and
- no sites would be required to pay the Landfill levy, Environment protection levy or hold a financial assurance.

The base case would result in less guidance to industry on how they should meet their environmental obligations (including acceptable emission levels). It would not meet existing community expectation that EPA should have a direct regulatory role for those activities that can impact significantly on local environments. It would also mean that the beneficial value attributed by many industry stakeholders to the scheduled premises framework would be lost. The base case represents a high environmental risk.

10.4 The proposed regulations

The proposed regulations are described in detail in Section 6.

The proposed regulations recommend a different mix of activity types to be prescribed as scheduled premises, and in some cases a more flexible approach to the different application of works approval and/or licensing. They focus on those activities where the benefits delivered by the scheduled premises framework outweigh the costs.

10.5 Option 1: 'Performance based licensing'

This option would mean that EPA would no longer schedule premises according to prescriptive sectoral categories. EPA would set relevant thresholds, either based on broad performance targets (for example meeting all SEPP/WMP emission requirements) or based on the risk profile of the premises. EPA would then conduct works approval and licensing for each site based on its individual risk profile.

Each operator would work with EPA to assess the environmental risk posed by the activities on site and would develop an environmental plan tailored to address these risks.

This individual risk based approach for sites is likely to derive benefits for sites that already have good risk management and impose higher costs for average to poor performers where greater EPA input is required. Moreover, larger businesses often with designated environmental resources are more likely to be able to demonstrate a

consistent track record and more actively manage their relationship with EPA. This may mean that industries with multiple large businesses will find this option more suitable than industries with many businesses.

A concern of this approach is that it could place disproportionately high impact on small licensees who (based on consultation) want direct, easy to follow guidance and unduly onerous regulation. To ensure that small businesses do not bear a proportionally greater cost, a threshold would have to be set. This threshold might be based on an easily measurable characteristic of the site such as turnover or number of staff employed

The appropriate level of control for new entrants would be determined through EPA's understanding of the premises and its demonstrated environmental performance. It would be possible for a premises to improve its environmental performance and therefore risk profile to a level where it would no longer require licensing. This would provide some incentive for premises to move beyond compliance. A problem however, is that in some industries, the risks associated with the consequences of an event are so great that it is unlikely that the licensing requirement would be removed.

A premises that is not required to hold a licence may be required to provide proof that its operations continue to present a reduced environmental risk after a prescribed period of time, say three or five years, in a similar way to the system of licensing major hazard facilities through the Victorian Workcover Authority.

Benefits of this option

- Provides a flexible system that is responsive to individual premises conditions
- Provides incentive to premises to improve environmental performance and move beyond compliance.

Challenges of this option

- may lead to disproportionate regulatory burden on small business in comparison to large business
- leads to a high administrative burden to demonstrate initial performance or risk profile, possibly presenting a barrier to market entry. This administrative burden would need to be repeated periodically
- creates difficulty in ensuring consistency across all operators. In the absence of scheduled activities, it may be more difficult for sites to benchmark their environmental performance against other industry participants, as there is reduced transparency to operators of EPA requirements for each site
- leads to lack of certainty in the establishment of new premises, particularly with small businesses that by their nature might present a significant environmental risk.

It is also difficult to set a threshold across many sectors that will have any relevance to the risk level that they pose. For example, a small chemical manufacturer that uses acrylonitrile on site would have a much larger risk profile than a large motor vehicle assembly plant. This would not be reflected in a metric that does not take into account materials handled on site.

Illustrative case study:

Industry overview: Pulp and paper

This category consists of pulp or paper mills, which are works that process wood, wood products, waste paper or other cellulose materials to form pulp, paper or cardboard.

Why regulate?

The pulping process produces a number of reduced sulfur compounds, including hydrogen sulfide, methyl mercaptan, and dimethyl sulfide and dimethyl disulfide. These chemicals can generate odour pollution reports from up to 70 kilometres away from the mill. In addition to odour, pulp and paper facilities can generate high combustion products (NO_x and SO_x) and high particulate emissions.

Pulping processes also use significant quantities of water and consequently have large wastewater discharges. These discharge waters have elevated levels of dissolved solids, suspended solids, colour, biological material, metals and other contaminants. There is also the potential for discharge of intractable chlorinated wastes, which are known to be highly toxic, and to bio-accumulate.

Potential outcome of 'Option 1': Performance based licensing

The pulp and paper industry is highly concentrated; the four largest businesses are estimated to make up over 86 per cent of the industry.²⁹ However, there are a number of smaller operators mainly involved in specialty paper applications. These may be exempted under a generic threshold.

EPA could work with each of the larger operators to perform a risk assessment on the business, develop an environmental plan and assist in improving environmental performance. For operators that can demonstrate very good management systems and a track record of very few community pollution reports, it is possible that a risk assessment might allow a high performing premises to be exempt from licensing.

Smaller operators would also be able to reduce their administrative costs over time but are also likely to incur large administrative and reporting costs relative to their environmental risk.

Measures in other jurisdictions

In other states licensing systems are used (similar to that of the proposed option) which include licence exemptions for companies that produce less than:

- 100 tonnes per year in Queensland and South Australia
- 5000 tonnes per year in Western Australia
- 30,000 tonnes per year in New South Wales or 70,000 tonnes per year if 90 per cent of the paper is recycled.

²⁹ Ibisworld Industry Report, Pulp Paper and Paperboard manufacturing, Australia, 2006

The following table summarises the broad advantages and disadvantages of Option 1.

Table 10.2: Performance-based licensing (Option 1) – Summary of the advantages and disadvantages

	Business	EPA	Community
Advantages	<p>Incentive to be involved in resource efficiency and environmentally sustainable projects.</p> <p>Potentially greater flexibility in meeting environmental requirements.</p> <p>Improved ownership of environmental achievements.</p>	<p>Reduced administrative burden in the longer term.</p> <p>Potential to have fewer licensed sites in the longer term.</p>	<p>Potential for increase in environmental performance, particularly of larger organisations.</p>
Disadvantages	<p>Higher administrative burden, particularly on small business.</p> <p>Lack of regulatory certainty in establishment of new premises.</p> <p>Lack of level playing field.</p>	<p>Difficulty in ensuring consistency across operators.</p> <p>Increased administrative burden in the short to medium term.</p> <p>Lack of assurance that premises will continue to meet objectives.</p>	<p>Reduced confidence that all businesses are meeting environmental requirements.</p> <p>Potential that some high environmental risk premises are not appropriately controlled due to problems with setting a small business threshold.</p>

10.6 Option 2: ‘Co-regulatory’ model

A co-regulatory model would give industry significantly more input into determining and administering a scheduled premises framework.

EPA would determine which activities pose the highest levels of risk and must be in the system. In conjunction with industry and community stakeholders, it would then need to develop codes of practice for each affected industry or activity. This would embody elements of the existing works approval and licensing system.

Under a co-regulatory model an industry group or groups would administer the codes, effectively taking on much of the regulatory role. They would need to be separately “approved” or “accredited” by EPA to carry out the regulatory activities, which would include monitoring compliance with the relevant code and, where appropriate, taking remedial or enforcement action.

A co-regulatory model would shift some of the costs of overseeing regulation from government to industry. It would require additional resources in establishment; to develop industry codes, accredit industry regulators and set-up appropriate external reporting mechanisms.

A co-regulatory model is most likely to work effectively in industries where there is a high degree of concentration and an industry body that has both the level of control and the funding to act as a regulator of the market. In this case, the option may lead to improved environmental outcomes in the long run and a lower administrative burden.

Co-regulation has been shown to be less effective where there is a large number of smaller businesses (as is the case with many existing scheduled premises activities) and/or where there is not an active industry association or demonstrated industry cohesiveness. These limitations are likely to apply to a co-regulatory model of code setting and oversight, leading to a suboptimal outcome in many industries.

It can be difficult for industry bodies responsible for a large number of businesses to provide appropriate assurance to the Victorian community that premises of significant environmental risk were being appropriately regulated. A report

from the Commonwealth Taskforce of Industry Self-Regulation (2000) found that self-regulation is likely to be most effective where there are clearly defined problems but no high risk of serious or widespread harm to consumers.

The following case study provides an overview of how Option 2 would apply to the Power stations industry category.

Case study: Power stations

Industry overview

The 1996 regulations classify power stations for the purposes of licensing and works approval as premises generating electrical power from the consumption of fuel at a rated capacity of at least 5 MW of electrical power.

Why regulate?

Fossil fuel burning power stations emit large quantities of products of combustion (POC) into the atmosphere. Some power stations also emit large quantities of water vapour and other materials into the atmosphere. The nature of the environmental risk caused by power stations is related to the type of fuel used and the size of the power station.

In considering the overall risk posed to power generation stations EPA considered the size (generation capacity) of the station and what fuel was combusted to generate the power.

Smaller power stations generally pose less of an environmental risk due to their small emissions levels. However, when designing and building small power stations operators still need to ensure that they meet the various legislative and regulatory requirements imposed on facilities emitting POC into the atmosphere, such as the SEPP (Air Quality Management).

The type of fuel burned during the combustion process will also play a significant role in determining the level of POC emitted into the atmosphere.

Potential outcome of 'Option 2' scenario

Under 'Option 2' EPA and a representative industry group would work together to develop an industry code of practice. The code would provide guidelines to individual operators on emission limits and reporting requirements. The industry group would then administer and monitor compliance with the code and EPA would continue to act as a 'third party' assessor. Industry would be answerable to EPA in the case that premises were not meeting desired outcomes.

The industry group would govern the population requiring administration. It is anticipated that the system would aim to deliver similar environmental standards to the proposed licensing system. However, there may be less assurance that individual premises are meeting their requirements for the following reasons:

- There could be an incentive for the industry regulator to act in the economic interests of its members, which may lead to poorer environmental outcomes; and
- The industry regulator would need to be adequately resourced and to develop regulatory expertise in order to ensure appropriate outcomes are achieved.

Measures in other states

Other jurisdictions apply different environmental assurance frameworks to power stations; the following is a summary of the different approaches:

- Queensland - Requires all power stations with a capacity greater than 5 MW to hold a licence. A discount is provided for those power stations that use natural gas for generation.
- New South Wales - Requires all power stations with a capacity of 30 or more MW to be licensed. Gas fired power stations operating in the metropolitan area with a capacity of 20 MW or more are required to be licensed. It should also be noted that power stations in NSW with a capacity with less than 20 MW are captured by other regulatory categories.
- South Australia - Requires all power stations with a capacity greater than 5 MW to be licensed.
- Western Australia - Requires power stations with a capacity of 10 MW or more to be licensed. A higher licence threshold of 20 MW is set for gas-powered stations.

Note that all the states apply a licensing system as per the proposed option.

The following table summarises the broad advantages and disadvantages of Option 2.

Table 10.3: ‘Co-Regulatory’ model (Option 2) – Summary of the advantages and disadvantages

Group	Business	EPA	Community
Advantages	<p>Increased ownership and responsibility for delivering environmental outcomes.</p> <p>Reduced reporting requirements in long run.</p>	<p>Reduced regulatory burden.</p>	<p>Potential for increase in environmental performance, particularly for industries with high concentration.</p>
Disadvantages	<p>Transfer of regulatory burden from EPA to industry groups leading to increased resource requirements.</p> <p>Industry regulators would need to ensure effective monitoring and enforcement.</p> <p>Industry groups characterised by large players could be influenced by the behaviour of members.</p>	<p>Reduced assurance that industry is meeting environmental outcomes for significant risk activities.</p> <p>Increased cost to develop framework for accrediting industry regulators and co-creating industry codes, particularly for industries with many small businesses.</p>	<p>Reduced confidence that environmental risks are being managed.</p> <p>Reliance on business to act in the best interest of the environment.</p>

10.7 Balanced scorecard approach

A ‘balanced scorecard approach’ has been used to analyse the costs and benefits of the proposed regulations and the two options relative to the base case. As highlighted in the *Victorian Guide to Regulation*, this approach is particularly useful ‘where it is not possible to quantify and assign monetary values to the impact of a proposed measure’³⁰. The balanced scorecard approach allows comparison of a range of alternatives, by assigning a qualitative score for each alternative against a series of criteria.

Criteria

The objectives of the Act have been used to develop criteria, which can be used to assess the regulations against their alternatives, namely:

- environmental outcomes
- economic efficiency³¹
- social considerations

A five-point scale has been used to score the impact of the proposed regulations and the two alternative options against each of the criteria. The following table outlines the scoring scheme used in this RIS.

³⁰ Victorian Government 2005, *Victorian Guide to Regulation*, Melbourne, p. 5-13

³¹ Economic efficiency considers the impact of the option on administrative efficiency of business and the impact on broader performance of the Victorian economy.

Table 10.4: Scoring scheme used in the RIS

Score	Impact of proposal on criteria
2	More desirable
1	Desirable
0	Neutral
-1	Undesirable
-2	More undesirable

For example, a score of '1' against the criteria 'environmental outcomes' would indicate that the proposal has a 'desirable impact on environmental outcomes'.

It is important to note that the assigned scores allow comparison between the proposed regulations and the two alternative options. However, the scores are not intended to compare the relative impact of each different proposed amendment against the criteria.

Weightings

A weighting has also been assigned to each of the criteria. These weightings reflect the first Principle of the Act, the *Principle of Integration of Economic, Social and Environmental Considerations*, which states the need for:

'effective integration of economic, social and environmental considerations in decision making processes with the need to improve community well-being and the benefit of future generations'³².

As such, the economic, social and environmental objectives have been assigned approximately equivalent weightings. The following table outlines the weightings used in this RIS.

Table 10.5: Criteria weightings used

Criteria	Weighting (%)
Environmental outcomes	35
Economic efficiency	35
Social considerations ³³	30

Overall score

An option's overall score is then calculated by multiplying the score assigned to each criterion by its weighting and summing the result. A proposal or alternative option with a positive overall score would therefore represent an attractive option.

Note on the balanced scorecard approach

The value of the balanced scorecard is its capacity to provide a relative ranking of options which, in turn, enables a selection of a preferred option based on which scores higher. The scores are not intended to provide an indication of the relative utility of each. For example, if one option scores 1.0 and another option scores 0.5, this does not imply the first option is 100% better. The difference in the utility afforded by each option may actually be much different.

10.8 Balanced scorecard

The balanced scorecard below assesses the relative benefits and costs of the proposed regulations and two options relative to the base case.

³² Under Section 1B (2) of the Act

³³ Social considerations refers to aspects including *community confidence, right to know, good community relations and participation*



Table 10.6: The balanced scorecard for the proposed regulations and alternative options

Criteria	Weighting (%)	Base case		Proposed regulations		Option 1		Option 2	
		Assigned score	Weighted score	Assigned score	Weighted score	Assigned score	Weighted score	Assigned score	Weighted score
Environmental outcomes	35	0	0	2	0.7	1	0.35	1	0.35
Economic efficiency	35	0	0	1	0.35	1	0.35	1	0.35
Social considerations	30	0	0	2	0.6	1	0.30	1	0.30
Total	100	0	0	7	1.65	3	1.0	5	1.0

The proposed regulations score higher than either of the alternative options and are the preferred option.

10.9 Consideration of each option against the criteria

This section explains the rationale behind the scores awarded to each option against each criterion.

10.9.1 Option 1 – Performance-based licensing

Environmental outcomes

This option cannot provide the same level of confidence that environmental objectives are being maintained as the necessity of a general threshold means that some high-risk activities might not be captured in the system. However, the incentive to go 'beyond compliance' would contribute to some firms improving environmental outcomes above what a licence would provide. Overall this option has been given a score of '1' for this criterion.

Economic efficiency

This option allows firms more flexibility to meet their environmental requirements, which can create a more efficient outcome than the proposed regulations. However, it may impose a greater administrative burden on business and EPA in the short to medium-term, with small business being most affected. As such, the economic efficiency of this option relative to the proposed regulations is neutral. Therefore, in the balanced scorecard this option has been given a score of '1' for this criterion, the same as the proposed regulations.

Social considerations

This option provides for a lower level of community input, as conceivably fewer sites would be captured under the statutory tools. This may in turn lead to reduced confidence that all businesses are meeting environmental requirements. Moreover, there is the potential that some high environmental risk premises are not appropriately controlled due to problems with setting a threshold. Therefore, in the balanced scorecard this option has been given a lower score of '1' for this criterion compared to the proposed regulations which receive a score of '2'.

10.9.2 Option 2 – Co-regulatory model

Environmental outcomes

This option does not provide the same degree of environmental assurance as the proposed regulations, given the degree of discretion that it affords to industry groups. Therefore, in the balanced scorecard this option has been given a lower score of '1' for this criterion, compared to the proposed regulations which receive a score of '2'.

Economic efficiency

This option allows firms, through their industry groups, more flexibility to meet their environmental requirements, which can lead to a more efficient outcome than the proposed regulations. However, due to deferred control structure where EPA interacts with the industry groups who in turn engage with the licensed sites, the aggregate reporting and administrative requirements of the entire system would be higher, with the burden greatest on each industry group. As such, it is more economically efficient than the base case and on par with the proposed regulations. Therefore, in the balanced scorecard this option has been given a higher score of '1' for this criterion.

Social considerations

This option provides a degree of discretion to industry groups. Good community relations and participation therefore become more reliant on the strength of existing relationships with the community and the willingness of the industry group to disclose information. In addition, it would be difficult to assure the same level of transparent involvement in this system compared with the proposed regulations. Therefore, in the balanced scorecard this option has been given a lower score of '1' for this criterion, compared to the proposed regulations which receive a score of '2.'

Additional notes on the options presented

No industry stakeholder advocated the abandonment of the current scheduled premises system, or a substantial change in the way in which the system population is determined. Throughout the consultation process many of the companies surveyed expressed concern about whether any of the options outlined would represent viable alternatives to the system. Notwithstanding, the driver of EPA's reforms over the past few years has been a move away from prescriptive regulation towards a more outcome-oriented and co-operative approach to ensure the environmental objectives the Act are met.

EPA has:

- reduced the number of scheduled premises as environmental performance has improved and focused regulatory attention on Victorian sites that pose significant environmental risk
- introduced innovative reforms such as the accredited licensee scheme and the research, development and demonstration approvals process
- assisted companies in improving their relationships with local communities via mechanisms such as environment improvement plans
- facilitated cleaner production approaches to environmental management
- promoted the development of industry codes of practice.

These initiatives illustrate that the way in which EPA *administers the system* is critical in maximising the benefits of a cooperative approach with industry and the broader community. As such, many of the potential gains that might come from a more co-regulatory approach, as outlined in option 2, will be incorporated in the administration of the system under the proposed regulations.

11 EXTERNAL CONSULTATION

To inform the development of the draft proposed regulations and the development of this RIS EPA:

- consulted a number of industry associations and other peak bodies
- conducted an extensive survey of all scheduled premises
- held 10 face-to-face interviews with licensees.

In the survey responses, and during the face-to-face interviews with licensees, businesses outlined a number of costs and benefits associated with the Victorian environmental management framework. Some of these costs and benefits are not caused by or addressed by the proposed regulations, however they were considered important by stakeholders and are discussed below.

11.1 Consultations with industry associations and other peak bodies

Between September and December 2006, EPA consulted with a number of industry associations and other peak bodies to inform the development of the proposed regulations. These organisations are listed in the table below.

Table 11.1: Consultations on scheduled premises and exemptions regulations

Industry associations	Government departments, agencies and authorities	Other peak bodies and companies
<ul style="list-style-type: none"> • Victorian Waste Management Association (VWMA) • Australian Flexographic Technical Association (AFTA) • Plastics and Chemicals Industry Association (PACIA) • Textiles and Fashion Industries of Australia Ltd (TFIA) • Australian Industry Group (AIG) • Victorian Farmers Federation (VFF) • Concrete Premix Association • Compost Victoria • Australian Association of Leather Industries • Australian Dairy Products Federation • Urban Development Institute of Australia 	<ul style="list-style-type: none"> • Department of Primary Industry • VicWater • North East Catchment Management Authority • Municipal Association of Victoria • Worksafe Victoria • Victorian Local Government Association • Department of Sustainability and Environment 	<ul style="list-style-type: none"> • City West Water • Amcor • Nufarm • Natural Recovery Systems • Visy • Central Recycling • Greenchip Recycling • SCA Hygiene • Greenplanet • Environment Defenders Office

These discussions provided an opportunity to review proposed changes to the regulations with industry representations and discuss alternative options.

The industry groups that EPA has spoken with have been very supportive of the regulations as a whole, and of the licence and works approval system. All recognise the need to have a transparent system in place to provide a framework for government oversight to have applications and decisions review by a technically competent independent regulator that is then prepared to defend its decisions on the basis of science. Many groups that EPA spoke to highlighted that the system actually saves them time and money that they would otherwise have to spend on developing and maintaining good relations with local communities, employees and customers. Holding an EPA licence and complying with it generally satisfies these requirements.

Some stakeholders have expressed the view that, while they recognise the need for the system, perhaps EPA could make improvements to administration. Some ideas that came out of this discussion were incorporated into the Act in the *Environment Protection (Amendment) Act 2006*.

11.2 Survey of current licensees

During late October and November 2006, 900 business sites in Victoria that are currently required to hold an EPA licence were invited (via letter and/or e-mail) to participate in an on-line survey. The survey was open for over three weeks. During this time 96 business sites submitted a survey representing 219 licensed sites or 22 per cent of the total number of licensed sites.

The survey was designed to assess the costs and benefits of the works approval and licensing system. The survey was also designed to separate the administrative costs of a licence from the cost of environmental compliance. This information was used extensively in developing the cost benefit analysis in section 7.1.1 and in developing some key assumptions for use in the SCM Report.

The survey also requested feedback on:

- key advantages and disadvantages of the current system; and
- how the current works approval and licensing system could be improved.

Specific details of the proposed regulations were not included in the survey. All current licensees and potential licensees will have the opportunity to review the proposed regulations when this RIS is available for public comment and submissions (see section 11.4).

11.2.1 Key survey results

This section provides a summary of the key survey results. A full discussion of the survey results is available in Appendix F.

The businesses responding to the survey covered a wide cross-section of the industry categories that are currently scheduled premises and were representative of the current geographic spread of industry across Victoria.

The businesses responding to the survey who had recently applied for a works approval indicated that on average their business applies for one or less works approval each year. Of the 56 businesses responding to the survey that have completed a works approval in the past five years, 26 (over 46%) stated that there were changes to the design parameters of the proposed development as a result of the interaction between business and EPA.

The businesses responding to the survey who held a licence indicated the main advantages of holding an EPA licence were that it provides a social licence to operate; that it provides a level playing field among participants operating in the same industry; and that it assists with driving internal environmental changes. The main disadvantages of holding an EPA licence were identified as the administrative costs associated with demonstrating compliance with the system; and the financial cost of renewing the licence.

11.3 One-on-one interviews

Ten one-on-one interviews were held with licensees during November and December 2006. The interview template that was used by EPA and KPMG in the one-on-one interviews is provided in Appendix G. The aim of these interviews was to:

- gain a detailed understanding of the costs and benefits of the current system to business
- appreciate the view of businesses on the impact of the system on competition
- gather feedback on how the system can be improved and any potential alternatives.

The businesses interviewed were from a range of industry categories and were medium/large-sized enterprises. Key findings from the interviews are summarised below:

- Overall, the benefits of the system outweigh the costs.
- The benefits of the system include providing certainty in the investment decision; assisting with other approval processes such as council approvals; and providing a level playing field amongst participants operating in the same sector. Where businesses are subject to a high degree of public scrutiny, the system also provides assurance that premises meet environmental standards, and assists businesses to engage with the community through the development process.

- The major costs associated with the system include the indirect administrative costs that it imposes on business; and the direct costs of licence fees and levies.
- The system does not impose significant compliance costs which are driven by the broad requirements of the entire Victorian environmental framework.
- The system does not have a material impact on competition in the State. It does not impose entry barriers and operates uniformly across businesses in each industry category. They also reported that the system does not impose requirements on business that are any more onerous than is the case in other jurisdictions. As such, it does not put Victorian businesses at a competitive disadvantage to businesses operating in other jurisdictions.
- Business is concerned about the amount of time EPA takes to administer a works approval or licence application. Under the Act, EPA may take up to four months to process a works approval or licence application. While business acknowledges that this concern is strictly beyond the scope of the proposed regulations and hence consideration in this RIS, they believe that EPA must seek to improve its efficiency and timeliness in processing applications. EPA acknowledges this problem and is taking appropriate action.
- There was broad consensus from businesses that the proposed regulations represent the optimal approach to environmental management. None of the businesses suggested sweeping changes to the system, but rather minor refinement at the edges.

11.4 Additional consultation

In accordance with Section 11 of the *Subordinate Legislation Act 1994*, a notice of the RIS will be published in the Government Gazette and daily newspapers circulating throughout Victoria. Public comments or submissions are invited within such time as specified in the notice. The proposed time for comments or submissions is 28 days. This is considered to be sufficient time for comment given the broad and detailed consultation conducted as part of the assessment for the proposed regulations and the preparation of this RIS.

12 EVALUATION STRATEGY

EPA will measure the performance of the proposed regulations as part of the broader objective of ensuring the integrity of Victoria's environmental framework. We will do this in a number of ways including continuing to measure:

- the number of major spills and contaminated sites over time
- the number of days of objectives not met (e.g. class 1 air indicators)
- the number and value of PINS and PANs issued
- the amount and value of prosecution activity.

These measurements will particularly focus on outcomes for scheduled relative to non-scheduled premises, and are published in EPA's annual report, which is tabled in Parliament.

Throughout 2008, EPA will also be introducing simplified and standardised annual performance reports for all licensed sites. These will better allow EPA to focus on key environmental outcomes on a site basis and, importantly, to compare performance across all licensed sites. This information will be central to determining the ongoing effectiveness of the proposed regulations.

EPA will also continue to collaborate closely with business to better understand how we can optimise environmental outcomes in an economically sustainable way.

In order to more accurately quantify the benefits of the regulations, EPA may also look to support the development of metrics to determine damage cost (cost of human health including hospital, days of missed work) of air emissions and environmental willingness to pay studies. We also note that the tools for tracking industry emissions, such as the National Pollutant Inventory, are continuing to improve through more accurate estimation techniques and a wider list of reported emissions being captured. This data will be an important tool in more closely tracking industry emissions over time, particularly at the site level.

Finally, EPA as part of the Victorian Government's Red Tape Reduction initiative will continue to look for opportunities to reduce the administrative burden on business.

A. THE CURRENT LEGISLATIVE ENVIRONMENT

The Act establishes the statutory functions of EPA. The role of EPA is to administer the Act and develop regulations to support the provisions in the Act. Other functions of EPA include:

- developing and recommending SEPPs
- developing and recommending Waste Management Policies (WMPs) and Industrial WMPs
- providing assurance to the community that certain industries posing significant environmental risks meet their environmental obligations
- developing and managing the enforcement measures to enforce the provisions of the Act and its supporting regulations.

Further details of EPA's statutory functions are provided below.

A.1 National environment protection measures

National Environment Protection Measures (NEPMs)³⁴ outline agreed national objectives for protecting or managing particular aspects of the environment. NEPMs exist on the following environmental issues:

- Ambient Air Quality
- National Pollutant Inventory
- Movement of Controlled Waste
- Used Packaging Materials
- Assessment of Site Contamination
- Diesel Vehicle Emissions.

NEPMs can be translated into Victorian based measures through adopting the NEPM as a SEPP or a WMP. NEPMs can also be translated in to state-based measures through the development of specific regulations. To date Victoria has adopted all of the NEPMs as SEPPs.

The *Environment Protection (Amendment) Act 2006* (the Amendment Act) allows regulations to be developed directly on the basis of a NEPM, as opposed to the previous situation where a NEPM could only be translated into a Victorian Statutory policy (SEPP or WMP).

A.2 State environment protection policies

SEPPs are subordinate legislation created by the Act. Essentially, SEPPs underpin the Act and provide guidance to those subject to the Act on how to meet their obligations. The development of environmental regulations, licensing conditions and the works approval process must be consistent with SEPPs. The following is a list of the SEPPs and a brief description of what they cover and whom they apply to:

- *State Environment Protection Policy (Ambient Air Quality)* - This SEPP establishes the reporting protocols for six commonly used pollutants [carbon monoxide (CO), nitrogen dioxide (NO₂), photochemical oxidants (as ozone), sulfur dioxide (SO₂), lead and particles] as established by a NEPM. The Air Quality SEPP also includes reporting requirements for visibility reducing air particles not included in the NEPM. This SEPP applies to all sites in Victoria.
- *State Environment Protection Policy (Air Quality Management)* - The Air Quality Management SEPP establishes the framework for managing emissions into the air environment. The Air Quality Management SEPP works to ensure that the objectives outlined in the Ambient Air Quality SEPP are met. This SEPP applies to all sites in Victoria.
- *State Environment Protection Policy (Prevention and Management of Contamination of Land)* - This SEPP establishes beneficial uses of land in Victoria and provides a mechanism for determining whether these uses are being protected. The SEPP ensures that sites that need to be audited are subject to audit, and that any conditions associated with the audit outcome are implemented. The SEPP further sets out requirements for the prevention of

³⁴ National Environment Protection Measures are broad framework setting statutory instruments defined in the National Environment Protection Council Act 1994. They outline agreed national objectives for protecting or managing particular aspects of the environment.

contamination, reinforces the role of the waste hierarchy in selecting preferred approaches for site clean-up and identifies measures by which people can access relevant information on site contamination.

- *State Environment Protection Policy (Groundwaters of Victoria)* - This SEPP aims to maintain and, where necessary, improve groundwater quality to a standard that protects existing and potential beneficial uses of groundwater. It sets a consistent approach to, and provides quality objectives for groundwater protection throughout Victoria.
- *State Environment Protection Policy (Control of Music Noise from Public Premises)* - This SEPP aims to protect residents from levels of music noise that may affect the beneficial uses of noise sensitive areas, while recognising the community demand for a wide range of musical entertainment. This SEPP is not relevant to this RIS.
- *State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade)* - Recognising that Melbourne's planning scheme may position industrial areas near residential zones, this SEPP aims to protect people from the effects of noise in these noise sensitive areas. The policy is also used as a planning tool. The policy requires new and proposed industries to be designed so as to not exceed the noise limits outlined in the SEPP.
- *State Environment Protection Policy (Waters of Victoria)* - The Waters of Victoria SEPP, which applies to all surface waters of Victoria, aims to provide a coordinated approach for the protection and, where necessary, rehabilitation of the health of Victoria's water environments. This SEPP applies to all industries, businesses, governments, community groups and individuals.

A.3 Waste management policies

WMPs were enabled as a result of the *Environment Protection (Industrial Waste) Act 1985*. They cover the generation, use, storage, treatment, transport, handling, disposal, recovery, recycling, reclamation, and reuse of waste.

WMPs may also allocate responsibility for industrial waste management operations and disposal, and establish the level of technology that should be applied to processes involving wastes.

A.4 Recent changes to the Act

EPA undertook a detailed review of the licence and works approval system. The questions addressed in this review were:

- Is the system still appropriate?
- What elements need to change?
- What elements should be preserved?

This review concluded that the works approval and licence system is still appropriate but can be improved. Some of these improvements have now been incorporated into the Act through the Amendment Act, which made the following changes to the framework governing the management of scheduled premises. The Amendment Act:

- established that corporate entities may hold a single licence for multiple sites
- introduced the framework that will standardise and streamline reporting requirements
- simplified the existing six-schedule definition with a single definition.

The implementation of these changes forms a major part of EPA's red-tape reduction strategy.

The changes outlined in the Amendment Act will not materially alter the operation or function of the 1996 regulations or the proposed regulations. The introduction of the Amendment Act and the sun-setting 1996 regulations has allowed EPA to conduct a review of the 1996 regulations. The outcomes of this review and stakeholder consultation will be used throughout this RIS as supporting material for the proposed regulations.

A.5 Other regulations

The environmental management framework is also enabled by the operation of a number of supporting regulations. These regulations enable the provisions in the Act and provide guidance to the community about their obligations. These regulations are not subject to detailed consideration in this RIS; however understanding the interrelationship between the various regulations is important to understanding the impact of the proposed regulations. Other regulations in the environmental management framework include:

- *Environment Protection (Fees) Regulations 2001*
- *Environment Protection (Distribution of Landfill Levy) Regulations 2002*
- *Environment Protection (Prescribed Waste) Regulations 1998*
- *Environment Protection (Residential Noise) Regulations 1997*
- *Environment Protection (Vehicle Emissions) Regulations 2003*
- *Pollution of Waters by Oil and Noxious Substances Regulations 2002*
- *Environment Protection (Ships' Ballast Water) Regulations 2006.*

B. DESCRIPTION OF SECTORS

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001–06)
Prescribed industrial waste management	Storage, treatment, reprocessing, containment or disposal facilities handling any prescribed industrial waste not generated at the premises.	To ensure that waste from industry including materials such as asbestos, PCBs, pesticides, heavy metals (cadmium, mercury, lead, chromium), and biomedical waste is stored, treated, reprocessed (eg. for recycling or energy recovery), contained and/or disposed of with minimal environmental impact. If not managed appropriately, PIW can adversely impact on local amenity, human health and well-being, receiving ecosystems and the production of food flora and fibre.	852
Waste treatment	Incineration, gasification, pyrolysis, or other treatment of waste.	This category would include treatment of hazardous materials generated on site such as acrylonitrile and the incineration or other thermal treatment of waste. Incineration of wastes in particular is a potentially significant issue due to various products of combustion such as dioxins and furans. If not properly controlled such emissions may adversely impact local amenity, human health and well-being, and receiving ecosystems.	25
Land disposal facilities for nightsoil, septic tank sludge or sewage treatment plant sludge	Disposal facilities for nightsoil, septic tank sludge or sewage treatment plant sludge.	Nightsoil and sewage sludge wastes have a very high potential to pollute surface water and adversely impact receiving ecosystems. Treatment plant sludge is rich in nutrients and BOD. Significant levels of heavy metals and organic pollutants may be present if the treatment plant receives trade wastes from industry. Offensive odours can also cause local amenity issues.	2
Wastewater treatment plants	Premises on or from which sewage (including sullage) effluent, exceeding a design or actual flow rate of 5000 litres per day, is treated, discharged or deposited.	Wastewater must be separated from sources of water supply to avoid possible outbreaks of disease caused by water-borne pathogens and adverse impacts on receiving ecosystems and human health and wellbeing. Inadequately treated sewage can contribute significant nutrient loads and adversely impact on receiving environments. Odours can also be significant and impact on local amenity.	596

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
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Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Industrial wastewater treatment plants	Premises on or from which industrial wastewater effluent not generated at the premises, exceeding a design or actual flow rate of 5000 litres per day, is discharge or deposited.	These sites are analogous to sewage treatment plants and have many of the same issues associated with them including the potential to adversely impact on receiving ecosystems, local amenity and human health and well-being. Industrial wastewaters are more likely to contain heavy metals, oils and chemicals. On-site treatment of industrial wastewater is part of the risk assessment for other categories and is not intended to be captured here.	(included in above)
Landfills	Landfills accept domestic, commercial and industrial wastes.	Landfills accept domestic, commercial and industrial wastes that can result in site or groundwater contamination. Significant potential for land and groundwater contamination, noise, dust, odour and litter issues. Potential for landfills to have adverse impacts receiving ecosystems, local amenity and human health and well-being.	1,362
Composting	Facilities for the treatment of waste by aerobic or anaerobic composting.	Large scale composting can cause significant dust and odour emissions and the potential exists for discharge of contaminated leachate to stormwater or groundwater. Composting can adversely affect local amenity and receiving ecosystems.	59
Intensive animal industry	Intensive animal industry, being premises upon which are situated piggeries or cattle feedlots and the like.	Intensive animal industries have the potential to generate nutrient rich wastewater and adversely impact receiving ecosystems, particularly surface water. Potential for the production of offensive odours and issues associated with inadequate buffers to residential premises. Local amenity and aesthetic enjoyment can be impacted upon.	703
	Poultry farms or complexes.	Large broiler farms have the potential for the production of offensive odours and issues associated with inadequate buffers to residential premises. Local amenity and aesthetic enjoyment can be significantly impacted.	1685
Livestock saleyards	Livestock saleyards or holding pens..	Saleyards concentrate large numbers of animals in small areas. Large quantities of animal wastes are produced. This waste must be properly controlled to prevent contamination of water and land. Offensive odours may create problems if control and management provisions are not adequate. Potential exists for adverse impacts on receiving ecosystems, local amenity and aesthetic enjoyment.	25
Fish farms	Fish farms or other facilities for the cultivation of edible aquatic organisms.	Trout and salmon farms discharge large quantities of wastewater with significant suspended solids and nutrient loadings into local watercourses. Fish farm effluents are low in oxygen and are polluted by excreta, medications and other fish wastes and can adversely impact on receiving ecosystems.	6

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Extractive industry and mining	Quarries, mines and the like that discharge to surface water.	<p>This industry has the potential to cause environmental damage that may take years to rectify. Surface mining removes topsoil and vegetation and disturbs large areas of land. Stormwater run-off can be contaminated with significant amounts of sediment and other material, which enters waterways, causing pollution problems for wildlife and other downstream water users. Water from gold and base metal mining operations can be contaminated with heavy metals that can impact on receiving ecosystems even in small quantities.</p> <p>These issues, in addition to the potential for noise and dust generation, can adversely impact local amenity.</p>	43
Abattoirs	An abattoir, slaughterhouse or poultry processing works that involves the conduct of slaughtering works for commercial purposes for the production of meat or meat products for human or animal consumption.	<p>This industry group generates large volumes of wastewater, can produce offensive odours and cause surface/groundwater contamination. Water usage can be up to 1,000 litres per head of cattle. Large volumes of high strength wastewaters are disposed into sewers, where available, or on to land. Wastewaters must be pre-treated prior to leaving the premises.</p> <p>Abattoirs generally operate large boilers and can contribute to NOx emissions.</p>	110
Rendering	Rendering works, being works for the manufacture or extraction of non-edible substances derived from animals.	<p>Rendering gives rise to very offensive odours that can impact on local amenity if it is not properly operated and controlled. Local amenity can also be affected by noisy operations (hammer mills).</p> <p>Significant volumes of contaminated liquid effluent high in TDS, BOD and nutrients can impact on the receiving ecosystems.</p>	657
Animal skin tanning	Facilities where animal hides are preserved.	<p>Tanning operations consume large quantities of fresh water. The industry can produce significant volumes of contaminated liquid effluents with extremes of pH, high organic matter, suspended particles, salt, chromium salts and sulfides. Many tanneries discharge their (pre-treated) wastewaters to sewers, with impact on the reusability of that water. Tanneries that do not have a connection to sewer discharge wastewaters to land where significant adverse impact on the receiving ecosystems can result.</p> <p>This industry can produce noise and offensive odours, particularly in hair removal and chrome tanning, adversely impacting on local amenity.</p> <p>Solid waste from this industry is classified as prescribed and has the potential to affect human health and well-being.</p>	35

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Seafood processing	Facilities for processing fish, shellfish and other aquatic organisms.	Seafood processing is an industry that produces odour as well as liquid, and solid organic wastes. The odour emissions can be very offensive and impact on local amenity. Wastewater from the seafood processing contains significant amounts of nutrients and can adversely impact receiving ecosystems if not managed appropriately.	0
Pet food processing	Facilities for the manufacturing and processing of pet food.	Pet food manufacturing/processing facilities can give rise to offensive odours caused by the cooking process and the batching/dehydration of protein pellets. Significant odour problems can also be associated with both the solid and liquid waste streams. These odour issues have the potential to significantly impact local amenity. The industry can produce significant particulate and NOx emissions and have the potential to effect human health and wellbeing. Liquid and solid wastes need to be managed appropriately to ensure protection of receiving ecosystems.	23
Food processing	Food processing is the methods and techniques used to transform raw ingredients into food for consumption by humans.	Food processing facilities can generate significant volumes of cooling water and contaminated wastewater discharges. Some premises discharge to sewer while others discharge to land and water environments. The contaminated liquid effluent contains high BOD and nutrients, which can adversely impact receiving ecosystems. Offensive odours can also result from cooking processes and wastewater in pre-treatment lagoons or from irrigation practices. Operations may also be very noisy. These issues have the potential to impact on local amenity.	16
Milk processing	The process of producing consumable milk products.	Milk processing can produce significant discharges of liquid waste to land and water environments. The wastewater is typically high in BOD, nutrients and TDS, which can adversely impact receiving ecosystems. Offensive odours can result from wastewater in storage prior to and during treatment. Milk spray dryers may emit high levels of milk particulates, which can impact on the local area. Some operations are also very noisy, impacting on local amenity.	77
Edible oil	The sector contains two main groups, one processing seeds to oil and the other processing fats into edible oils.	The industry can discharge significant quantities of carbon monoxide and oxides of nitrogen into the atmosphere, and produce offensive odours and particulate fallout. These issues can result in the reduction of local amenity.	290

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Beverage manufacturing	This sector includes breweries, wineries fruit juice products and soft drink manufacturing.	Breweries and wineries, in common with other food processing works, produce large volumes of high BOD wastewater and have the potential to impact on receiving ecosystems. Solid wastes from wineries can present waste management issues. Noise from some of these premises can also affect the local amenity.	1
Textile manufacturing	Textile manufacturing and processing works including carpet manufacturing, wool scouring, textile bleaching, textile dyeing and textile finishing works.	Air emissions from textile plants, particularly where chemicals are applied and heat-treated, can give rise to offensive odours and particulate fallout if not properly operated and controlled. These issues can cause reduction in local amenity, effect human health and well-being and impact on receiving ecosystems. Wastewaters high in COD, chemicals and TDS, can adversely impact on receiving ecosystems. Operations can also be noisy, impacting local amenity.	88
Timber preservation	Treatment of timber to improve longevity of products.	The timber preserving industry uses hazardous formulations such as Creosote (a complex mixture of hydrocarbons with other organic compounds), oil-borne preservatives (pentachlorophenol (PCP), dieldrin and tri-n-butyltin oxide) and water-borne preservatives (copper, chrome, arsenate (CCA)). There is significant potential for pollution of land, surface water and groundwater, adversely impacting receiving ecosystems.	-
Fibreboard, particleboard or plywood works	Works in which wood, wood products or other cellulose materials are processed to form fibreboard, particleboard, or plywood.	This industry sector can produce significant particulate emissions from both point and fugitive sources. They can also generate odour and noise issues impacting on local amenity, aesthetic enjoyment and human health and well-being. Wastewater may contain dyes, tannins and particulates, which can adversely impact receiving ecosystems.	164
Paper pulp mills	Paper pulp mills, being works in which wood, wood products, waste paper or other cellulose materials are processed to form pulp, paper or cardboard.	Pulp mills can be extremely odorous; products from combustion (NOx and SOx) can be very high; particulate emissions to the atmosphere may also be excessive. These issues can result in impacts to local amenity and aesthetic enjoyment. Discharges of wastewater containing dioxins and high in BOD can be significant and impact on receiving ecosystems.	168

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Chemical works	Chemical works where products are manufactured by any chemical process.	<p>This sector discharges significant air emissions and has the potential to cause local amenity issues due to odour and particulate fallout. The industry can also be a source of noise issues.</p> <p>Many processes are carried out under high pressure, which give potential for significant fugitive gas emissions. Air emission can also contribute to the production of photochemical smog and may affect human health and well-being.</p> <p>Leakage of liquids such as oils, solvents, acid, alkalis, biodiesel or other chemicals from pipes, valves, flanges, and other spillages on-site, give the potential for pollution of land, surface water and groundwater environments.</p>	455
Coal processing	Coal processing works, being works in which coal is converted to gaseous, liquid or solid products.	<p>Coal processing works can produce significant discharges of emissions to the air and water environments.</p> <p>Air emissions range from nuisance dusts through to the release of polycyclic aromatic hydrocarbons (PAHs). The heating of coal can produce distinctive odours. Operations can also be noisy. These issues can contribute to impacts on aesthetic enjoyment, local amenity and health and well-being.</p> <p>The presence of phenols and other organic components in wastewaters discharged from these premises can adversely affect receiving ecosystems.</p>	12
Oil and gas refining	Oil or gas refinery works, being works in which crude oil or gas is refined or hydrocarbon fractions are produced.	<p>These industries have significant air emissions and can be large sources of chemicals that can cause issues to human health and well-being and impact on local amenity. Air emissions can contribute to the production of photochemical smog.</p> <p>Significant volumes of wastewater containing hydrocarbons are produced with potential to adversely impact on receiving ecosystems.</p> <p>Regular operating problems result in smoking flares, noise, odours and fumes that can affect local amenity and aesthetic enjoyment.</p> <p>Petroleum works are recognised as an industry that has caused, and can cause, significant environmental impact.</p>	627

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Bulk storage	Facilities for the large-scale storage of carbon compounds or class 3 indicators.	<p>Petrol and oil storage facilities can have significant emissions to the atmosphere of volatile organic compounds. These emissions contribute to the production of photochemical smog and can have local amenity and human health and well-being issues.</p> <p>Class 3 indicators are substances of concern and defined in the SEPP (AQM). Storage of Class 3 indicators must be carefully controlled to ensure emissions are minimised so that they do not impact on human health and well-being.</p> <p>Discharges to water and land, surface water and groundwater environments have the potential to cause significant impacts to receiving ecosystems and the useful life and aesthetic appearance of building, structures, property and materials.</p> <p>The flammable and combustible nature of most of the materials represents a significant fire risk.</p> <p>Irrespective of any planned discharge to the environment, storage of these products needs to be carefully managed to protect the environment.</p>	80
Bulk container washing	Premises receiving, for the purpose of internal washing, bulk or intermediate transport containers which have contained either: (i) prescribed industrial waste; or (ii) dangerous goods.	<p>These premises are considered to be analogous to drum washers. Industry trends indicate increasing use of bulk containers in preference to drums. Significant issues have arisen with some of these sites, particularly to do with odorous air emissions and wastewater management resulting in adverse impacts on local amenity and receiving ecosystems, particularly surface waters.</p> <p>These premises can handle a wide variety of materials, some of which can impact on human health and well-being.</p>	Data not available
Cement works	Cement works in which clays or limestone materials are used in either a furnace or kiln in the production of cement clinker; or cement clinker or clays or limestone or like materials are ground.	<p>Cement works can produce large quantities of very fine dust particles, which can cause fallout problems in their local areas. They also have significant discharges of products of combustion that can contribute to the production of photochemical smog. These issues can adversely impact on local amenity and human health and well-being.</p> <p>Contaminated stormwater can adversely impact on receiving ecosystems.</p> <p>Some cement kilns are also being fired on supplementary fuels such as tyres, waste oils and solvent sludges. The use of these fuels needs to be carefully controlled.</p>	12
Bitumen and asphalt	Bitumen and asphalt batching plants.	Bitumen batching plants can produce dust and odour (hydrocarbon) emissions that result in impacts on local amenity.	Data not available

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Ceramic works	Ceramic works, being works in which bricks, tiles, pipes, pottery goods or refractories are processed in dryers or kilns.	<p>Ceramic works can produce significant air emissions of products of combustion (POCs), particulates and fluoride emissions. The POCs can contribute to the production of photochemical smog. These issues can adversely affect local amenity and human health and wellbeing.</p> <p>Fluoride emissions can have a significant impact on local vegetation and can affect the production of food flora and fibre. Excessive fluorides in food flora and fibre can impact on receiving ecosystems and human/animal health and well-being.</p>	25
Mineral wool	Mineral wool or ceramic fibre works.	Mineral wool and ceramic fibre works can produce significant air emissions including offensive odours, particulates, (respirable size) hydrocarbons, ammonia, phenol and formaldehyde. These emissions can adversely impact on local amenity and human health and well-being.	0
Glass Works	Glass works, being works manufacturing glass by the melting of raw materials.	This industry can produce significant air emissions that contribute to the production of photochemical smog, particulate fallout and odour. These emissions can adversely impact on local amenity and human health and well-being.	17
Primary metallurgical works	Primary metallurgical works, being works in which ores or ore concentrates are processed or smelted to produce metal.	<p>This industry sector uses significant amounts of energy and produces significant air emissions (acid gases and smog precursors) and solid wastes. These emissions can cause respiratory problems and damage vegetation. This industry is one of the largest single sources of fluorides and one of the five largest sources of sulfur dioxide in Victoria.</p> <p>These issues have the potential to adversely impact on local amenity, human health and well-being, production of food, flora and fibre and receiving ecosystems.</p>	11
Metal melting works	Metal melting works being works in which any metal melting is performed in furnaces.	<p>Ferrous foundries with a melting capacity of 10 tonnes per hour are large emitters of NO_x, SO_x, CO and particulates. These emissions must be controlled, primarily to prevent localised amenity issues.</p> <p>Nonferrous foundries are responsible for dusts and fumes including lead, aluminium and cadmium. A significant percentage of these particles are in the size range which can be breathed in and may result in adverse impacts to human health and well-being. Smoke and offensive odours may also be produced, impacting on local amenity.</p> <p>Other problems include potential for land, surface water and groundwater contamination, and adverse impacts on receiving ecosystems.</p> <p>Non-ferrous wastes pose greater environmental risks and therefore have a lower design threshold.</p>	93

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REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Metal galvanising works	Coating of iron or steel with rust-resistant zinc.	<p>Large galvanising operations have the potential to generate significant odour, products of combustion and particulate emissions. The particulates are typically in the form of a visible and potentially harmful fume. These emissions can adversely impact local amenity and human health and well-being.</p> <p>Oils and other contaminants may also be volatilised if there is inadequate pre-treatment. Liquids and solids, such as acids/alkalis and zinc, may contaminate the soil and surface waters and impact receiving ecosystems.</p> <p>The threshold of 5,000 tonnes per year will ensure that only premises with a potential significant environmental impact will be scheduled.</p>	220
Metal finishing works	Metal finishing works, including electroplating of metal or plastic, anodising, electroforming or printed circuit board manufacturing.	Discharges from metal finishing works may include contaminated wastewater containing heavy metals, acids and alkalis. Potential exists for contamination of land, surface water and groundwater environments resulting in adverse impact on receiving ecosystems.	2
Can and drum coating	Can and drum coating works, in which surface coating is applied to metal before or after the metal is formed into cans, closures, coils or drums.	<p>Can and drum coating premises are a major source of VOC emissions. Air emissions can be odorous and can contribute to the production of photochemical smog. These emissions can adversely impact local amenity and human health and well-being.</p> <p>The industry also generates large quantities of waste solvents.</p> <p>The threshold of 100 kilograms or more per day will ensure that adequate controls are implemented at the design stages.</p>	27
Vehicle assembly	Facilities that are designed to produce or assemble automobiles (including trucks).	<p>Vehicle assembly plants are major sources of VOC emissions contributing odour issues and to the production of photochemical smog. These emissions can adversely impact on local amenity and human health and well-being.</p> <p>The industry also generates large quantities of waste solvents.</p> <p>The threshold of 2,000 units per year will ensure that only those major vehicle works which have a potential significant environmental impact will be scheduled.</p>	17
Printing	Printing works.	The printing industry is a major source of VOC emissions that can contribute to offensive odours and the production of photochemical smog. These emissions can adversely impact on local amenity and human health and well-being.	15

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Power stations	Facilities used to generate electrical power.	Fuel-burning power stations discharge quantities of products of combustion (POCs) and incomplete POCs to the atmosphere. Waste emissions also include significant volumes of solid and liquid wastes. Power stations are significant noise sources and are also the greatest single source of greenhouse gas emissions (CO ₂). These issues can result in adverse impacts to local amenity, human health and well-being and receiving ecosystems.	170
General emissions to air	Sectors that emit or that propose to emit into the atmosphere.	This category is designed as a 'catch all' for premises which may emit pollutants that can adversely impact on human health and well-being. Air emissions include products of combustion, volatile organic compounds, and class 3 indicators that can contribute to the production of photochemical smog, adversely affect local amenity, and impact on human health and well-being.	888
Onsite storage of contaminated soil	Facilities for the long-term retention of contaminated soil.	This sector may present risks to land, surface water and groundwater environments. These issues can adversely impact on local amenity, human health and well-being, and receiving ecosystems. To prevent this, correct design of storage facilities is required. This is a clarification of current practice.	Data not available
Carbon capture and storage	Facilities for the capture, separation, or storage of waste carbon dioxide for the purpose of geological disposal.	These sites have the potential for significant air and noise emissions resulting in adverse impacts on local amenity, human health and well-being or the environment. Underground storage of carbon dioxide may impact subterranean conditions and it is important to ensure carbon dioxide is securely contained.	-
Tunnel ventilation systems	Systems for the forced ventilation of road tunnels.	These sites have the potential for significant air and noise emissions. Significant community interest exists regarding these sites. Potential exists for air and noise issues to adversely impact local amenity and human health and well-being if not properly managed. If problems eventuate due to poor design, appropriate environmental controls can be difficult and expensive to retrofit. This is a clarification of current practice.	13
Long-term management of soil and/or groundwater contamination	Sites where soil or groundwater may require on-going active management or monitoring.	These sites require on-going monitoring and management to ensure that soil and/or groundwater contamination is managed appropriately. Where significant active management is required or there is significant contingent management required, it is important that responsible parties have the capacity for such future actions. There is the potential that these sites may be left to persons with inadequate resources, and therefore result in the State being left with a legacy issue. These sites have the potential to adversely impact local amenity, human health and well-being, and receiving ecosystems.	Data not available

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Industrial activity	Description of the sector	The rationale for regulation - The broad problem associated with sector	Pollution reports to EPA (2001-06)
Potable water treatment	Water treatment plants producing potable or drinking water.	<p>Potable water treatment plants can produce by-product sludges containing aluminium, copper, lead, zinc, and arsenic. Inappropriate management of the sludge can adversely impact the receiving ecosystem, local amenity and production of food, flora and fibre.</p> <p>Desalination plants use large amounts of energy and produce a concentrated brine solution that can be difficult to dispose of without adverse environmental impacts.</p>	2

C. DESCRIPTION OF THE PROPOSED REGULATIONS

Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Waste treatment and disposal and recycling						
Prescribed industrial waste management	Storage, treatment, reprocessing, containment or disposal facilities handling any prescribed industrial waste not generated at the premises.	-	✓	Minor change - Containment added to description to ensure that a future Long Term Containment Facility is licensed	76	77 ³⁶
Treatment prior to disposal	Waste treatment works engaged in the immobilisation, thermal degradation, incineration or other treatment of waste.	-	-	Minor change - Thermal degradation added to description	4	4
Sewage treatment plants	Premises on or from which sewage (including sullage) effluent, exceeding a design or actual flow rate of 5000 Litres per day, is treated, discharged or deposited.	Premises discharging or depositing waste solely to land at a design capacity of not more than 100,000 litres per day in accordance with specifications acceptable to the Authority are exempt from licensing.	-	Major change see Appendix D.1	448	285
Wastewater treatment plants	Premises on or from which industrial wastewater effluent not generated at the premises, exceeding a design or actual flow rate of 5000 Litres per day, is discharged or deposited.	-	-	Clarification of current practice; see Appendix D.1	Included in the above sector	Included in the above sector

³⁵ If no exemption is described in this column then the activity is required to be licensed and apply for a works approval.

³⁶ Note: this category includes three sites that were incorrectly classified in other categories. Two other sites will now be captured under composting.

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Landfills	Landfills used for the discharge or deposit of solid wastes (including solid industrial wastes) onto land except premises with solely land discharges or deposits, used only for the discharge or deposit of mining wastes and in accordance with the <i>Extractive Industries Development Act 1995</i> or the <i>Mineral Resources Sustainable Development Act 1990</i> .	Municipal landfill facilities occupied by a municipal council and serving less than 500 people are exempt from works approval and licensing. Municipal landfill facilities occupied by a municipal council and serving less than 5000 people are exempt from licensing.	✓	Clarification of wording	90	90
Land disposal facilities	Land disposal facilities for the disposal of nightsoil, septic tank sludge or sewage treatment plant sludge.	-	-	No change from 1996 Regulations	9	9
Composting	Premises with aerobic or anaerobic composting which is designed to or has a capacity to process more than 100 tonnes of waste per month.	-	-	Major change see Appendix D.2 (note: 2 sites were previously captured as receiving PIW)	0	13
Waste to energy	Premises which recover energy from waste at a rated capacity of at least 1 megawatt.	-	-	New category see Appendix D.3	0	2
Primary industry and allied operations						
Intensive animal industry	Intensive animal industry, being premises upon which are situated piggeries or cattle feedlots and the like, where more than 5,000 animals are confined for the purposes of agricultural production.	Premises discharging or depositing waste solely to land are exempt from licensing.	-	No change from 1996 Regulations	0	0
Intensive bird industry	Premises upon which are situated poultry farms or complexes designed to hold 320,000 or more birds.	Premises are exempt from licensing.	-	New category see Appendix D.4	n/a	n/a
Livestock saleyards	Livestock sale yards or holding pens which are designed to have a throughput of at least 10,000 animal units per year.	Premises discharging or depositing waste solely to land are exempt from licensing.	-	No change from 1996 Regulations	3	3

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Fish farms	Fish farms or other facilities for the cultivation of edible aquatic organisms with a design water flow rate of 0.2 or more mega litres per day.	Premises discharging or depositing waste solely to land are exempt from licensing.	-	No change from 1996 Regulations	25	25
Mining						
Extractive industry and mining	Extractive industry including mining and quarrying but excluding educator dredging.	Premises with solely land discharges or deposits used only for the discharge or deposit of mining wastes and that are in accordance with the <i>Extractive Industries Development Act 1995</i> or the <i>Mineral Resources Sustainable Development Act 1990</i> are exempt from works approval and licensing.	-	Minor change – wording clarification from previous regulations not effect on the number of sites impacted by the proposed regulations	25	25
Animal derived products and food						
Abattoirs	Abattoirs, knackeries or poultry processing works which are designed to have a throughput of more than 200 tonnes per year.	Premises discharging less than 100,000 litres per day of waste solely to land are exempt from licensing.	-	Major change see Appendix D.5	32	19
Rendering	Rendering works, being works for the manufacture or extraction of non-edible substances derived from animals.		-	No change from 1996 Regulations	15	15
Animal skin tanning	Animal skin tanning or re-tanning works.		-	Major change see Appendix D.6	4	10
Seafood processing	Seafood processing works with a processing capacity of more than 200 tonnes per year of seafood.	These premises are exempt from licensing.	-	No change from 1996 Regulations	n/a	n/a

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Pet food processing	Pet food processing or pet food manufacturing works, which are designed to produce at least 200 tonnes per year of pet food.		-	No change from 1996 Regulations	3	3
Food processing works	Food processing works, being a works in which food is preserved, canned, bottled, or dried by means of fuel fired plant, and which are designed to produce at least 200 tonnes per year of food.		-	No change from 1996 Regulations	12	12
Milk processing	Milk processing or dairy product manufacturing works, which are designed to produce at least 200 tonnes per year of product(s).		-	Exemption for discharge to air removed. Only effect is to consolidate category (formerly five sites we captured in general emissions to air). No overall change in licence numbers	21	26
Edible oil	Edible oil or fat processing works, where seed crushing, solvent extraction or edible oil or fat deodorising takes place, which are designed to produce at least 2000 tonnes per year of product(s).		-	Major change see Appendix D.7 (note: 1 fewer licence due to changes in threshold)	5	4
Beverage manufacturing	Beverage manufacturing or processing works; except wineries processing less than 300 tonnes per year of grapes and retaining all wastes on site.	Premises discharging or depositing waste solely to land are exempt from licensing.	-	No change from 1996 Regulations	0	0
Textiles						
Textiles	Textile manufacturing and processing works including carpet manufacturing, wool scouring, textile bleaching, textile dyeing and textile finishing works.	Premises are exempt from licensing for discharges or emissions to the atmosphere, except those premises engaging in textile finishing using chemical treatment.	-	Major change - see Appendix D.7	14	unknown

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Wood and wood derivatives						
Timber preservation	Timber preserving works.	These premises are exempt from licensing.	-	No change from 1996 Regulations	n/a	n/a
Fibreboard	Fibreboard, particle board, or plywood works, being a works in which wood, wood products or other cellulose materials are processed to form fibreboard, particle board or plywood.			Minor change – plywood works added to definition. No net change in licence numbers (one site was captured in general emissions to air).	1	2
Paper pulp mills	Paper pulp mills, being works in which wood, wood products, waste paper or other cellulose materials are processed to form pulp, paper or cardboard.	Premises producing less than 30,000 tonnes per year of pulp, paper or cardboard are exempt from licensing.		Major change - see Appendix D.9. No net change in licence numbers (two sites were captured in general emissions to air)	3	5
Chemicals including petroleum						
Chemical works	Chemical works: <ul style="list-style-type: none"> (i) where products are manufactured by any chemical process, and which are designed to produce at least 2000 tonnes per year of chemical products or <ul style="list-style-type: none"> (ii) where acrylic compounds, herbicides, insecticides or pesticides are manufactured by any chemical process. 			No change from 1996 Regulations	44	44
Coal processing	Coal processing works, being works in which coal is converted to gaseous, liquid or solid products.		-	No change from 1996 Regulations	2	2

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
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Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Oil and gas refining	Oil or gas refinery works, being works in which crude oil or gas is refined or hydrocarbon fractions are produced.		-	No change from 1996 Regulations	7	7
Bulk storage	<p>Bulk storage facilities which have a total design capacity of more than 1·0 mega litres (in tanks exceeding 10 000 L capacity) and which store compounds of carbon (including petroleum products or oil) which:</p> <ul style="list-style-type: none"> • contain at least one carbon to carbon bond, as well as derivatives of methane; and • are liquid at Standard Temperature and Pressure; or • contain any substance classified as a class 3 indicator in State environment protection policy (Air Quality Management) as amended from time to time. 		✓	Clarification of current practice; see Appendix D.10	14	14
Container washing	<p>Premises receiving bulk transport containers for the purpose of internal washing or cleansing where the containers have contained:</p> <ul style="list-style-type: none"> • prescribed industrial waste <p>or</p> <ul style="list-style-type: none"> • any material designated to be a dangerous good as defined by section 5* of the <i>Road Transport (Dangerous Goods) Act 1995</i>. 		✓	New category see Appendix D.11	n/a	3

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
REGULATIONS 2007 — REGULATORY IMPACT STATEMENT

Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Non-metallic minerals						
Cement works	Cement works in which: <ul style="list-style-type: none"> (i) clays or limestone materials are used in either a furnace or a kiln in the production of cement clinker or <ul style="list-style-type: none"> (ii) cement clinker or clays or limestone or like materials are ground. 		-	No change from 1996 Regulations	3	3
Bitumen asphalt batching works	Bitumen or asphalt batching works which are designed to have a throughput of at least 100 tonnes per week.	These premises are exempt from licensing.	-	No change from 1996 Regulations	n/a	n/a
Ceramic works	Ceramic works, being works in which bricks, tiles, pipes, pottery goods or refractories are processed in dryers or kilns, which are designed to produce at least 10,000 tonnes per year of ceramic product(s).		-	No change from 1996 Regulations	13	13
Mineral wool	Mineral wool or ceramic fibre works.		-	No change from 1996 Regulations	1	1
Glass works	Glass works, being works manufacturing glass by the melting of raw materials.		-	No change from 1996 Regulations	2	2
Metals and engineering						
Primary metallurgical works	Primary metallurgical works, being works in which ores or ore concentrates are processed or smelted to produce metal.		-	No change from 1996 Regulations	2	2

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
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Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Metal melting works	Metal melting works, being works in which any metal melting is performed in furnaces, having a total design rate of at least 10 tonnes per hour for ferrous foundries, or 2 tonnes per hour for non-ferrous foundries.		-	No change from 1996 Regulations	8	8
Metal galvanising works	Metal galvanising works which are designed to have a throughput of at least 5000 tonnes per year of steel.		-	No change from 1996 Regulations	7	7
Metal finishing works	Metal finishing works, including electroplating of metal or plastic, anodising, electroforming or printed circuit board manufacturing.	These premises are exempt from licensing for discharges or emissions to the atmosphere.	-	No change from 1996 Regulations	1	1
Can and drum coating	Can and drum coating works, in which surface coating is applied to metal before or after the metal is formed into cans, closures, coils or drums.	Premises which discharge or emit to the atmosphere less than 100 kilograms per day of volatile organic compounds are exempt from licensing.	-	No change from 1996 Regulations	6	6
Vehicle assembly	Vehicle assembly or sub-assembly works which are designed to produce at least 2000 units per year.		-	No change from 1996 Regulations	4	4
Printing						
Printing works	Printing works using more than 100 kilograms per day of volatile organic compounds.	Premises emitting less than 100 kg per day of volatile organic compounds are exempt from licensing for discharges or emissions to the atmosphere.	-	Major change - see Appendix D.12	18	18

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
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Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Utilities						
Power stations	Premises which generate electrical power from the consumption of a fuel at a rated capacity of at least 5 Megawatts of electrical power.	Premises using solely natural gas turbines and which have a total rated capacity of less than 20 Megawatts are exempt from licensing.		Major change - see Appendix D.13. Sites to be exempted are universities and hospitals	26	18
Carbon geo-sequestration	Premises with facilities for the capture, separation, or storage of waste carbon dioxide for the purpose of geological disposal.			New category - see Appendix D.14	0	0
Potable water treatment plants	Potable water treatment plants which are designed to have a throughput of more than 1 mega litre per day.	These premises are exempt from licensing.	-	No change from 1996 Regulations	n/a	n/a
Other						
General emissions to air	<p>Premises which discharge or emit, or from which it is proposed to discharge or emit, to the atmosphere any of the following—</p> <ul style="list-style-type: none"> • at least 100 kilograms per day of <ul style="list-style-type: none"> - volatile organic compounds, particles, sulfur oxides, nitrogen oxides, or other acid gases (excluding carbon dioxide) • at least 500 kilograms per day of carbon monoxide • any quantity from any industrial plant or fuel burning equipment of any substance classified as a class 3 indicator in State environment protection policy (Air Quality Management) from time to time. 		-	Major change - see Appendix D.15 (note: 4 boilers have become exempt, and six new sites have been included for class 3 air indicator emissions. Other sites consolidated to other categories: 5 to milk processing, 2 to paper pulp, 1 to fibreboard, 2 to road tunnel ventilation)	41	33

ENVIRONMENT PROTECTION (SCHEDULED PREMISES AND EXEMPTIONS)
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Sector	Description of the scheduled premises (as outlined in the proposed Regulations)	Description of any specified exemption provisions outlined in the proposed regulations ³⁵	Financial assurance	Change from 1996 Regulations	Number of licences in 1996 regs	Number of licences in proposed regs
Contaminated sites – onsite soil containment	On-site retention of contaminated soil on premises that are designed to or have a capacity to hold 1000m ³ in an engineered facility.	These premises are exempt from licensing.	✓	New category - see Appendix D.16	n/a	n/a
Tunnel ventilation systems	Road tunnel ventilation systems.		-	New category - see Appendix D.17. Note: site currently captured in general emissions to air	0	2
Contaminated sites-long term management	Long term management of soil or groundwater contamination.	These premises are exempt from works approval and licensing.	✓	New category - see Appendix D.18	n/a	n/a
Removed activities						
On-site management of certain wastes			-	Removed from the proposed regulations. Note: 3 of these sites were miscategorised and have been retained	6	0
Concrete batching			-	Removed from the proposed regulations	n/a	n/a

D. NEW CATEGORIES AND MATERIAL CHANGES

The following section contains more detailed information on each of the activities classified as a major change from the 1996 Regulations. It is important to note that these activities went through the same qualitative assessment to determine the level of regulation as the other activities that are having a minor change or no change at all. Each of the appendices will cover the nature of the risks, the qualitative risk assessment, level of proposed regulation (including any alternatives considered), groups affected and where applicable, comparison of other States' approaches.

Where possible an assessment of the activity's size, location, and other industry data is included. It is important to note that this information may not be disaggregated down to the specific activity described in the new regulations.

D.1 Wastewater treatment

D.1.1 Nature of the risk

Society must be vigilant in the separation of wastewater (sewage) from other water sources to avoid possible outbreaks of disease caused by water-borne pathogens. Inadequately treated sewage contributes to the nutrient load in waterways which in turn contributes to human health risks. The treatment and disposal of sewage and wastewater also poses significant odour risks, which can affect amenity of the surrounding community. Industrial wastewater treatment plants are premises that receive wastewater from one or more industries for treatment. Although they do not receive 'sewage' as the wastewater may not contain human excreta, these premises can also contribute to nutrient load in waterways, and may also contain heavy metals or other contaminants.

D.1.2 Risk assessment

Overall, EPA considers the category to pose a medium to high level of environmental risk, particularly in water and amenity issues uses. EPA has assessed small wastewater treatment plants discharging solely to land as having a low environmental risk, though the information asymmetry with these sites is pronounced.

D.1.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations
- remove the licence requirements for sewage and wastewater treatment plants

or

- amend the current licence conditions for small wastewater treatment plants discharging solely to land.

D.1.4 Level of the proposed regulation

Based on EPA's qualitative risk assessment, the options to continue with the description in the 1996 regulations or to remove all licence requirements were rejected. Continuing to use the 1996 regulations description would continue to require small waste waster treatment plants to require a licence. This would result in little or no improvement in environmental outcomes and decrease economic efficiency.

The option to remove all licence requirements was rejected on the basis of environmental risk. While small wastewater treatment plants do not pose a high environmental risk, large wastewater treatment plants continue to pose environmental risks.

Sites categorised as sewage treatment plants will be described as "Premises on or from which sewage (including sullage) effluent, exceeding a design or actual flow rate of 5000 Litres per day, is treated, discharged or deposited" in the new regulations.

Sewage treatment plants will have the following exemptions provisions in the new regulations. "Premises discharging or depositing waste solely to land at a design capacity of not more than 100,000 litres per day in accordance with specifications acceptable to the Authority are exempt from licensing". This exemption provision addresses the lower environmental risk assessment for those small wastewater treatment plants that discharge solely to land. The specifications identified in the exemption provisions will be developed as guidelines and will be published by EPA, also addressing the concerns to do with the information asymmetry. Larger reuse schemes can already be exempted from licensing through a reuse exemption. This will be preserved in the revised regulations.

Sites categorised as industrial wastewater treatment plants were previously included in the same category as sewage treatment plants. They are described in the new regulations as 'Premises on or from which industrial wastewater effluent not generated at the premises, exceeding a design or actual flow rate of 5000 litres per day, is discharged or deposited'. Industrial wastewater treatment has been separated from domestic wastewater treatment, as the exemption for small wastewater treatment plants is not intended to apply to this category. The general exemption from licensing will still apply for a reuse scheme that meets discharge, deposit and operating specifications acceptable to the Authority.

D.1.5 Groups affected by the proposed regulation

The wastewater industry is a part of the broader water supply industry. In 2005-06 the Australian water supply industry generated \$3,833 million in revenue. It is estimated that 310 businesses are included in this sector with an estimated employment of 11,700 people. Two per cent of Australia's water usage comes from treated wastewater.³⁷

Under the definitions of the 1996 regulations, 447 sites are classified as wastewater treatment plants, incorporating both sewage and industrial. The provision of the exemption for small wastewater treatment plants is expected to reduce the number of sites by approximately 163 to 284. The types of businesses most likely to meet the exemption provision include caravan parks, schools and hotels.

D.1.6 Approach adopted in other jurisdictions

New South Wales, Western Australia, South Australia, and Queensland have licensing regimes in place for this category.

D.2 Composting

This category consists of facilities for the treatment of waste, not generated at the premises, by aerobic or anaerobic processes to generate compost.

This industry is expanding, particularly with increasing numbers of councils beginning greenwaste collections and the implementation of the waste hierarchy discouraging landfill disposal of organic wastes. Other sources of raw material apart from municipal green waste include lawn clippings from mowing businesses, agricultural waste, vegetable and fruit waste from supermarkets, sawdust/shavings, pinebark and biosolids.

Over the past ten years, the industry has expanded from a very small number of facilities to becoming a more significant part of the waste management industry. The industry appears to be marginally profitable and relies economically in some cases on government or council subsidies.

D.2.1 Nature of the risk

Over the past five years 13 PANs have been issued to composting sites.

Composting sites, if not managed effectively, can produce offensive off-site odours that will impact on nearby sensitive uses. Also, if sites are not managed effectively, they may cause waste discharges to water particularly during storm events. Any discharge to water from a composting site would have high levels of suspended solids and a high organic load.

A number of fire events have occurred at composting sites in recent years. During fire events there is increased potential for adverse air emissions (e.g. smoke, ash and odour) and discharge of fire fighting water that would contain the above-mentioned contaminants.

D.2.2 Risk assessment

Overall, EPA has assessed this category as posing a medium level of environmental risk.

D.2.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations (that is all sites designed to produce more than 10 tonnes per day of compost require a works approval, but were exempt from licensing)
 - require a works approval and licence for all businesses over the threshold
- or
- develop an industry-based code of practice.

³⁷ Ibisworld Industry Report, Water Supply in Australia, 2006

D.2.4 Level of proposed regulation

Industry leaders would like all facilities to be subject to the conditions of a works approval and licence in order to create a level playing field, and improve the image of the industry to facilitate a more saleable product. The new regulations require works approvals or licences for users operating facilities with a capacity to process more than 100 tonnes of waste per month. EPA developed this threshold in consultation with the industry and it is designed to capture all large scale, commercially viable operations in order to provide a level playing field for this developing sector.

D.2.5 Groups affected by the change in regulation

The composting sector is a sub-sector of the broader waste disposal services industry. In Victoria, this sector revenue is estimated to be \$750 million from an estimated 368 businesses employing 3854 people.³⁸

As stated above, this industry has expanded considerably over the past 10 years and is expected to continue to expand in response to Victoria's Zero Waste Strategy. EPA has a list of known composters and would work with Compost Victoria to develop appropriate licence conditions and implementation procedures.

EPA anticipates that up to 11 additional sites will be affected.

D.2.6 Other jurisdictions

New South Wales, Western Australia, South Australia, and Queensland have licensing regimes in place for this category. The Victorian scheme is no more onerous than other State schemes.

D.3 Energy from waste

This activity group includes a wide range of technologies for the conversion of organic wastes to energy. The technologies involved can be divided into two groups: those that recover energy from direct combustion of waste and those that have an intermediate processing step to convert waste into a form which is more readily combusted, for example through anaerobic digestion of organic waste.

This is an emerging activity in Victoria - there are some examples of energy recovery from waste already operating or in development:

- Firing of large facilities such as cement kilns with wastes (scheduled as cement works)
- Co-firing of wood and other waste in power station boilers (currently scheduled as a power station)
- Landfill gas recovery and combustion plants (plants at a number of landfills are licensed as power stations)
- A range of proposals for smaller facilities burning wastes to make power - likely to be smaller than the current 5MW rated capacity for scheduling as a power station
- Sawmills and similar sites often burn wood wastes to recover energy for onsite steam supplies. This is not usually a scheduled activity
- Other prescribed waste projects under development such as combining waste tars and waxes with sawdust to produce briquettes.

D.3.1 Nature of the risk

The combustion of waste will result in air emissions. Depending on the technology used and the nature of the waste stream, the emissions could include:

- products of combustion: CO₂, SO₂, CO, NO_x etc
- particles (in smoke)
- a wide range of compounds including heavy metals and potentially organo-chlorine compounds may be emitted depending on the constituents of the waste stream. In some cases management of the waste stream will play an important role in controlling emissions
- Class 1, 2 and 3 and unclassified indicators under the SEPP (Air Quality Management) to be discharged.

³⁸ Ibisworld Industry Report, Waste Disposal services Australia, 2006

Storage and processing of organic wastes under some conditions may lead to odour issues. The potential for odour depends on the nature of the operation proposed. Smoke discharges could significantly impact on amenity. As with any process using machinery there is the potential for noise to be an issue if not properly managed. There is also the potential for residual waste products, such as ash and sludge, which need proper management.

D.3.2 Risk assessment

Overall, EPA considers the category to pose a medium-high level of environmental risk.

D.3.3 Regulatory models considered

The following options were considered:

- manage this under 1996 scheduled premises definitions (which include composting, power stations and 'other treatment of waste')
- do not regulate this category
- regulate the generation of electrical power from waste
- regulate the recovery of energy from waste

or

- remove the requirement for works approval.

D.3.4 Level of proposed regulation

EPA proposes a new category for the generation of electrical power from waste at a rated capacity of more than 1MW (energy recovery from smaller quantities of wastes of concern can be covered through Prescribed Industrial Waste Regulations). Each turbine used in waste to energy is generally greater than 1MW. While similar turbine technology is used as in power generation, the emissions from these facilities can be more significant if not controlled.

D.3.5 Groups affected by the change in regulation

Of the three known sites, all have received works approvals. As such, EPA does not expect this change in regulation to have an impact on any additional businesses.

D.3.6 Other jurisdictions

Western Australia, South Australia, Queensland and New South Wales have no specific regulation for this category. However, they regulate similar such businesses through the fuel burning and composting categories.

D.4 Intensive bird industries

This category consists of large broiler farms and complexes. There are approximately 205 farms in Victoria producing 120 million birds each year.

Under the broiler code, facilities with over 320,000 birds are currently required to have an Environmental Risk Assessment (ERA), however the ERA process does not currently give industry the certainty that it needs to invest.

D.4.1 Nature of the risk

The bird intensive industry generates significant level of pollution reports. Farms generated 2,227 pollution reports from 1996 to April 2005. There has been 1 PAN issued to a chicken farm.

Broiler farms are a major source of odour pollution reports to EPA. Broiler farms can also generate noise pollution reports, with noise levels at their highest during bird pick-ups or transport. Some specific issues associated with bird intensive industries include:

- litter incorporating manure generally causes odour related issues;
- poor stockpiling/storage or inappropriate practices may result in odour and run-off nutrient issues;
- dead birds are a potential risk if not managed. Generally stored in freezers and removed off farm to a renderer or licensed landfill
- composting of litter or dead birds may also be a risk to odour and nutrient run-off.

D.4.2 Risk assessment

Overall, EPA considers the category to pose a medium level of environmental risk.

D.4.3 Regulatory models considered

The following options were considered:

- do not regulate (i.e. continue with code of practice)
- encourage stronger council interactions
- require licensing

or

- require only a works approval.

D.4.4 Level of proposed regulation

The new regulations will require poultry farms or complexes designed to hold 320,000 or more birds to require a works approval. The new regulations will not require that these facilities be required to hold an EPA licence.

This is the threshold adopted in the broiler code at which an environmental risk assessment is required. This threshold was developed in consultation with industry. It is expected that a works approval would be heavily reliant on the Broiler Code and any associated guidance that might be published. The proposed regulation will make EPA a statutory referral agency for large broiler farms allowing councils to access EPA expertise in the planning process which may provide a more consistent response to these developments.

D.4.5 Groups affected by the change in regulation

It is expected that the new regulation threshold of 320,000 chickens will only capture chicken meat facilities. The Australian wide chicken meat industry is estimated to have annual revenue of \$1,358 million. In Victoria there are estimated to be 322 chicken meat facilities.³⁹

It is unlikely that there will be more than a few applications per year. Therefore, the proposal is not expected to have a significant impact.

D.4.6 Other jurisdictions

All states appear to have a licence or other approval mechanism for their bird intensive industries. Queensland requires a licence for farms with greater than 200,000 birds while New South Wales requires a licence required for farms with greater than 250,000 birds. South Australia does not licence but all developments over 1,000 square metres must be sent to EPA SA for comment to ensure the development meets appropriate standards.

D.5 Abattoirs

D.5.1 Nature of the risk

The risk is characterised by the discharge of high strength wastewater to surface water. This category generates large volumes of wastewater and can produce offensive odours and surface/ground contamination if not properly operated and controlled. There have been five PANs issued to abattoirs since 2000.

'Australian meat processors must comply with environmental regulations set out by the Federal and state governments. The impact of meat processors on their immediate environment is significant. Wastewater from abattoirs typically includes large volumes of organic solids such as animal fat and blood. Meat processors must comply with regulations relating to odours, water usage, wastewater generation, and treatment and disposal of animal waste.'

Ibisworld Industry Report, Meat Processing in Australia, September 2006

³⁹ Ibisworld Industry Report Poultry Farming (meat), 2006

D.5.2 Risk assessment

Overall, EPA considers the category to pose a medium level of environmental risk, particularly in water and land uses.

D.5.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations
- or
- rework the 1996 definition to focus on the processing steps of most concern.

D.5.4 Level of proposed regulation

Abattoirs that discharge more than 100,000 litres per day must be licensed. This definition has not changed since the 1996 regulations. Sites discharging solely to land will be exempt from licensing. Sites that have been identified in this category would have their discharges reviewed and be invited to surrender the licence where appropriate. Sites would be required to present evidence that there was no potential for discharge to reach surface or groundwater.

D.5.5 Groups affected by the change in regulation

There are approximately 70 meat packing plants (abattoirs) in Victoria.⁴⁰ This represents approximately 28 per cent of the Australian meat processing industry. The Victorian meat processing industry turns over approximately \$1.5 billion per year. An estimated 66 per cent of industry players generated turnover below \$500,000 in 2002⁴¹.

Twenty-three premises are expected to be assessed as potentially fitting the description. In particular, one premises that fits this definition will most likely need on-going control through a notice. Despite there being a large number of small business operating in the sector, the threshold is not expected to capture the smaller abattoir operators.

D.5.6 Approach adopted in other jurisdictions

All the other States licence abattoirs at various thresholds. None have a discharge-based exemption. The new discharge exemption will make Victoria's licensing requirements less onerous than other states.

D.6 Animal skin tanning

This category consists of animal skin tanning, curing and finishing works. Tanning involves a combination of mechanical and chemical processes for the production of leather and suede products.

D.6.1 Nature of the risk

There have been 2 PANs issued to animal skin tanning sites since 2000. In the last five years there has been one prosecution of a tannery for an odour offence.

If not properly managed there is the potential for offensive odours arising from tannery works, caused by hydrogen sulfide and ammonia emissions. Further, the tanning process uses substantial quantities of water. While tanneries treat effluent on-site and then discharge to the sewer, the effluents include high volumes of dissolved solids, particularly salt, which is used in preserving and tanning hides.

Also of concern is the volume of prescribed waste generated by tanning, which includes sludge, trimmings and shavings. The three major tanneries produce approximately 6,000 tonnes per year of prescribed waste, which is sent to PIW landfill.

D.6.2 Risk assessment

Overall, EPA considers the category to pose a medium to high level of environmental risk.

⁴⁰ A count of the listing in the Aussieweb business directly www.aussieweb.com.au

⁴¹ Ibisworld Industry Report, Meat Processing in Australia, September 2006

D.6.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations
- or
- rework the 1996 definition to include re-tanning.

D.6.4 Level of proposed regulation

Licensing will be focussed on the category description on the tanning step because this is the category segment that is of most concern. No thresholds are included in the definition. Animal skin tanning, or re-tanning processes identified in the definition have been assessed as the source of most environmental issues from animal skin tanning. The proposed change will be implemented in consultation with the Australian Association of Leather Industries and the Australian Hide, Skin and Leather Exporters Association.

D.6.5 Groups affected by the change in regulation

It is estimated that the Victorian animal skin tanning industry consists of 22 businesses.⁴² There are three major tanneries in Victoria tanning cattle hides. They contribute substantially to the economy with annual turnover estimated at \$200 million. The tanning industry in Australia is considered to be in decline due to increasing competition from overseas producers such as China. Recently one of the major tanneries has scaled down production due to loss of a major contract.

There are seven other smaller tanneries in Victoria, tanning either cattle or sheepskins. These smaller tanneries are unlicensed.

EPA estimates that the new regulations could impact up to six additional sites.

D.6.6 Other jurisdictions

The following is a summary of the approaches adopted in the other jurisdictions:

- Queensland - licence required for the tanning or curing or commercially finishing leather.
- South Australia - licence required for commercial preservation or treatment greater than 5 tonnes per year. A works approval is required for tanned, dressed, finished or dyed and with water discharge.
- Tasmania - licence required for commercial preservation or treatment or drying greater than 100 tonnes per year.
- New South Wales - licence required for all tanneries and fell mongeries.

D.7 Edible oil

This category consists of those businesses involved in processing seeds to oil and processing fats into edible oils and soaps. The definition contained within the 1996 Regulations states that facilities producing at least 200 tonnes per annum are classified as scheduled premises.

D.7.1 Nature of the risk

Odour and the potential for spills are the key environmental risks at these facilities.

All currently licensed premises have the potential to generate offensive odours and require relatively sophisticated odour controls. The process of solvent extraction of oil results in odour, hexane and H₂S emissions (these are Class 2 indicators in the SEPP (Air Quality Management)). There is also the potential for dust emissions from oil milling and NO_x and CO emissions from boilers.

These facilities generate continuous and substantial high strength trade wastes and are moderate water consumers. All are connected to sewer. These facilities also generate solid prescribed wastes that must be carefully managed.

⁴² Ibisworld Industry Report, Leather Tanning and Fur Dressing in Australia, 2006

D.7.2 Risk assessment

Overall, EPA considers that this category poses a high amenity and emission risk.

D.7.3 Level of proposed regulation

EPA proposes an amendment to the production threshold of the edible oil industry to 2,000 tonnes per annum. The increase in threshold removes sites that historically have represented minimal concern.

This will lower the number of businesses expected to be defined as scheduled premises from five to four. The definition in the new regulations now states "Edible oil or fat processing works, where seed crushing, solvent extraction or edible oil or fat deodorising takes place, which are designed to produce at least 2000 tonnes per year of product(s)."

D.7.4 Groups affected by the change in regulation

The Victorian edible oil industry is estimated to consist of 14 sites employing 650 people.⁴³ Under the 1996 Regulations, five sites were scheduled as edible oil sites. The increased production threshold will reduce the number of scheduled sites to four.

D.8 Textiles

D.8.1 Nature of the risk

The risks are associated with the odorous emissions and the discharge of dye liquor to surface water.

D.8.2 Risk assessment

Overall, EPA considers the category to impose a low to medium level of environmental risk, primarily from operations where chemicals are added to textiles and then heat-treated. However, EPA does have a high level of concern about the significant energy use of this category.

D.8.3 Regulatory models considered

In the 1996 regulations an exemption was provided in this category for those sites that did not use certain processes. In effect this meant that those sites that were exempted under this category became licensed under the general emissions to air category.

The following options were considered:

- continue with the description in the 1996 regulations

or

- broaden the definition of this category and introduce a threshold to remove smaller operators, bringing all significant sites in this industry together in one category.

D.8.4 Level of proposed regulation

The proposed regulation leaves the works approval unchanged and requires licensing for textile finishing that involves chemicals. Finishing (using chemical treatment) process was identified as the source of most environmental issues from this industry.

D.8.5 Groups affected by the change in regulation

At least ten sites undertaking textile finishing are likely to be affected.

D.8.6 Other jurisdictions

Queensland has a broad category that requires all businesses to licence. Western Australia licences those businesses involved in bleaching, dyeing or finishing, while Tasmania licences those businesses involved in bleaching or dyeing with water production thresholds. New South Wales and South Australia do not require licensing.

⁴³ Ibisworld Industry Report, Oil and Fat Manufacturing in Australia, 2006

D.9 Pulp and paper

This category consists of pulp or paper mills, being works in which wood, wood products, waste paper or other cellulose materials are processed to form pulp, paper or cardboard.

D.9.1 Nature of the risk

The Kraft pulping process produces a number of reduced sulfur compounds, including hydrogen sulfide, methyl mercaptan, dimethyl sulfide and dimethyl disulfide. These chemicals can generate odour pollution reports from up to 70 kilometres away from the mill. In addition to odour, pulp and paper facilities can generate high combustion products (NO_x and SO_x) and high particulate emissions.

Pulping processes use significant quantities of water and consequently have high waste water discharges. These discharge waters have elevated levels of dissolved solids, suspended solids, colour, biological material, metals and other contaminants. There is also the potential for discharge of intractable chlorinated wastes which are known to be highly toxic and to bioaccumulate.

D.9.2 Risk assessment

Overall, EPA considers the category to impose a high level of environmental risk.

D.9.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations
- or
- broaden the definition of this category and introducing a threshold to remove smaller operators.

D.9.4 Level of proposed regulation

The proposed regulation broadens the definition and includes a licence exemption for sites producing less than 30,000 tonnes pulp paper or cardboard per year. Threshold was selected to capture only the major players in the industry with significant environmental risk. This threshold ensures that the new regulations will not capture boutique paper makers.

D.9.5 Groups affected by the change in regulation

It is estimated to be fewer than 20 pulp and paper sites in Victoria. The pulp and paper industry is very concentrated, the four largest businesses are estimated to make up over 86 per cent of the industry.⁴⁴ The new regulations are expected to increase the number of sites captured by the regulation from three to five.

D.9.6 Other jurisdictions

The thresholds in other jurisdictions are less than:

- 100 tonnes per year in Queensland and South Australia
- 5,000 tonnes per year in Western Australia
- 30,000 tonnes per year in New South Wales or 70,000 tonnes per year if 90 per cent of the paper is recycled.

There is no threshold in Tasmania.

Based on this assessment the new regulations will not be any more onerous than other jurisdictions approaches.

D.10 Bulk storage

The bulk storage industry is responsible for the storage and handling of large volumes of liquid, including oil, petrol and chemicals.

⁴⁴ Ibisworld Industry Report, Pulp Paper and Paperboard manufacturing, Australia, 2006

D.10.1 Nature of the risk

Bulk storage facilities have semi-continuous emissions to air. Emissions can occur as breathing losses from tanks and also as transaction losses (leaking pipes). Since many of the facilities store Class 3 substances (such as benzene, propylene oxide and butadiene) the reduction of air emissions has been a considerable focus of industry and EPA. There is some potential for odour impacts, but EPA reports improving management and performance on this issue.

If a spill or leak was to occur it could result in contamination of soil, groundwater or surface water. Spills generally occur during unloading and loading of ships.

D.10.2 Risk assessment

Give the number of environmental risks outlined above EPA have assessed these facilities to pose a medium level of environmental risk.

D.10.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations
- or
- change the wording of the definition to provide clarity of the existing interpretation.

D.10.4 Level of proposed regulation

EPA proposes an amendment to the definition to provide clarity on which bulk storage facilities should be scheduled premises. The new definition states the following sites must be licensed. Sites with a total design threshold of 1 mega litre (in tanks exceeding 10,000 litres in capacity) and which store compounds of carbon which:

- contain at least one carbon to carbon bond, as well as derivatives of methane
- and
- are liquid at standard temperatures and pressure
- or
- contain any substance classified as a class 3 indicator in the SEPP (Air Quality Management) as amended from time to time.

Storage of class 3 indicators require a high level of assurance and it is therefore appropriate that it require a licence.

D.10.5 Groups affected by the change in regulation

Currently 14 sites are classified as scheduled premises under the bulk storage definition. As a result of the new regulations no new sites are expected to be scheduled as bulk storage facilities. In the past 10 years, the bulk liquid industry has had an annual average growth rate of 1.1%. Port of Melbourne Corporation forecast that the hazardous chemicals trade will decrease from 298,000 tonnes (2004) to 236,000 tonnes by 2035. However, they suggest that the total liquid bulk trade will increase from 4.34 million tonnes to 5.78 million tonnes in the same time frame. This is largely due to the expected increase of crude oil imports.⁴⁵

D.11 Container washing

This category consists of those businesses involved in the internal washing of chemical transport containers (such as road tankers) which have contained either:

- prescribed industrial waste
- or
- any material designated to be a dangerous good as defined by the Australian Dangerous Goods Code as updated and amended from time to time.

⁴⁵ Port of Melbourne Corporation, "Port Development Plan 2005-2035" (Commercial in Confidence)

D.11.1 Nature of the risk

There have been 2 PANs issued to bulk container sites since 2000.

These premises generate very complex air emissions, particularly volatile organic compounds. Some also generate steam to assist cleaning and to improve flow of highly viscous liquids. EPA understands that vapour recovery is not practiced at these facilities resulting in low levels of controls over air emissions. Many of the container washing sites have odour as a significant and ongoing issue.

On site spills have the potential to contaminate stormwater, particularly given low levels of on site environmental controls. EPA is also concerned with the large quantities of liquid waste and sludge generated at these sites. These wastes contain a highly complex cocktail of the substances washed from various containers. Since the containers involved are used to transport most types of chemicals and the washing procedures are non-selective, the wastes are infinitely variable.

D.11.2 Risk assessment

Overall, EPA considers the category to pose a high level of environmental risk. EPA is also particularly concerned at the relatively low level of attention paid to environmental management at these sites.

D.11.3 Regulatory models considered

The following options were considered:

- not regulate these sites
- require only works approval

or

- require works approval and licensing.

D.11.4 Level of proposed regulation

The new regulations require container washing sites to apply for works approval and hold a licence if the containers have held prescribed industrial wastes or any material defined as a dangerous good as defined by the *Road Transport (Dangerous Goods) Act 1995*. This definition was included to be consistent with the definition of the PIW Management activity. The proposal will be implemented through discussions with the Victorian Waste Management Association (VWMA).

D.11.5 Groups affected by the change in regulation

There are a limited number of facilities in Victoria dedicated to the washing of chemical containers. Most of these are in the West Metropolitan Region. These sites perform an indispensable service to the chemical transport industry by facilitating carriage of different liquids in road tankers and shipping containers. This change will enable industry to be confident that they are not opening themselves to risk in reusing containers.

There are only three known sites that will be affected by the proposal. Consultation with the VWMA will determine whether the definition needs to be refined.

D.12 Printing works

This category generally has a sound environmental performance record. Strong competition in the category for market share has driven the category to continually upgrade equipment that is efficient and minimises waste including emissions. EPA and industry participants have worked closely to achieve volatile organic compounds (VOC) emission reductions through Publication 940, which requires all licensees to reduce their VOC emissions to 500 tonnes per annum by 30 June 2006 and 250 tonnes per annum by 30 June 2008. Compliance with these requirements is yet to be determined.

D.12.1 Nature of the risk

The highest risk is associated with the emission of odour and VOCs that can contribute to photochemical smog.

D.12.2 Risk assessment

Overall, EPA considers the category to pose a low to medium level of environmental risk. There is some medium level concern about the disposal of waste inks and trimmings and odour.

D.12.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations
- or
- simplify the exemption threshold to be more generic.

D.12.4 Level of proposed regulation

The proposed regulation extends the threshold for licence exemption to all printers emitting less than 100kg/day of VOC. The definition changes are to ensure consistency with SEPP (Air Quality Management). The threshold of 100 kg/day of VOC is consistent with the large source level for VOC emissions.

Proposed exemption threshold allows greater flexibility in managing emissions and will provide an incentive for sites to go beyond compliance. This exemption replaces the 1996 Regulation exemption that allowed for exemptions for specific types of printing technology. EPA expects that this general exemption will provide incentive to further reduce emissions but will take some time before having an impact.

D.12.5 Groups affected by the change in regulation

The Victorian printing industry is estimated to have an annual revenue of \$2.3 billion.⁴⁶ The new regulations are not expected to change the number of printing works subject to licensing and works approval.

Many printers are in the process of upgrading to comply with EPA publication 940.

D.12.6 Other jurisdictions

New South Wales, Western Australia, and Tasmania do not impose licensing or works approval requirements on businesses in this category. Queensland requires a works approval.

D.13 Power stations

The 1996 regulations classify power stations for the purposes of licensing and works approval as a premises generating electrical power from the consumption of fuel at a rated capacity of at least 5 MW of electrical power.

D.13.1 Nature of the risk

Fossil fuel burning power stations emit large quantities of products of combustion (POC) into the atmosphere. Some power stations also emit large quantities of water vapour and other materials into the atmosphere. The nature of the environmental risk caused by power stations is related to the type of fuel used and the size of the power station. Power stations also emit quantities of NO₂.

D.13.2 Risk assessment

Overall, EPA considers the category to pose a low to medium environmental risk. Often these risks occur during the design and building phase. In considering the overall risk posed to power generation stations, EPA considered the size (generation capacity) of the station and what fuel was combusted to generate the power.

Smaller power stations pose less of an environmental risk due to their small emissions levels. However, when designing and building small power stations, operators still need to ensure that they meet the various legislative and regulatory requirements imposed on facilities emitting POC into the atmosphere, such as the SEPP (Air Quality Management).

The type of fuel burned during the combustion process will also play a significant role in determining the level of POC emitted into the atmosphere.

⁴⁶ Ibisworld Industry Report, Printing in Australia, 2006

D.13.3 Regulatory models considered

In developing the new regulations EPA have considered the following alternatives:

- continue with the description in the 1996 regulations
- remove licensing

or

- provide a licensing exemption for small power stations using natural gas as a fuel.

D.13.4 Level of proposed regulation

The new regulations will require those power stations generating electrical power at a rated capacity of at least 5 MW to require a works approval and an EPA licence.

The new regulations recognise that small natural gas fired power stations pose a lower risk and therefore will provide a licensing exemption for power stations using solely natural gas turbines and which have a total power generation capacity of less than 20 MW. Power stations eligible for this exemption are still required to apply for a works approval.

D.13.5 Groups affected by the change in regulation

The difference between the 1996 regulations and the new regulations is the exemption provision for gas-fired power stations generating less than 20 MW of electricity. Under the 1996 regulations 26 sites were required to hold an EPA licence and apply for works approvals. The introduction of the exemption provision for small gas fired power stations is expected to reduce the number of sites requiring a licence to 18. Sites that are no longer required to hold a licence include small generators in hospitals and university boilers. However, it should be noted that the 26 sites that currently hold a licence under the 1996 regulations are still required to apply for a works approval if they make alterations to their power stations.

D.13.6 Other jurisdictions

Other jurisdictions apply different environmental assurance frameworks to power stations; the following is a summary of the different approaches:

- Queensland - Requires all power stations with a capacity greater than 5 MW to hold a licence. A discount is provided for those power stations that use natural gas for generation.
- New South Wales - Requires all power stations with a capacity of 30 MW or more to be licensed. Gas fired power stations operating in the metropolitan area with a capacity of 20 MW or more are required to be licensed. It should also be noted that power stations in NSW with a capacity of less than 20 MW are captured by other regulatory categories.
- South Australia - Requires all power stations with a capacity greater than 5 MW to be licensed.
- Western Australia - Requires power stations with a capacity of 10 MW or more to be licensed. A higher licence threshold of 20 MW is set for gas powered stations.

The ability to make a meaningful jurisdictional comparison for power stations is limited as different states use different fuels. For example the large power stations in Victoria use brown coal compared to the NSW power stations that use black coal.

D.14 Carbon geosequestration (Carbon dioxide capture and storage)

This category consists of facilities involved in the capture, separation, or storage of waste carbon dioxide for the purpose of geological disposal (indefinite storage within aquifers and other geological structures such as depleted oil and gas reserves). At this time this activity has no premises in Victoria, although one site is under consideration for a demonstration project.

This category is characterised by a high-level of community interest. There is general concern about climate change and the need for assurances that any new technologies that are adopted are effective and stable. It should be noted that while the capture, separation and compression will be onshore and therefore subject to the Environment Protection Act 1970, it is likely that the bulk of disposal sites will be in depleted oil and gas fields in Commonwealth waters outside EPA's jurisdiction.

D.14.1 Nature of the risk

Air emissions are likely to include the products of combustion from heating and compression of CO₂ gas. Premises are also likely to be large noise sources in quiet rural areas due to large scale compression and separation. Onshore storage security and efficacy is not yet proven in the Victorian setting. The primary issues for carbon dioxide geosequestration projects are likely to be proving the science, public perception, and confidence⁴⁷.

Carbon dioxide is a naturally occurring non-toxic gas, and is generally regarded as safe. At elevated concentrations carbon dioxide can cause harm to oxygen breathing organisms as carbon dioxide is denser than air and odourless can accumulate in low-lying, confined, or poorly ventilated areas, or if there is a significant cloud release.⁴⁸ Air emissions are likely to include the products of combustion from compression of CO₂ gas. Premises are also likely to be large noise sources.

D.14.2 Risk assessment

Overall, EPA considers the category to pose a medium level of environmental risk.

D.14.3 Regulatory models considered

The following options were considered:

- No regulation

or

- Licensing and works approval.

D.14.4 Level of proposed regulation

Businesses will require a works approval and a licence while in operation. The expected size of these sites (and storage reservoirs) is such that all have the potential for significant air and noise emissions and a threshold is, therefore, not necessary.

This is an emerging industry, and the legal and policy frameworks to support the industry's development are currently being formulated. It is expected that the treatment of the industry under the Environment Protection Act will be reviewed as the statutory framework is established and form only a part of that framework.

This allows EPA to work with other areas of government to assess the efficacy of proposed carbon dioxide disposal and ensure that any proposed development is appropriate. This proposal does not address areas such as property rights or long-term responsibilities for monitoring and management of a carbon disposal site.

D.14.5 Groups affected by the change in regulation

With no known development plan it is impossible to identify the groups affected by requiring licensing and works approvals for carbon geosequestration sites.

D.14.6 Other jurisdictions

Options are not known to have been considered by other States at this stage, although the Council of Australian Governments is currently exploring a framework to allow this new industry to establish, with that work currently having a particular focus on issues of property rights.

D.15 General emissions to air

This category is designed as a 'catch-all' for all premises which may emit highly toxic materials or which discharge very large quantities of other pollutants.

D.15.1 Nature of the risk

The risks are quite variable depending on the nature of the site.

D.15.2 Risk assessment

Overall, EPA considers the category to pose a medium level of environmental risk.

⁴⁷ Council of Australian Governments, *Consultation Regulation Impact Statement - Draft Guiding Regulatory Framework for Carbon Dioxide Geosequestration*.

⁴⁸ Ministerial Council on Mineral and Petroleum Resources, *Carbon Dioxide Capture and Geological Storage - Australian Regulatory Guiding Principles*.

D.15.3 Regulatory models considered

The following options were considered:

- continue with the description in the 1996 regulations

or

- modify the 1996 definition to provide a simplified definition.

D.15.4 Level of proposed regulation

EPA reviewed each element of this category with the following outcomes: (1) Replace TOC with VOC; (2) replace particulate matter with particles; (3) replace 12(a)(iii) with reference to SEPP (AQM); (4) add a licence exemption for gas fired boilers which produce less than 20MW; and (5) Table B (1) - Increase CO exemption level to 100kg/day.

Note the following:

- most licences have already been amended for VOC
- Particles are more commonly used than particulate matter
- boilers have been assessed for exemption
- the list of class 3 indicators in SEPP(AQM) was updated in 2001. The regulations have lagged behind this.

D.15.5 Groups affected by the change in regulation

There are four sites with smaller boilers which will no longer require a licence. Six additional class 3 indicator emitters would be included, four which have been identified as high priority in implementation. It is expected that these sites will generally be able to reduce or substitute the class 3 indicators that are used before this clause is fully implemented so it is unlikely that the full effect of this change would be felt by industry.

D.15.6 Other jurisdictions

No other State has either a category for licence based on air emissions or general exemptions clauses, though some have a fuel-burning category.

D.16 On-site containment of contaminated soil (Contaminated soil)

This category consists of those companies where 1,000 m³ or more of contaminated soil is to be placed in an engineered repository. This on-site clean-up and/or risk reducing activity is designed to make a contaminated site safe for increased ongoing use of a site.

This category is also characterised by a high level of community concern particularly where contaminated land has not been cleaned up appropriately.

D.16.1 Nature of the risk

These sites are essentially constructing a landfill cell on-site and must be appropriately designed and constructed to prevent exposure or leaching of contaminants, particularly to groundwater. During the excavation, treatment and movement of soil around a site, amenity issues may arise, including dust and odour. These issues become particular problems in sensitive uses are located nearby a site being cleaned up.

D.16.2 Risk assessment

Overall, EPA considers the category to pose a medium level of environmental risk.

D.16.3 Regulatory models considered

The following options were considered:

- strengthen the environmental auditor system
- require a works approval for an engineered repository

or

- require a works approval for an engineered repository or engineered cap.

D.16.4 Level of proposed regulation

The new regulations propose that works approval be required for on-site containment of more than 1,000m³ of contaminated soil in an engineered repository. These sites will not be required to hold a licence. The works approval will be triggered by a planning request or audit.

Based on EPA experience, the threshold is set at a medium to large service station clean-up size. Facilities above this threshold have the capacity for significant impacts through leaching and human exposure if not appropriately designed.

D.16.5 Groups affected by the change in regulation

Most old industrial sites are contaminated, but only a limited number of them will require on-site containment as required in the regulations.

D.16.6 Other jurisdictions

Queensland, Western Australia, Tasmania and South Australia do not regulate this category. New South Wales requires a works approval for storage and treatment.

D.17 Tunnel ventilation systems

This category includes road transport infrastructure tunnels that involve the discharge of vehicle emissions released inside the tunnel. Key recent examples are the tunnels associated with the CityLink and EastLink tollways.

D.17.1 Nature of the risk

The emissions released inside the tunnel are variable with traffic volumes and improvements in vehicle emissions through fuel and engine emission standards will have the most significant impact on the discharges to air from road tunnels.

With extended tunnels, it is possible that several kilometres of road would all be ventilated at one point, with the potential for elevated levels of particulate matter, benzene, products of combustion and odour. Of primary concern to EPA is that emissions to air are compliant with the SEPP (Air Quality Management) through appropriate design and placement of dispersal devices.

EPA is also concerned that the ventilation equipment used can generate significant noise, and noise mitigation is generally expensive and difficult to retrofit.

Of secondary concern to EPA is that water collected within the tunnel is properly managed. This water might be surface water (carried in by vehicles), groundwater (as a result of seepage) and wastewater (maintenance wash down or incident management water).

D.17.2 Risk assessment

Overall, EPA considers the category to pose a medium level of environmental risk. However, there is significant community concern about this category and an increased expectation that regulatory authorities (such as EPA) will either manage, or at least significantly influence, construction of new projects on environmental grounds.

D.17.3 Regulatory models considered

The following options were considered:

- retain the status quo

and

- exempt all businesses in this category

or

- require works approval and licensing for road tunnel ventilation systems

or

- require works approval and licensing for all major road construction activities.

D.17.4 Level of proposed regulation

EPA will require a works approval for design and construction (clarification of existing practices) but exempt all businesses from licensing. Due to the nature and size of tunnel ventilation systems (existing and proposed), it is unlikely that any system for a road tunnel would be small enough not to generate significant community interest. General air exemption levels will apply.

D.17.5 Groups affected by the change in regulation

The two current ventilation systems are already licensed under general emissions to air. This will provide clarification of requirements for future developments.

D.17.6 Other jurisdictions

None of the other jurisdictions regulate this category.

D.18 Contaminated sites - long term management

EPA expects that an increasing number of sites will require active management (particularly of groundwater issues) for a prolonged period of time after the completion of an environmental audit or occupancy of the land. As many of these sites will change ownership in the future a mechanism is required to ensure that the initial polluter/vendor puts in place appropriate systems and financial assurance prior to divestment of the site.

The technologies employed to manage vapours and leakage to groundwater (such as soil caps and ventilation systems) from contaminated soil are likely to require ongoing monitoring and inspection.

D.18.1 Nature of the risk

The nature of the risk is variable depending on the size of the site and level of contamination. Sites that require on-going active management of vapours obviously have air emissions that are generally managed using some form of treatment of off-gases.

Another risk of concern to EPA is the potential for the spread of pollution to surrounding areas. Again the quantities at any site are likely to be highly variable and depend on nearby aquifer properties and the extent of contamination. The capping of contaminated soil helps to prevent runoff to surface water bodies and reduce rainwater infiltration (and carriage of contamination to groundwater).

While often there are due diligence provisions put in place during land transactions, there is the possibility of a premises that requires long-term ongoing management being developed and divested. This could result in a body corporate becoming responsible for on-going site management and not having the resources to finance an unexpected cost, with severe impacts on its members. In this case, it is probable that the Victorian Government would have to step in and accept the cost.

D.18.2 Risk assessment

Overall, EPA considers the category to pose a low-medium level of environmental risk.

D.18.3 Regulatory models considered

The following options were considered:

- retain the status quo
- or
- exempt the category from works approval and licensing but require financial assurance.

D.18.4 Level of proposed regulation

EPA will require financial assurance on an optional basis through statutory notice. Decisions will be determined on a case-by-case bases and depend on the level of risk posed by the site.

D.18.5 Groups affected by the change in regulation

No additional sites will be impacted.

D.18.6 Other jurisdictions

None of the other jurisdictions regulate this category.

E. CATEGORIES REMOVED

E.1 Concrete batching plants

This category consists of those businesses involved in concrete or bitumen batching works which are designed to have a throughput of at least 100 tonnes per week.

E.1.1 Nature of the risk

The risk is characterised by high sediment and alkaline runoff to surface water.

E.1.2 Risk assessment

Overall, EPA considers the category to pose a low-medium level of environmental risk. It has medium level concerns with the environment management practices of the category and the impact of the category on air quality. It has a high level concern with general amenity in regard to noise and dust.

However, this industry has developed standard designs and codes of practice in recent years. This has resulted in a reduced need to assure the quality of the design and reduced the value added by the works approval system. The main concern is to ensure that they are appropriately sited through the planning process.

E.1.3 Regulatory models considered

The following options were considered:

- retain the status quo

or

- remove the requirement for a works approval.

E.1.4 Level of proposed regulation

EPA would remove the requirement for works approval and regulate the category through the planning system where appropriate.

E.1.5 Groups affected by the change in regulation

Up to 9 sites currently meet the concrete batching threshold of the 1996 regulations. These sites have always been exempt from licensing. Removing the activity from the proposed regulations will remove the nine sites' obligations to apply for a works approval. EPA will still be able to assist council with proposals through referrals and guidance.

E.1.6 Other jurisdictions

NSW and QLD both have a licensing regime for this category. SA and TAS do not require premises in this category to licence, while WA requires a works approval.

E.2 Specific on-site waste treatment

This category consists of sites that treat a number of specific materials on-site.

E.1.1 Nature of the risk

The risks are associated with the PCB contamination of oil in the waste derived fuel stream and water / land contamination with toxic and persistent substances.

E.1.2 Risk assessment

Overall, EPA considers the category to pose a medium level of environmental risk.

E.1.3 Regulatory models considered

The following options were considered:

- retain the status quo
- revise the list of chemicals

or

- remove this category.

E.1.4 Level of proposed regulation

The materials listed in this category are also regulated through other mechanisms such as Notifiable Chemical Orders or the Drugs, Poisons and Controlled Substances Act. The proposed regulation will remove this category and hence the overlap with the other controls.

E.1.5 Groups affected by the change in regulation

Amalgam producers, transformer refurbishers, cadmium platers and cadmium screen printers will all be impacted.

E.1.6 Other jurisdictions

The other States have broader categories.

F. SURVEY RESULTS

This Appendix outlines the results from EPA's survey. The section is divided into the following parts:

- segmentation - the number, size, location and industry sector of the respondents
- works approval - costs and benefits of the works approval system including time taken to gather information and submit the works approval and other costs such as consultancies
- licensing - time taken to submit reports, the advantages and disadvantages of being licensed.

Survey segmentation

Of the 96 survey responses:

- 68 per cent were required to apply for a works approval and hold an EPA licence
- two per cent were required to apply for a works approval only
- 30 per cent held an accredited licence.

The survey covered a wide cross-section of businesses as well as representing all of the seven EPA regions.

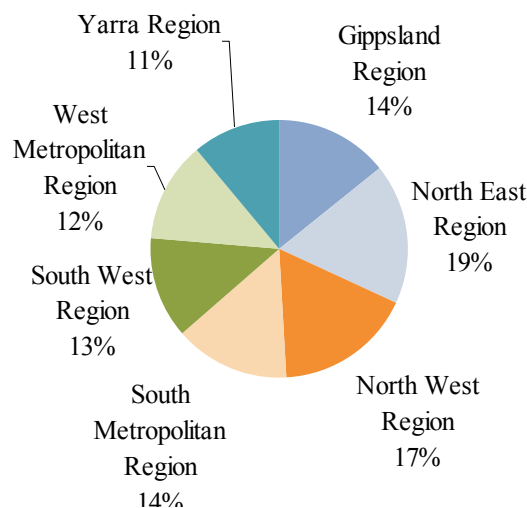


Figure F1: Licensed sites by EPA region

Figures F2 and F3 show the distribution of survey responses by EPA region and industry activity. This represents a good sample of licensees across all EPA regions.

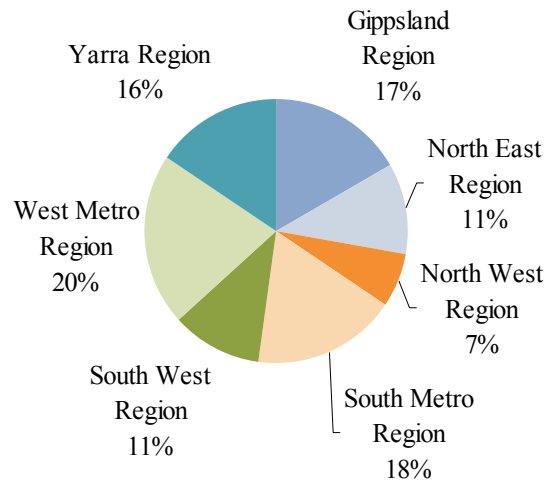


Figure F2: Survey responses by EPA region

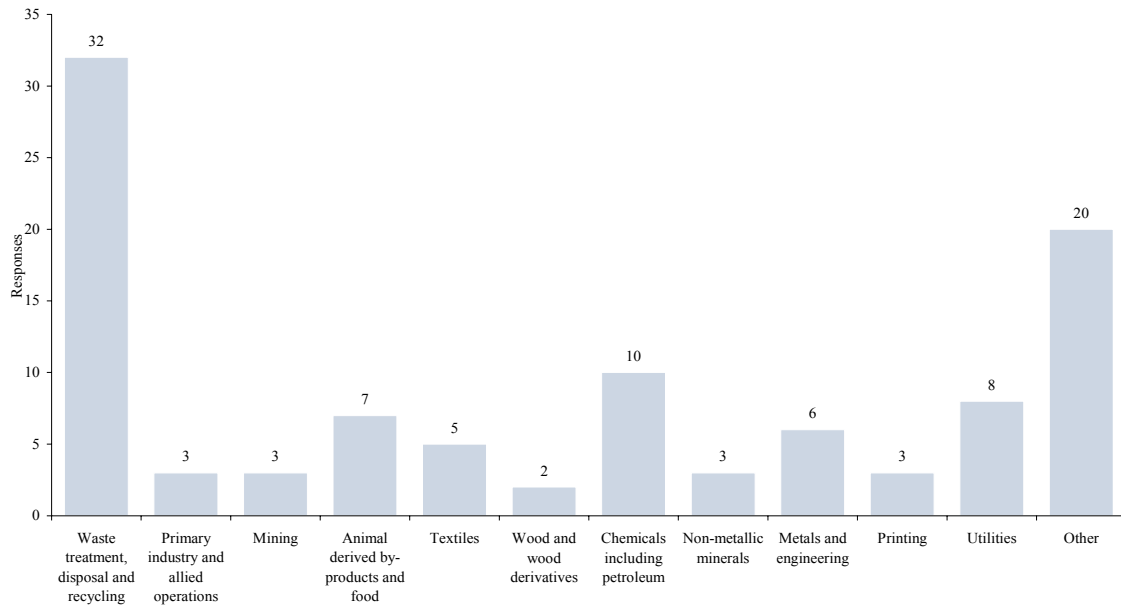


Figure F3 Survey responses by industry activity

The survey also asked for an estimate of business turnover in order to compare the total costs and benefits of a licence and works approval to the total size of the business required to apply for and hold works approvals and licences. This question was not mandatory; however, the majority of business did provide an estimate of their turnover. Figure F4 shows the total turnover by business activity.

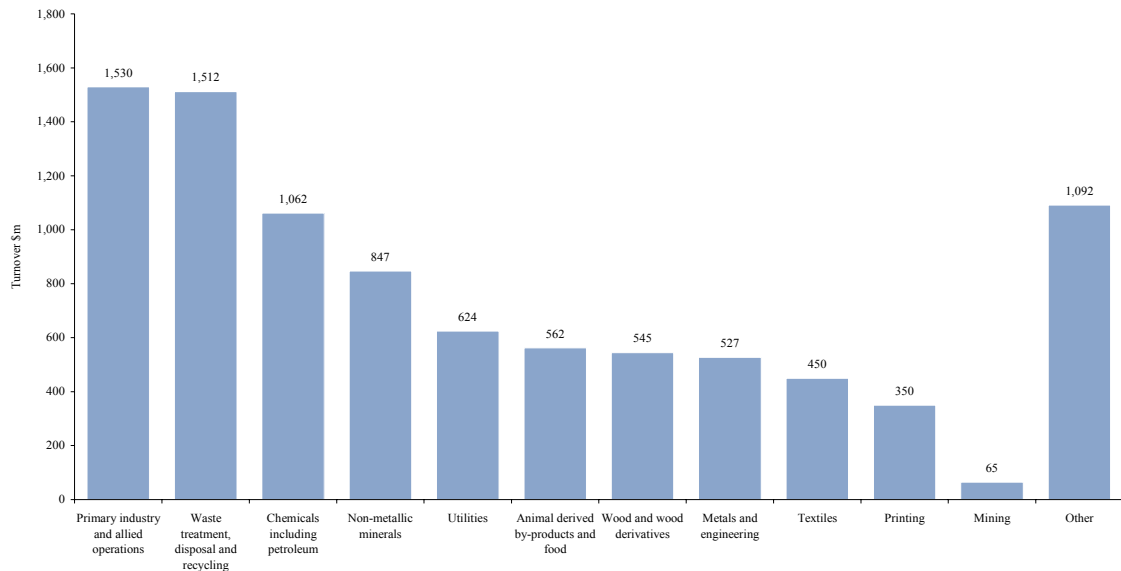


Figure F4: Turnover by business activity

Survey responses for works approvals

The survey also attempted to gain an understanding of the overlap between the works approval process and other environmental management practices. The following section summarises the key findings of the works approval section of the survey.

Of the 96 survey respondents 55 indicated that they have applied for a works approval in the past 5 years. Over 90 per cent of the respondents stated that on average their business applies for one or less works approvals each year.

When applying for works approvals, businesses need to gather information in order to complete the necessary form. This process will involve gathering information stored in the business’s EMS (if the business has one) and other information. The specific nature of individual capital investments will mean that the information needs of the works approval application will vary greatly.

Survey respondents were asked if their business had an EMS. Over 80 per cent of the total survey respondents stated that they had an EMS. The question was asked to gain an understanding of the overlap between the time invested in normal business environmental practices and additional time invested in applying of a works approval and/or holding a licence.

Of the 55 businesses indicating that they have applied for a works approval in the past five years, 33 stated that they have an EMS and that it assisted them in preparing the works approval application.

Level of assistance from EMS	No of businesses responding
1-20%	13
20-40%	8
40-60%	7
60-80%	2
80-100%	3
Total responses	33

Figure F5: Overlap with EMA and information requirements

In addition to gathering information contained within an EMS, businesses would also need to gather information from other sources. The survey asked for businesses that have recently applied for a works approval to estimate the total administrative cost associated with the works approval application process. Figure F-6 shows the distribution of the administration costs. Based on the survey responses the average administrative costs associated with a works approval is \$18,400.

Forty of the 53 survey respondents that have completed a works approval in the past five years also indicated that they hired a consultant to assist in preparing the materials. The average cost of the consultancy was \$39,000.

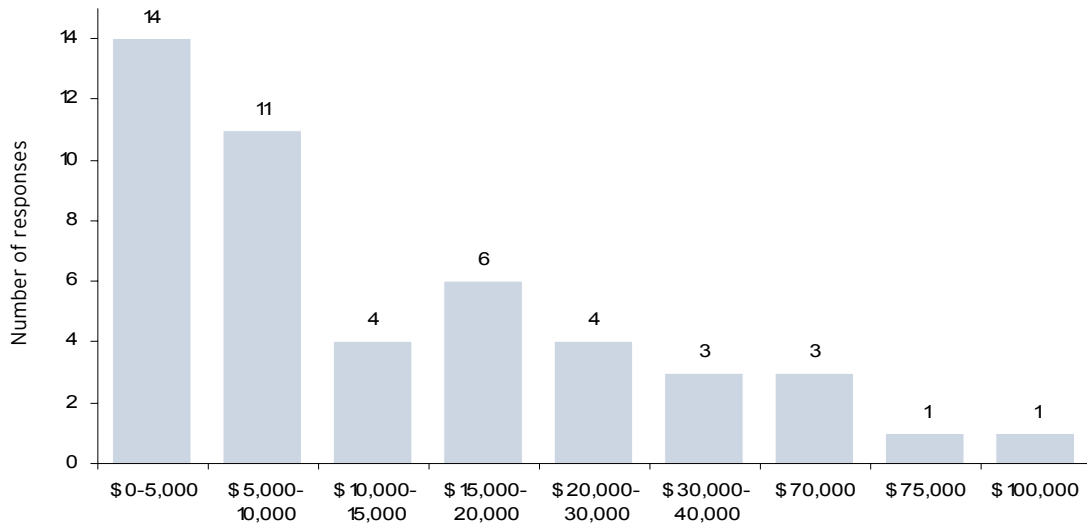


Figure F6: Business estimates of works approval administration costs

In addition to asking business about the costs associated with the works approval system, the survey also asked business to respond on a range of advantages and disadvantages of going through the works approval system. The survey provided a list of possible advantages and disadvantages associated with the works approval system for businesses to select.

Table F1: Advantages of the works approval system

Advantage	Response
Helps raise awareness of environmental risk	27
Provides assurance that the building meets environmental standards	25
Helps with other approval processes such as council approvals	23
Provides a level playing field amongst participants operating in the same sector	20
Reduces the likelihood of retrofitting plant and equipment	14
Provides certainty in the investment decision	13
Provides an opportunity to identify efficiency and cost saving measures	11
Helps engage with the community through the development process	11
Provides access to expertise from EPA	11
There are none	3

Table F2: Disadvantages of the works approval system

Disadvantage	Responses
Project delays	41
Need to engage a consultant for the process	32
Uses a lot of staff time to complete the works approval application	36
Adds additional costs to projects	39
Other	4

Project delays were identified as the main disadvantage of going through the works approval process. The survey asked business to estimate the elapsed time between works approval application and approval.

Table F3: Elapsed time of the works approval application

Elapsed time	No of responses
Less than 2 months	4
2-4 months	23
4-6 months	14
More than 6	15

During the works approval application process, EPA may require or suggest changes to the proposed design of the works. Of the 56 businesses that have completed a works approval in the past five years, 26 stated that there were changes to the design parameters of the proposed development as a result of the interaction between the business and EPA. Table F4 summarises the businesses response to the survey question

Table F4: Summary of the effects the changes had on the project

Impact of the change	No of responses
The changes resulted in an adverse financial outcome	12
The changes allowed us to show to the community that we were meeting our environmental objectives	10
The changes resulted in only environmental benefits	8
The changes had little financial or environmental effect	8
The changes allowed for the realisation of financial and environmental benefits	4
The changes allowed us to show to the community that we were meeting our environmental objectives	3
The changes reduced the risk or potential cost of retrofits	3

Survey responses for licences

The questions relating to licensing covered areas such as the:

- degree of overlap between licence reporting obligations and other state and national reporting obligations
- time taken to gather the information for the licence reporting requirements
- advantages and disadvantages of holding an EPA licence.



The survey confirmed that there is a high degree of overlap between the reporting obligations of an EPA licence and other environmental reporting obligations such as the National Pollution Inventory and corporate reporting requirements. Table F5 shows licensees the level of overlap between different reporting obligations.

Table F5: Overlap between other reporting obligations

Level of overlap	No of responses
0	10
1-20%	17
20-40%	26
40-60%	14
60-80%	15
80-100%	10
Total responses	92

The survey also asked licensed businesses to estimate the total administrative cost associated with holding a licence. Based on the survey responses the average administrative cost associated with a licence is \$12,500 per annum. Figure F7 shows the distribution of the administration costs for EPA licences.

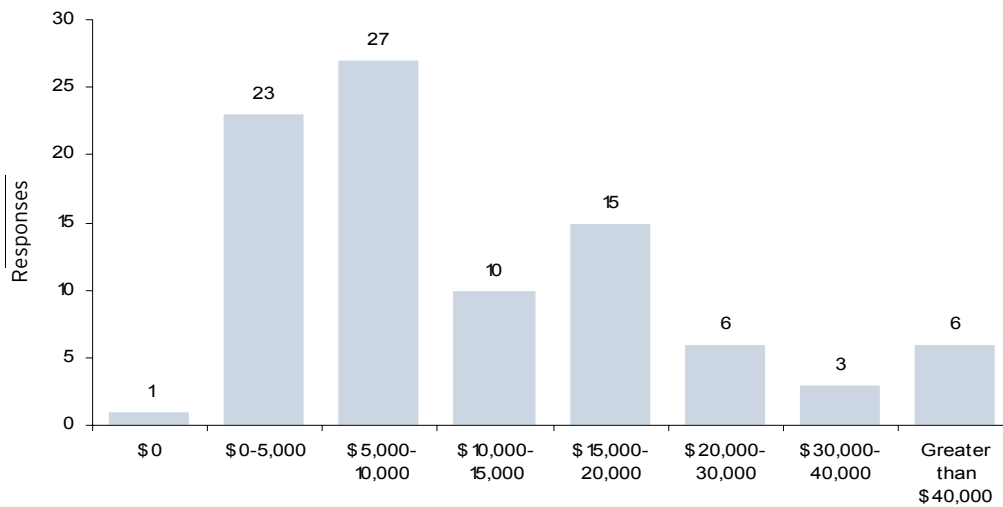


Figure F7: Business estimates of licence administration costs

In addition to cost estimates the survey also asked business what they considered to be the advantages of holding an EPA licence. Respondents were able to select multiple answers if applicable.

Table F6: Advantages of holding an EPA licence

Benefits of holding an EPA licence	No of responses
Provides a social licence to operate/provides assurance to society that your environmental management is sound	62
Provides a level playing field amongst participants operating in the same sector	43
Assists with driving internal environmental changes (used as a motivation tool)	43
Allows access to EPA expertise	21
Marketing benefits i.e. provides assurance to potential customers	11
Other	7

Businesses were also able to identify disadvantages of holding an EPA licence. Respondents were able to select multiple answers if applicable. Table F7 summarises their response.

Table F7: Disadvantages of holding an EPA licence

Benefits of holding an EPA licence	No of responses
The financial cost of renewing the licence	19
The financial costs of demonstrating compliance	34
Overlap with other environmental requirements	8
Lack of operational freedom	7
The requirements are too prescriptive	13
Other	10

To gain an understanding of how businesses would manage their environmental compliance without an EPA licence the following question was asked:

'If you were not required to go through the works approval and/or licensing process how would you gain assurance of compliance with the requirements of the Environment Protection Act 1970, State Environment Protection Polices (SEPPs) and other government requirements'

The following is a summary of the common responses to the question:

- Through the business's internal EMS and self assessment
- Engage third party audits and consultants to provide assurance
- Project risk assessments against legislative requirement
- Self monitoring (similar to Work Safe practices).

A number of businesses highlighted that corporate requirements require strict environmental management; in some cases businesses commented that the corporate standards are more stringent than the requirement of the Act, SEPPs and other regulations.

At the conclusion of the licensing section businesses were asked if the benefits of the licensing system outweighed the costs. Of the 96 businesses responding to the survey 91 answered this question with 57 (63 per cent) agreeing that the benefits outweigh the costs.

G. INTERVIEW CONSULTATION QUESTIONS TEMPLATE

G.1 Introduction

Thank you for agreeing to participate in this interview. The information gathered will be used by EPA to assist with the review of the Environment Protection (Scheduled Premises and Exemption) Regulations 1996.

This interview has been designed to allow you to comment on both the cost of the works approval and licence system, but also to comment on the benefits associated with the system.

The review of the licensing and works approval system is collecting stakeholders view using:

- an online survey sent to all licensees
- face-to-face stakeholder interviews.

This interview is divided into three sections.

- Part 1 asks for information on the costs associated with licensing and works approval system
- Part 2 asks for information on the benefits of the system
- Part 3 allows for stakeholders to suggest on ways the system can be improved and any other thoughts on the current system.

Introductory questions

What is your relationship with EPA?

What triggers your need to hold a licence or apply for a works approval?

To provide an idea of the size of your organisation can you please provide information on:

- Your business average annual turnover?
- The number of employees (FTE if possible)?

G.1.1 Part 1 - Costs

The Victorian Competition and Efficiency Commission (VCEC) outlines three broad costs associated with any regulatory system.

- Administration costs - often referred to as "red tape", any costs incurred by your business to demonstrate compliance with the regulations or to allow Government to administer the regulations.
- Compliance costs - costs that directly lead to the regulated outcomes being sought and are often capital and production costs.
- Indirect (market) costs - costs that affect the market structure or change consumption patterns. These costs are often associated with licensing of certain activities, prescribing qualifications or limiting access to a certain profession or industry in some other way. Costs incurred when barriers to entry are created potentially stifling innovation.
- Financial costs - costs are the result of a concrete and direct obligation to transfer a sum of money to the Government or relevant authority. Such costs include administrative charges and taxes. For example, the fees for applying for a licence would be a financial cost of regulations.

Administrative costs

It is the Victorian Government's policy to reduce the administrative costs of regulation by 15 per cent over the next three years and 25 per cent over the next five years. An accurate measurement of the administrative costs imposed by proposed regulations is essential to this process. As such, it is essential that we obtain information on the total administrative costs incurred by your business to comply with the regulations as this will allow us to measure the total, economy-wide administrative cost associated with the proposed regulations.

Examples of administrative costs include:

- reading and understanding the regulations
- completing application forms
- maintaining records, documents and supporting evidence
- reporting to EPA
- assisting EPA with site inspections.

A table outlining the administrative activities that your business might need to undertake in order to apply for a licence or works approval and comply with the associated conditions is attached at the end of this document.

The following series of questions will enable us to calculate the total administrative cost incurred by your business to meet the proposed regulations.

Questions on administrative costs

1. What is the hourly average wage / salary rate of the person(s) who will typically undertake the administrative activities involved in complying with EPA regulations?
2. Can you estimate the relative cost of overheads and on-costs for your staff as a proportion of their hourly wage?
3. How does your environment management system assist you in preparing the materials required in the application?
4. What is the total amount of time (in hours) per annum that is currently required by your staff to complete the administrative activities listed in the attached table that are relevant to your business?
5. Do you currently use the services of an external service provider to complete any of the activities listed in the attached table? For example, do you use the services of an accountant or lawyer? How many hours do you use this service for? What is the hourly cost of this service?
6. Has your business incurred substantial capital costs in order to comply with the current regulations? For example, did your business have to invest in a new information technology or knowledge management system? If so, what was the approximate cost of this investment?

Compliance costs

Substantive compliance costs

Substantive compliance costs are those costs that directly lead to the regulated outcomes being sought and are often capital and production costs. These costs are associated with content specific regulation and include buying new equipment, regularly checking that the equipment is in good working order and undertaking specified training.

The proposed regulations do not impose material compliance costs on business. These are imposed by other regulations. As such, we will not explore the compliance costs incurred by business in this interview, since these are driven by other legislation and regulations.

Questions on financial costs

7. Do you agree with this statement?

Financial costs (licensing fees)

Questions on financial costs

8. What is your view on the licence fee structure?
9. Do you get 'value for money' from your involvement with EPA?
10. Do you have any views of how the fee system can be improved?

Indirect (market) costs

Given the uniform application of the regulations on businesses in each category, it is our view, the regulations do not impose a material indirect (market) cost on business.

Questions on indirect market costs

11. Do you agree with this assessment?
12. If not, how do the regulations impose indirect (market) costs on your business? What is the cost of this?

G.1.2 Part 2 - Benefits

The following list outlines some of the potential benefits of going through a licence or works approval application process. This list is not inclusive; please feel free to suggest any additional benefits if you have any.

Potential benefits include:

- reduces the likelihood of retrofitting plant and equipment
- provides assurance that your premises meets environmental standards
- provides an opportunity to identify efficiency and cost saving measures
- provides certainty in the investment decision. This certainty can provide certainty of building requirement, future reporting requirements and current environmental standards that are required
- assists with other approval processes such as council approvals
- provides a level playing field amongst participants operating in the same sector
- assists in engaging with the community through the development process
- helps raise awareness of environmental risk
- provides access to the expertise of EPA personnel.

Questions on the benefits of applying for a licence or works approval

13. Which of these benefits (if any) are most relevant to your business? What are the other benefits of going through the application process?
14. Has your involvement with EPA led to the identification and implementation of programs, processes or technologies that resulted in efficiency improvements? For example systems or processes that resulted in lower energy consumption.
15. Do you have an example or examples that highlight the benefits of going through a works approval process? Please describe.

The following list outlines some the potential benefits to business of holding an EPA licence. An EPA licence may provide:

- assurance that the operation meets environmental standards
- an opportunity to identify efficiency and cost saving measures
- certainty in the investment decision
- a level playing field amongst participants operating in the same sector
- engagement with the community
- access to expertise from EPA.

Questions on complying with the conditions of a licence or works approval

16. Which of those benefits (if any) is most relevant to your business?
17. Please outline the other ongoing benefits to holding a licence.
18. Do you have examples that highlight the advantages of holding an EPA licence? Please describe.

General questions

The following set of questions are aimed at understanding the economic value of the benefits associated with holding a licence or going through the works approval process.

19. Can you estimate the total value of benefits of having a licence? Please describe.
20. Hypothetically - without licence or works approval would you still be operating your business processes in the same way?
21. In the absence of a licence or works approval what actions would your business need to do in order to obtain a social licence? What are the associated costs?
- What action would your business undertake to assure Government, local councils and the broader community of the environmental integrity of your operations?
 - Would you need to use the service of an independent consultant to validate the environmental integrity of your premises? What is the estimated cost?
 - Would you invest in additional marketing and promotional material? What is the estimated cost of this?
 - Would you expect to experience greater difficulty in obtaining building or works approvals with local councils and could this potentially result in greater court action through VCAT? What is the estimated cost of this?
- How would you gain access to expertise on environmental design and management?
 - Would you need to use the service of an independent consultant? What is the estimated cost?
 - What would be the impact on the industry if there was no licence? Would it result in lower industry standards in regard to environmental management? What would be the impact of this on your investment decisions? For example, could it result in lower incentives to invest in new technology and processes?

G.1.3 Part 3 - Overall assessment

Overall questions

22. On balance, do the benefits of holding an EPA licence outweigh the costs? To what extent?
23. How do you think the current works approval system could be improved?
24. How do you think the current licensing system could be improved?
25. Do you have a view on alternative approaches that might be adopted in place of the current works approval and licensing system?
26. Do you have any other comments?

Potential administrative activities undertaken by business

Applying for a licence or works approval
Paying the application fee
Collating plan, specifications and design calculations for all control equipment
Collating supporting technical information (air, energy, noise, biomedical waste, industrial waste, water/land, landfill)
Undertaking an environmental audit or assessment
Undertaking liaison meetings with EPA
Undertaking public consultation
Time associate with VCAT or public appeals
Complying with the conditions of a licence or works approval
Maintaining financial assurance
Providing construction confirmation report (site development)
Developing and maintaining an EIP (general) which involves developing: <ul style="list-style-type: none"> ● waste acceptance, management, treatment and/or storage procedures ● inspection and maintenance procedures ● incident reporting procedure ● EIP review process
Developing and maintaining an EIP (landfill (as above plus)) which involves developing: <ul style="list-style-type: none"> ● cover, leachate and landfill gas management procedures ● progressive landfill rehabilitation
Monitoring operations and reporting to EPA (general) which involves providing: <ul style="list-style-type: none"> ● an annual performance review ● a pollution report (complaint) ● a review of performance against EIP ● an NPI ● a prescribed waste report ● a greenhouse report ● Landfill levy
Monitoring operations and reporting to EPA. This involves providing an environmental auditor report
Undertaking public consultation
Assisting with site inspections
General compliance / enforcement

Supplementary Questions:

27. Are these all the administrative activities undertaken by your business to comply with the regulations?

28. Are there any administrative activities that we've left out?

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Victoria

Environment Protection (Scheduled Premises and Exemptions) Regulations

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PART 1—PRELIMINARY

1 Objectives

The objectives of these Regulations are—

- (a) to prescribe premises as scheduled premises for the purposes of the **Environment Protection Act 1970**;
- (b) to specify scheduled premises in respect of which the Authority may require a financial assurance;
- (c) to specify scheduled premises in respect of which the landfill levy is payable;
- (d) to specify scheduled premises in respect of which the environment protection levy is payable;

- (e) to provide for exemptions from provisions of the Act;
- (f) to make consequential amendments to the Environment Protection (Fees) Regulations 2001.

2 Authorising provision

These Regulations are made under section 71 of the **Environment Protection Act 1970**.

3 Commencement

These Regulations come into operation on 1 July 2007.

4 Revocation

The Environment Protection (Scheduled Premises and Exemptions) Regulations 1996¹ are **revoked**.

5 Definitions

In these Regulations—

animal unit means 1 head of cattle or 5 pigs or 5 of any other kind of mammal;

chemical process means any process where a chemical change occurs but does not include physical processes such as mixing or blending;

composting means causing the aggregation of one or more types of organic matter such that it undergoes decay;

contaminated soil has the same meaning as it has in the Environment Protection (Prescribed Waste) Regulations 1998²;

particles means any particles referred to in the State Environment Protection Policy (Air Quality Management) including indicators—

- (a) Particles as PM_{2.5};

Part 1—Preliminary

- (b) Particles as PM₁₀;
- (c) Total Suspended Particles;
- (d) T.S.P. (nuisance dust);

prescribed industrial waste has the same meaning as it has in the Environment Protection (Prescribed Waste) Regulations 1998;

State Environment Protection Policy (Air Quality Management) means the **Environment Protection Act 1970**: State Environment Protection Policy (Air Quality Management) published in the Victoria Government Gazette S240 on 21 December 2001, as amended from time to time;

the Act means the **Environment Protection Act 1970**;

volatile organic compound means any chemical compound based on carbon with a vapour pressure of at least 0.010kPa at a temperature of 25° celsius or having a corresponding volatility under the particular conditions of use.

Part 2—Scheduled Premises

PART 2—SCHEDULED PREMISES

6 Scheduled premises

For the purposes of paragraph (a) of the definition of "scheduled premises" in section 4(1) of the Act, a premises described in column 2 of the Table in Schedule 1 is prescribed as a scheduled premises.

7 How conflict to be resolved if premises falls into more than 1 description

If a premises falls within 2 or more of the descriptions in column 2 of the Table in Schedule 1 and the premises is exempt in relation to one description but is not exempt in relation to one or more of the other descriptions, that exemption does not apply to the premises.

PART 3—GENERAL EXEMPTIONS

8 Application of exemption provisions

Section 19A or 20(1) of the Act do not apply in respect of any premises prescribed as scheduled premises by regulation 6 to the extent set out in—

- (a) regulations 9 to 12; or
- (b) column 3 of the Table in Schedule 1.

9 Noise

- (1) A works approval under section 19A(1)(d) of the Act is not required with respect to emissions of noise from a source emitting less than 80dB(A) sound power level.
- (2) A works approval under section 19A(1)(d) of the Act is not required with respect to emissions of noise from premises that do not otherwise require works approval in respect of the premises.
- (3) Subregulation (2) does not apply with respect to emissions of noise from premises of a type numbered A08, D07, F02, F03, G03 or K01 in column 1 of the Table in Schedule 1.

10 Air

- (1) A works approval under section 19A(1) or 19A(2) of the Act or a licence under section 20(1) of the Act is not required with respect to discharges or emissions to air from—
 - (a) a source, other than an incinerator or an afterburner, discharging or emitting less than—
 - (i) 100kg per day Oxides of Nitrogen; or
 - (ii) 10kg per day Oxides of Sulphur; or
 - (iii) 100kg per day Carbon Monoxide; or

Part 3—General Exemptions

- (iv) 10kg per day particles (except asbestos and heavy metals); or
 - (v) 5kg per day volatile organic compounds except for the emissions of odorous compounds or those substances referred to in subparagraph (vi); or
 - (vi) 0.1 gram per minute of any substance classified as a class 3 indicator in State Environment Protection Policy (Air Quality Management);
- (b) a standby engine;
 - (c) fire fighting training activities;
 - (d) a spray booth, extractor vent system or fume cupboard used in product development or in a laboratory;
 - (e) a safety relief valve or rupture disc;
 - (f) a vent on a wastewater treatment system except at a sewage treatment plant;
 - (g) a general room or building ventilation point;
 - (h) a food cooker or kitchen range;
 - (i) an acid or alkali tank;
 - (j) vents on fuel storage tanks which meet technology specification acceptable to the Authority;
 - (k) hand-held or other portable cleaning, maintenance and construction equipment.
- (2) A licence under section 20(1) of the Act is not required with respect to discharges or emissions to air from boilers fired solely by natural gas with a total rated capacity of less than 20 megawatts.
-

11 Land or water

A works approval under section 19A(1)(a) of the Act or a licence under section 20(1)(a) of the Act is not required with respect to discharges or deposits to land or water from—

- (a) an enclosed drain connected to a sewer;
- (b) a municipal stormwater drainage system;
- (c) an emergency relief structure or other installations in the sewers of a sewerage authority;
- (d) an effluent reuse scheme or activity which meets discharge, deposit and operating specifications acceptable to the Authority.

12 Wastes

A works approval under section 19A(1)(b) or 19A(1)(c) of the Act or a licence under section 20(1) of the Act is not required with respect to—

- (a) storage of 40 cubic metres or less of any biomedical waste by a municipal council, a hospital, an ambulance service or any organisation appointed by the State Co-ordinator of DISPLAN;
 - (b) a temporary plant for the onsite treatment of waste where the activity meets technology, deposit, discharge and emission specifications acceptable to the Authority and which is limited to a maximum cumulative operating time of 12 months within any 3 year period;
 - (c) a biosolids reuse scheme or activity which meets deposit and operating specifications acceptable to the Authority.
-

Part 4—Landfill Levy

PART 4—LANDFILL LEVY

13 Scheduled premises required to pay landfill levy

For the purposes of section 50S of the Act a scheduled premises is prescribed as a scheduled premises in respect of which the landfill levy is required to be paid for each tonne of waste that is deposited onto land at the premises—

- (a) if the premises is of a type numbered A01 or A05 in column 1 of the Table in Schedule 1; and
- (b) the premises is required to be licensed.

Note

Under section 50T of the Act, premises are not subject to the levy under section 50S of the Act—

- if the premises is a privately owned landfill that only receives wastes that consist of substances that were owned by the owner of the landfill before they become wastes;
 - if the premises is a landfill that only receives the municipal wastes of an area with a population less than 5000 people, and that is owned by a municipal council.
-

Part 5—Financial Assurances

PART 5—FINANCIAL ASSURANCES

14 Scheduled premises requiring a financial assurance

For the purposes of section 21(1) of the Act, a scheduled premises is prescribed as a scheduled premises requiring a financial assurance if column 4 of the Table in Schedule 1 in respect of those premises states that financial assurance is required.

Part 6—Environment Protection Levy

PART 6—ENVIRONMENT PROTECTION LEVY

15 Scheduled premises required to pay environment protection levy

For the purposes of section 24A(1) of the Act, a scheduled premises is prescribed as a scheduled premises in respect of which the environment protection levy is required to be paid if the premises—

- (a) stores, processes or uses in excess of the prescribed quantities and prescribed concentrations of notifiable chemicals; or
 - (b) stores, processes, treats disposes of or otherwise handles prescribed industrial waste.
-

PART 7—TRANSITIONAL PROVISION

16 Unlicensed occupiers to have 6 months to comply

Despite section 20(1) of the **Environment Protection Act 1970**, if an occupier of scheduled premises was able to undertake an activity or process on scheduled premises without a licence before the commencement of section 8 of the **Environment Protection (Amendment) Act 2006**, that occupier may, after the commencement of section 8 of the **Environment Protection (Amendment) Act 2006**, continue to undertake that same activity or process on scheduled premises without a licence until 1 January 2008.

**PART 8—ENVIRONMENT PROTECTION (FEES)
REGULATIONS 2001**

17 Revocation of regulation 10

Regulation 10 of the Environment Protection
(Fees) Regulations 2001³ is **revoked**.

18 Amendment of Schedule 2

The Environment Protection (Fees) Regulations
2001 are amended as set out in Schedule 2.

SCHEDULE 1

Regs 6, 7, 8(b), 9(3), 13, 14

SCHEDULED PREMISES TABLE

<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
A: Waste treatment, disposal and recycling			
A01 (PIW management)	Storage, treatment, reprocessing, containment or disposal facilities handling any prescribed industrial waste not generated at the premises.	No†	Yes
A02 (Other waste treatment)	Waste treatment works engaged in the immobilisation, thermal degradation, incineration or other treatment of waste.	No†	No
A03 (Sewage treatment plants)	Premises on or from which sewage (including sullage) effluent, exceeding a design or actual flow rate of 5000 litres per day, is treated, discharged or deposited.	Premises discharging or depositing waste solely to land at a design capacity of not more than 100 000 litres per day in accordance with	No

*(Note—these premises require works approvals or licences)

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
A04 (Wastewater treatment plants)	Premises on or from which industrial wastewater effluent not generated at the premises, exceeding a design or actual flow rate of 5000 litres per day, is discharged or deposited.	No† specifications acceptable to the Authority are exempt from licensing under section 20(1) of the Act.	No
A05 (Landfills)	Landfills used for the discharge or deposit of solid wastes (including solid industrial wastes) onto land except premises with solely land discharges or deposits, used only for the discharge or deposit of mining wastes and in accordance with the Extractive Industries Development Act 1995 or the Mineral Resources	Municipal landfill facilities occupied by a municipal council and serving less than 500 people are exempt from works approval under section 19A of the Act. Municipal landfill facilities occupied by a municipal council and serving less than	Yes

**(Note—these premises require works approvals or licences)*
†*(Note that an exemption may also apply under Regs 9 to 12)*

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	(Sustainable Development) Act 1990.	5000 people are exempt from licensing under section 20(1) of the Act.	
A06 (Land disposal facilities)	Land disposal facilities for the disposal of nightsoil, septic tank sludge or sewage treatment plant sludge.	No†	No
A07 (Composting)	Premises with aerobic or anaerobic composting which is designed to or has a capacity to process more than 100 tonnes of waste per month.	No†	No
A08 (Waste to energy)	Premises which recover energy from waste at a rated capacity of at least 1 megawatt.	No†	No
B: Primary industry and allied operations			
B01 (Intensive animal industry)	Intensive animal industry, being premises upon which are situated piggeries or cattle feedlots and the like, where more than 5000 animals are	Premises discharging or depositing waste solely to land are exempt from licensing under	No
*(Note—these premises require works approvals or licences)			
†(Note that an exemption may also apply under Regs 9 to 12)			

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	confined for the purposes of agricultural production.	section 20(1) of the Act.	
B02 (Intensive bird industry)	Premises upon which are situated poultry farms or complexes designed to hold 320 000 or more birds.	Premises are exempt from licensing under section 20(1) of the Act.	No
B03 (Livestock saleyards)	Livestock saleyards or holding pens which are designed to have a throughput of at least 10 000 animal units per year.	Premises discharging or depositing waste solely to land are exempt from licensing under section 20(1) of the Act.	No
B04 (Fish farms)	Fish farms or other facilities for the cultivation of edible aquatic organisms with a design water flow rate of 0.2 or more megalitres per day.	Premises discharging or depositing waste solely to land are exempt from licensing under section 20(1) of the Act.	No
C: Mining			
C01 (Extractive industry and mining)	Extractive industry including mining and quarrying but excluding eductor dredging.	Premises with solely land discharges or deposits used only for the discharge or deposit of	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
		mining wastes and that are in accordance with the Extractive Industries Development Act 1995 or the Mineral Resources (Sustainable Development) Act 1990 are exempt from works approval under section 19A and licensing under section 20(1) of the Act.	
	D: Animal derived by-products and food		
D01 (Abattoirs)	Abattoirs, knackereries or poultry processing works which are designed to have a throughput of more than 200 tonnes per year.	Premises discharging less than 100 000 litres per day of waste solely to land in accordance with specifications acceptable to the Authority are	No
<p><i>*(Note—these premises require works approvals or licences)</i> <i>†(Note that an exemption may also apply under Regs 9 to 12)</i></p>			

Environment Protection (Scheduled Premises and Exemptions) Regulations
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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
		exempt from licensing under section 20(1) of the Act.	
D02 (Rendering)	Rendering works, being works for the manufacture or extraction of non-edible substances derived from animals.	No†	No
D03 (Animal skin tanning)	Animal skin tanning, or re-tanning works.	No†	No
D04 (Seafood processing)	Seafood processing works with a processing capacity of more than 200 tonnes per year of seafood.	These premises are exempt from licensing.	No
D05 (Pet food processing)	Pet food processing or pet food manufacturing works, which are designed to produce at least 200 tonnes per year of pet food.	No†	No
D06 (Food processing works)	Food processing works, being a works in which food is preserved, canned, bottled, or dried by means of fuel fired plant, and which are designed to produce	No†	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	at least 200 tonnes per year of food.		
D07 (Milk processing)	Milk processing or dairy product manufacturing works, which are designed to produce at least 200 tonnes per year of product(s).	No†	No
D08 (Edible oil)	Edible oil or fat processing works, where seed crushing, solvent extraction or edible oil or fat deodorising takes place, which are designed to produce at least 2000 tonnes per year of product(s).	No*	No
D09 (Beverage manufacturing)	Beverage manufacturing or processing works; except wineries processing less than 300 tonnes per year of grapes and retaining all wastes on site.	Premises discharging or depositing waste solely to land are exempt from licensing under section 20(1) of the Act.	No
E: Textiles			
E01 (Textiles)	Textile manufacturing and processing works including carpet manufacturing, wool	Premises are exempt from licensing under section 20(1) of	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	scouring, textile bleaching, textile dyeing and textile finishing works.	the Act for discharges or emissions to the atmosphere, except those premises engaging in textile finishing using chemical treatment.	
F: Wood and wood derivatives			
F01 (Timber preservation)	Timber preserving works.	These premises are exempt from licensing under section 20(1) of the Act.	No
F02 (Fibreboard)	Fibreboard, particle board, or plywood works, being a works in which wood, wood products or other cellulose materials are processed to form fibreboard, particle board or plywood.	No †	No
F03 (Paper pulp mills)	Paper pulp mills, being works in which wood, wood products, waste paper or other cellulose materials are processed	Premises producing less than 30 000 tonnes per year of pulp,	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	to form pulp, paper or cardboard.	paper or cardboard are exempt from licensing under section 20(1) of the Act.	
G: Chemicals including petroleum			
G01 (Chemical works)	Chemical works— (i) where products are manufactured by any chemical process, and which are designed to produce at least 2000 tonnes per year of chemical products; or (ii) where acrylic compounds, herbicides, insecticides or pesticides are manufactured by any chemical process.	No †	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
G02 (Coal Processing)	Coal processing works, being works in which coal is converted to gaseous, liquid or solid products.	No†	No
G03 (Oil and gas refining)	Oil or gas refinery works, being works in which crude oil or gas is refined or hydrocarbon fractions are produced.	No†	No
G04 (Bulk Storage)	Bulk storage facilities which have a total design capacity of more than 1.0 megalitres (in tanks exceeding 10 000 litres capacity) and which store compounds of carbon (including petroleum products or oil) which— <ul style="list-style-type: none"> (i) contain at least one carbon to carbon bond, as well as derivatives of methane; and (ii) are liquid at Standard Temperature and Pressure; or 	No*	Yes

*(Note—these premises require works approvals or licences)
†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
G05 (Container Washing)	<p>(iii) contain any substance classified as a class 3 indicator in State Environment Protection Policy (Air Quality Management).</p> <p>Premises receiving bulk transport containers for the purpose of internal washing or cleansing where the containers have contained—</p> <p>(i) prescribed industrial waste; or</p> <p>(ii) any material that is classified as dangerous goods under the Road Transport (Dangerous Goods) Act 1995.</p>	No*	Yes

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
H: Non-metallic minerals			
H01 (Cement works)	Cement works in which— (i) clays or limestone materials are used in either a furnace or a kiln in the production of cement clinker; or (ii) cement clinker or clays or limestone or like materials are ground.	No†	No
H02 [Bitumen (asphalt) batching works]	Bitumen or asphalt batching works which are designed to have a throughput of at least 100 tonnes per week.	These premises are exempt from licensing under section 20(1) of the Act.	No
H03 (Ceramic works)	Ceramic works, being works in which bricks, tiles, pipes, pottery goods or refractories are processed in dryers or kilns, which are designed to produce at	No†	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	least 10 000 tonnes per year of ceramic product(s) .		
H04 (Mineral wool)	Mineral wool or ceramic fibre works.	No†	No
H05 (Glass works)	Glass works, being works manufacturing glass by the melting of raw materials.	No†	No
I: Metals and engineering			
I01 (Primary metallurgical works)	Primary metallurgical works, being works in which ores or ore concentrates are processed or smelted to produce metal.	No†	No
I02 (Metal melting works)	Metal melting works, being works in which any metal melting is performed in furnaces, having a total design rate of at least 10 tonnes per hour for ferrous foundries, or 2 tonnes per hour for non-ferrous foundries.	No†	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
I03 (Metal galvanising)	Metal galvanising works which are designed to have a throughput of at least 5000 tonnes per year of steel.	No†	No
I04 (Metal finishing works)	Metal finishing works, including electroplating of metal or plastic, anodising, electroforming or printed circuit board manufacturing.	These premises are exempt from licensing under section 20(1) of the Act for discharges or emissions to the atmosphere.	No
I05 (Can and drum coating works)	Can and drum coating works, in which surface coating is applied to metal before or after the metal is formed into cans, closures, coils or drums.	Premises which discharge or emit to the atmosphere less than 100 kilograms per day of volatile organic compounds are exempt from licensing under section 20(1) of the Act.	No
I06 (Vehicle assembly works)	Vehicle assembly or sub-assembly works which are designed to produce at least 2000 units per year.	No†	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
J: Printing			
J01 (Printing works)	Printing works using more than 100 kilograms per day of volatile organic compounds.	Premises emitting less than 100 kilograms per day of volatile organic compounds are exempt from licensing under section 20(1) of the Act for discharges or emissions to the atmosphere.	No
K: Utilities			
K01 (Power stations)	Premises which generate electrical power from the consumption of a fuel at a rated capacity of at least 5 megawatt electrical power.	Premises using solely natural gas turbines and which have a total rated capacity of less than 20 megawatts are exempt from licensing under section 20(1) of the Act.	No
K02 (Carbon geosequestration)	Premises with facilities for the capture, separation, or storage of waste carbon dioxide	No†	No
<p><i>*(Note—these premises require works approvals or licences)</i></p> <p><i>†(Note that an exemption may also apply under Regs 9 to 12)</i></p>			

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	for the purpose of geological disposal.		
K03 (Potable water treatment plants)	Potable water treatment plants which are designed to have a throughput of more than 1 megalitre per day.	These premises are exempt from licensing under section 20(1).	No
L: Other			
L01 (General emissions to air)	<p>Premises which discharge or emit, or from which it is proposed to discharge or emit, to the atmosphere any of the following—</p> <p>(i) at least 100 kilograms per day of—</p> <ul style="list-style-type: none"> • volatile organic compounds; or • particles; or • sulphur oxides; or • nitrogen oxides; or 	No*	No

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
	<ul style="list-style-type: none"> • other acid gases (excluding carbon dioxide); or (ii) at least 500 kilograms per day of carbon monoxide; or (iii) any quantity from any industrial plant or fuel burning equipment of any substance classified as a class 3 indicator in State Environment Protection Policy (Air Quality Management). 		
L02 (Contaminated sites—onsite soil containment)	On-site retention of contaminated soil on premises that are designed to or have a capacity to hold 1000m ³ in an engineered facility.	These premises are exempt from licensing under section 20(1) of the Act.	Yes

**(Note—these premises require works approvals or licences)*

†(Note that an exemption may also apply under Regs 9 to 12)

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<i>Column 1</i>	<i>Column 2</i>	<i>Column 3</i>	<i>Column 4</i>
<i>Type Number and Summary Description</i>	<i>Description of Scheduled Premises*</i>	<i>Does any exemption from works approval under section 19A or licensing under section 20(1) apply?</i>	<i>Is a Financial Assurance Required?</i>
L03 (Tunnel Ventilation Systems)	Road tunnel ventilation systems.	No†	No
L04 (Contaminated sites—long term management)	Long term management of soil or groundwater contamination.	These premises are exempt from works approval under section 19A of the Act and licensing under section 20(1) of the Act.	Yes

**(Note—these premises require works approvals or licences)*
†(Note that an exemption may also apply under Regs 9 to 12)

SCHEDULE 2

Reg. 18

**AMENDMENT OF ENVIRONMENT PROTECTION (FEES)
REGULATIONS 2001**

In the Table in Schedule 2 to the Environment Protection (Fees) Regulations 2001—

- (a) after "sullage) effluent" **insert** "or industrial wastewater effluent";
- (b) after the item commencing "Land disposal facilities for the disposal of nightsoil" and ending "sewage treatment plant sludge" **insert**—

"Premises with aerobic or anaerobic composting which are designed to or have a capacity to process more than 100 tonnes of waste per month"	206
Premises which recover energy from waste at a rated capacity of at least 1 megawatt with an installed capacity of—	
less than 15 megawatts	103
15 megawatts or more but less than 100 megawatts	643·75
100 megawatts or more but less than 200 megawatts	1287·5
200 megawatts or more	2575";
- (c) in the item commencing "Animal skin tanning" for ", curing and finishing" **substitute** "or re-tanning";
- (d) in the item commencing "Edible oil or fat processing works" after "either" **insert** "seed crushing,";
- (e) in the item commencing "Fibreboard, chip board, or particle board works," for "chip board" (wherever occurring) **substitute** "plywood";

- (f) in the item commencing "Bulk storage facilities" after "Pressure" **insert** "or contain any substance classified as a class 3 indicator in State Environment Protection Policy (Air Quality Management)";
- (g) after the item commencing "Bulk storage facilities" and ending "10 megalitres or more" **insert**—
"Premises receiving bulk transport containers 51·5";
for the purpose of internal washing or cleansing
where the containers have contained—
prescribed industrial waste; or
any material that is a dangerous good as
classified under the **Road Transport
(Dangerous Goods) Act 1995**
- (h) in the item commencing "Printing works" for "organic compounds that have a boiling range between 50 degrees Celsius and 260 degrees Celsius" **substitute** "volatile organic compounds";
- (i) after the item commencing "Power stations" and ending "200 megawatts or more" **insert**—
"Premises with facilities for the capture, 1287·5";
separation or storage of waste carbon dioxide
for the purposes of geological disposal
- (j) in the item commencing "Premises which discharge or emit"—
(i) for "total organic compounds" **substitute** "volatile organic compounds";
(ii) for "particulate matter" **substitute** "particles";
(iii) for—
"asbestos;
benzene;
mercury;
vinyl chloride monomer;
-

toluene-2, 4 di-isocyanate (TDI); or
diphenylmethane di-isocyanate (MDI)"

substitute—

"any substance classified as a class 3 indicator in
State Environment Protection Policy (Air Quality
Management)";

(k) after the last item **insert—**

"Road tunnel ventilation systems

1287·5".

ENDNOTES

¹ Reg. 4: S.R. No. 66/1996, as extended by S.R. No. 56/2006.

² Reg. 5: S.R. No. 95/1998, as amended by S.R. No. 92/2000.

³ Reg. 17: S.R. No. 119/2001. Reprint No. 1 as at 14 April 2005.
Reprinted to S.R. No. 88/2004.

**Table of Applied, Adopted or Incorporated Matter Required by the
Subordinate Legislation Regulations 2004**

Note that the following table of applied, adopted or incorporated matter is included in accordance with the requirements of regulation 5 of the Subordinate Legislation Regulations 2004.

Statutory Rule Provision	Title of applied, adopted or incorporated document	Matter in applied, adopted or incorporated document
Regulation 5, definition of "particles"	State Environment Protection Policy (Air Quality Management) published by the Authority in Government Gazette S 240 on 21 December 2001 and as in force from time to time.	Part IV
Regulation 10(1)(a)(vi)	State Environment Protection Policy (Air Quality Management) published by the Authority in Government Gazette S 240 on 21 December 2001 and as in force from time to time.	Part IV

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Statutory Rule Provision	Title of applied, adopted or incorporated document	Matter in applied, adopted or incorporated document
Schedule 1—Table (Premises types) —G04 (Bulk Storage) —L01 (General emissions to air)	State Environment Protection Policy (Air Quality Management) published by the Authority in Government Gazette S 240 on 21 December 2001 and as in force from time to time.	Part IV
Schedule 2 (amending Schedule 2 to the Environment Protection (Fees) Regulations 2001.	State Environment Protection Policy (Air Quality Management) published by the Authority in Government Gazette S 240 on 21 December 2001 and as in force from time to time.	Part IV
